The Long Run Performance of Privatization Related ADR Issues

Dr. C. Bülent Aybar
Southern New Hampshire University
Graduate School of Business
2500 N. River Rd.
Manchester, NH 03106

Preliminary Draft, February 2001. Please Do not circulate or quote. This paper was presented at AIB 2000 Annual Meeting in Arizona, Phoenix on November 17-21st.

Correspondence:
Dr. C. Bulent Aybar
Southern New Hampshire University
Graduate School of Business
2500 N. River Rd.
Manchester, NH 03106
Phone: (603) 644-3102 /E-mail: baybar@minerva.nhc.edu

Abstract

American Depository Receipts (ADRs) have been increasingly used in the Share Issue Privatization process (SIP) by privatizing governments both in developed and developing countries. In this study long-term performance of 143 privatization related ADR programs were analyzed. The ADR programs covered in the study were initiated between 1984 and 1999, and included a diverse mix of companies from 29 different industries across 31 developed an emerging markets. The analysis of the long run performance of these programs revealed interesting patterns. In all cases, average cumulative returns and average cumulative abnormal returns of developed country privatization related ADRs exceeded emerging market privatization returns. Same conclusion was reached by using an alternative return calculation methodology. While sample companies generally outperformed their respective country indices and FT World index, they under performed the S&P500 Index.

Keywords: Privatization, ADR, Cross-Listing, Equity Issue, International Financial Markets, Emerging Markets

JEL Classification: G15, F30, G32

1-Introduction

Privatization is defined as a set of procedures through which government transfers ownership of assets and control of commercial activities to the private sector (Dewenter and Malatesta, 1997). Governments around the world have privatized approximately $1tr worth of assets in the last two decades (Megginson, 2000). A range of methods was used in the privatization process including sales to strategic investors, sale of shares, cash auctions, management and employee buy-outs (MEBO), management contracts and leasing, liquidation, voucher and coupon privatizations. The sale of equity method accounted for a significant portion of the privatization revenues generated by governments since 1980s (Megginson et.al., 1999). An estimated amount of $700bn (approximately 70% of all privatization revenues) was raised through share issue privatizations over the last two decades. This amount signifies the largest surge of equity issuance outside the United States (Megginson, 2000). Popularity of share issue privatization method has increased as governments pressured to privatize large state owned enterprises. The method offered transparency, equity and flexibility in pricing and allocation of ownership. It could also be combined with other methods such as direct sales to strategic investors. However, this method requires reasonably developed equity markets with a sound trading infrastructure and adequate institutional support systems. While the development level of equity markets presented a significant challenge to developing country governments, it was not an irrelevant concern for developed country governments either.

Despite their relatively developed market infrastructure, domestic absorption of large multi-billion dollar issues was not entirely possible even in countries like Germany, France and Italy. Limitations imposed by the size of individual transactions and the level of stock market development led government issuers to search for alternative venues for the sale of SOE shares. This motivation was compounded by factors such as external account conditions, company characteristics and conditions related to managerial control in post-privatization period. In addition to these, an increasing number of government issuers started to target foreign investors to attract foreign capital flows. In a recent study, Bortoletti et.al (2000), analyzed 392 share issue privatizations between 1977 and 1999. Their findings indicate that 47.2% of the total public offerings in their sample were international offerings.

This recent surge in privatization pointed out above, overlapped with the globalization of international financial markets. The increasing integration of financial markets created the opportunity for governments to sell equity in foreign markets through cross-listings and private placements. U.S. equity market became a natural center of gravity in this process. The government issuers were attracted to its sophisticated market infrastructure and wide range of institutional choices available to them. An old instrument used in the US market since 1927, American Depository Receipts (ADRs), proved to be particularly attractive for privatization related equity issues. American Depository Receipts have been increasingly used in the Share Issue

Privatization process (SIP) by privatizing governments both in developed and developing countries.

An interesting and important characteristic of interest has been the short and long run performance of internationally listed shares. In a recent study, Karolyi and Forester (1999) report statistically significant long run underperformance for ADR issues regardless the origination. However, they indicate that underperformance is far larger for emerging market companies than developed country companies. This finding contradicts with the short run and long run performance studies focusing on Share Issue Privatizations, where significantly positive abnormal returns were reported (Jones et al. (2000) Megginson et.al (1998), Boubakri and Cosset (1999)).

In this study, I intend to contribute to this debate by analyzing the performance of a sample of privatization related ADR issues. The goal of the analysis is straightforward: Documenting the long-run performance of ADR issues by privatized firms. The paper intends to improve on an earlier study by using a significantly larger sample of 143 privatization related ADR issues from 31 countries. Given the increasing importance of privatized firms for individual and institutional investors, I believe it is important to understand how investments in these firms have performed over time. The analysis will also focus on the comparison of developed and developing country privatization related ADR issue performances as well as the performance in alternative exchange conditions such as issues in New York Stock Exchange versus issues traded Over the Counter. The insights provided by this analysis

are also likely to be interest to the policy makers, privatization advisors and investment bankers.

2-Privatization, International Share Issues and ADRs

2.1-Share Issue Privatizations

Privatization has dramatically reduced the role of state in economic activity in many reforming countries. Those countries that have adopted large-scale privatization programs have been motivated by three principal reasons. First, there is widespread consensus on the evidence that privately-owned firms outperform SOEs in competitive and potentially competitive markets and, second, the empirical evidence clearly shows that privatization significantly enhances the operating and financial performance of divested firms[1]. Third, governments discovered a powerful alternative to raise significant revenues through the sale of SOEs.

While the choice of privatization method is still far from perfectly understood, recent research points to factors such as firm size, fiscal conditions, and the economic development level as the potential determinants[2]. In a survey of empirical studies in privatization, Megginson and Netter (1999) conclude from the extant literature that the larger SOEs and former natural monopolies such as telecommunication companies are more likely to be sold through domestic share offerings in provided that the national stock markets are sufficiently developed. The authors also indicate that

[1] For more recent studies see Megginson et.al (1994) and (1998), Boubakri and Cosset (1998) and (1999).
[2] See Megginson and Netter (1998) "From State to Market: Survey of Empirical Articles on Privatization".

government's desire to promote further development of the national stock markets motivate privatizations via share offerings. Privatizing via share offering allows a country without a history of share offerings to establish a reputation for protecting investors through repeated, fair issues. The same strategy also allows a country with an existing poor reputation to change market perceptions.

2.2-Motivations For International/Global Share Issues in Privatization

As it was briefly mentioned above, privatization literature indicates that domestic financial market development is often an explicit objective of privatization programs[3]. In this respect, search for alternative venues and decision to list a privatization candidate in international markets may appear to be a paradox, for the fraction of equity to be allocated to foreign investors are traded abroad. While the context of privatization may provide some answers to this puzzle, it is prudent to take a look at the growing literature in cross-listings and global share offerings for answers.

In a recent study investigating the factors determining the global equity offerings by US firms, Wu and Kwok (1999) summarize the motivations for global listings. Several of these motivations may also be shared by privatizing governments. The first relevant motivation suggests that there are windows of opportunity, when otherwise identical firms receive favorable prices for new equity. This timing interpretation implies that managers are able to determine when the market is willing to overpay for their stock and take advantage of these opportunities to issue new equity.

Consistent with this argument, governments may choose to sell equity abroad to take advantage of hot markets. Another parallel argument suggests that in a segmented international financial market, there may be foreign clientele, who are willing to pay a higher price for the local shares targeted to them. This argument is supported by the view that even in the absence of serious barriers for investment, cross-listings may have several advantages over direct purchasing of shares in foreign markets. These advantages boil down to reduced information acquisition costs and reduced transaction costs.

A stronger and more relevant argument for privatizing governments is that global offerings and cross listings may provide a way of signaling quality. Highly selective investment bank's underwriting and foreign investors' willingness to buy the SOE shares is considered to be certification of quality. Global offerings and cross listings are demanding processes and only a handful of firms can tolerate the energy and cost associated with these transactions[4]. In this sense they are considered to be distinguishing characteristics. Privatizing governments that are trying to establish credibility of their privatization programs may seek certification through international offerings.

Finally, empirical evidence suggests that issuing firms cannot treat the demand for their stocks as if it were perfectly elastic[5]. Rather issuers should recognize that they face a negatively sloped demand curve for their shares.

---

[3] See Bortolotti, Fantini and Scarpa 2000, "Why Governments Sell Privatized Companies Abroad"
[4] See Wu and Kwok (1999 "Why Do US Firms Choose Global Equity Offerings" and Miller (1999) "The Market Reaction to International Cross Listings: Evidence from DRs".
[5] For a comprehensive discussion of this issue see Loderer, Cooney and Van Drunnen (1991) "The Price Elasticity of Demand for Common Stock" Journal of Finance 46, 621-651.

This leads to a rightward shift in the demand curve such that the total issue can be executed smoothly at higher offer price. This hypothesis does not require foreign investors to overpay for the domestic shares, they just do not underpay for the shares targeted to them. It is obvious that governments with thin equity markets would be concerned about the inelasticity of demand, which could potentially reduce their aggregate privatization revenues.

In another study focusing exclusively on government's motivations to sell equity abroad, Bartolotti et.al (2000) identified six conditions that determine a governments' decision to sell equity abroad. These are public finance conditions, external account conditions, political conditions, institutional conditions- stock market development level, company and transaction characteristic, and conditions related to managerial control in post privatization.

Bartolotti et.al suggest that governments with fiscal problems tend to privatize more, and are motivated to maximize revenues from privatization. Therefore countries with public budget problems should be more likely to use this channel.

The political condition refers to quality signaling. By listing in foreign markets, governments signal the markets that they are committed to privatization, stabilization and structural adjustment policies. Cross listing may also improve the visibility of the government in international markets. External conditions refer to the government's desire to open up export markets

and attract foreign direct investments. The authors argue that cross listing may improve the firm's ability to penetrate foreign markets. If this argument is true, governments with limited export markets should use this channel to develop export markets for former SOEs. Similarly, cross listing could be used as a strategy to attract foreign capital. Accordingly, countries with limited capital inflows are more likely to resort to sales in foreign markets.

Bartolotti et.al (2000) draw on an earlier work by Perotti (1998), which concludes that right wing governments prefer share issues in the domestic market to strengthen the support for the reform programs. Involving domestic investors in the privatization process through share ownership builds political support to the program. On the other hand, left wing governments are more inclined to maximize revenues. This argument suggests that a left wing government is more likely to use cross listing in the privatization process than a right wing government. Of course this is an empirical issue and needs to be tested.

In reference to institutional conditions Bartolotti et.al argue that institutions define the playground for privatization and may play a role in the decision to cross-list. They refer several factors in this context: Country-risk/Credibility Local Regulations regarding disclosure and minority shareholder protection. This argument suggests that governments with low credibility and lax securities regulations may borrow institutional credibility of another government through cross listing. Therefore higher country risk and

inadequate local regulations suggest an increase in the likelihood of international offerings and cross listings of privatization issues.

Finally, their explanation regarding the stock market development level suggests that countries with small and less liquid markets are expected to resort to cross-listing more than others. By doing this, governments may want to circumvent the problems associated with market inefficiency such as lack of diversification, information aggregation and monitoring. Some empirical evidence points to efficiency improvements in the domestic market as a result of listing in more efficient markets. It is also difficult to float a large stake in a state owned company in a relatively underdeveloped stock market. Therefore, foreign listings could be the best way to overcome the domestic market limitations.

Governments in countries with well-developed markets may not need to bear the cost of global offering. However, to the extent that market segmentation remains as an important barrier, this argument is weakened for the developed markets. Finally, in reference to company's industry characteristics, the company size and the extent of industry openness and the level of global integration/competition in that particular industry are found to be important factors determining the international sale of SOEs.

2.3-Why Do Governments Use ADRs in International Offerings?

Forrester and Karolyi (2000) define ADRs as follows:

"American Depository Receipts (ADRs) are negotiable certificates that represent a non-US company's publicly traded equity. They are quoted, trade and pay dividends in U.S. dollars and trade in accordance with U.S. clearing and settlement standards.

The depositary bank that sponsors the DR program provides all the custodian and safekeeping services for a fee. Each depositary receipt denotes shares that represent a specific number of underlying shares in the home market. The bank can create new receipts for investors when the requisite numbers of shares are deposited in their custodial account in the home market. Cancellations or redemptions of ADRs simply reverse the process and is referred as "flow-back".

Introduction of a new regulatory framework by the U.S. Securities and Exchange Commission (SEC) in 1985 led to emergence of a range of new DR financing tools and energized the otherwise stagnant ADR market. New regulations created a menu of three different ADR programs for foreign companies. "Level I" DRs were introduced as unlisted securities that could trade over-the-counter (as "pink sheet" issues on Nasdaq). Issuing firms could qualify for financial reporting exemptions and did not need to register fully with the SEC; however, this tool did not permit capital raising.

"Level II" DRs and capital-raising "Level III" DRs register and disclose financial statements exactly as domestic U.S. companies and are widely covered by analysts and the press. A new instrument referred as Rule 144A was adopted in April 1990. Forrester and Karolyi (2000) suggest that this program was designed to serve a number of purposes including increasing the overall liquidity of private placement securities. Private placements are only available to qualified institutional buyers (QIBs), with at least $100 million in securities and registered broker-dealer accounts. These securities trade over-the-counter among QIBs using the PORTAL system. Another purpose of Rule 144A was to provide increased access to U.S. capital markets specifically to non-U.S. issuers, by not requiring them to undergo registration under the

Securities Act. Rule 144A allows non-U.S. issuers to include U.S. tranches in global equity offerings without having to comply with certain disclosure rules.

Availability of these instruments created a very effective access route to the wealthiest capital market with a large investor pool. Although ADRs offer a cheaper access to US market, Miller (1999) indicates that initial fees alone can exceed $1 million for major exchange DRs (Level-II and Level-III), because they are required to reconcile to U.S. GAAP, report financial statements quarterly and meet the listing requirements of the particular US exchanges that they trade. On the other hand, companies establishing Level-I programs can be exempted from compliance to US GAAP and SEC disclosure requirements by filing 12g3-2b exemption from the 1934 Exchange Act (Miller 1999).

In summary, ADRs provide a step-by-step introduction to a large individual and institutional investor pool in U.S. for foreign companies. Initial tranches of privatization may achieve the desired visibility and credibility expected from an international offering through less demanding and less expensive 144A or Level-I ADR programs. As the experience culminates, government organizations in charge of privatization may switch to more sophisticated programs. This step-by-step approach is also consistent with the revenue maximizing strategies adopted by governments utilizing share issue privatizations.

2.4. Evidence on Long Term Performance

Long term returns on seasoned and unseasoned share issues was not studied until the Jay Ritter's (1991) seminal paper on long term performance of IPOs

in US. The publication of this paper triggered a wealth of studies focusing on long-term performance of stock issues. However, studies analyzing long-term performance of privatization related share issues are scarce. A group of studies document significant positive long run abnormal returns in UK share issue privatizations (Lewis, 1993; Inganyete ,1995; Menyah and Paudyal, 1996). The evidence on continental European privatizations are mixed. While Davidson and Rosgen (1996) and Davidson, Rosgen, and Simon(1997) report negative returns on French and Italian privatization issues between 1990-1996, their study reveals positive returns for a European sample. Studies covering a diverse sample of share issue privatizations report significantly positive returns (Boardman and Laurin, 1996; Dewenter and Malatesta,1997). In a more recent study Megginson, Nash, Netter and Schwarz (1998) analyzed buy and hold returns in a comprehensive sample of 264 share issue privatizations from 36 countries. Megginson et.al. report 19%, 54% and 107.9% positive abnormal returns for 1, 3 and 5 year holding periods respectively. Boubakri and Cosset (1999) report similar results for a sample of 120 developing country share issue privatizations. They indicate that average unadjusted buy and hold returns for Developing Country privatization issues are about 112.4%. Abnormal returns calibrated for market index and matching size and book to market control portfolio are more moderate, 46.5% and 36.5% respectively.

Finally, Forrester and Karolyi (2000) analyze long-term performance of 333 global equity offerings from 35 countries. Their results indicate that these

issues under perform local and global benchmarks by 8% and 39% over the three years following the issuance. They report 34.79% negative abnormal returns for a sample of 68 privatizations. This result contradicted the earlier evidence of significant positive performance over the benchmarks presented in the literature and motivated this study which looks at the long term performance of 143 privatization related ADR issues.

3-Data and Methodology

3.1 Data

The data on ADR issues comes from a database provided by the Bank of New York ADR Division. This data set includes names, CUSIP, trading symbol, nationality, type of ADR, and the exchange and effective dates of issue. This data was matched with privatization deals listed in Privatization International Yearbooks, and other issues reported in various published work on Share Issue Privatizations, notably an appendix provided by William Megginson[6] on his web page.

The individual company price data and benchmark data was retrieved from DataStream International. The overlap between Bank of NY ADR data and privatization share issues created a sample of 240 companies. Price data availability and the trading period reduced the sample size to 143 companies from 31 countries. The sample is composed of 107 emerging market and 36 developed market companies. Companies came from a diverse set of industries[7].

[6] http://www.uo.edu/faculty/megginson/index.html
[7] See table-3

3.2. Methodology

Long run return estimation methodology in this study follows the Ritter (1991), Affleck-Graves (1995) and Forrester-Karolyi (2000). Monthly holding period returns for each firm are calculated as geometric returns over consecutive monthly periods subsequent to the issuance day. The monthly intervals are computed from the issuance in fixed length intervals regardless of calendar month-end dates where $R_{i,d}$ is the return (price change) on stock i

$$R_{i,m} = \prod_{d=1}^{21} (1 + R_{1,d}) - 1 \,, i = 1 \,, \ldots\ldots N \qquad (1)$$

during month m, and N is the number of firms with an ordinary ADR exchange listing or private placement – for the overall sample in this study N is 144. Monthly returns are calculated for 12, 24, 36 and 60 months subsequent to the ADR issuance or private placement. As in the other studies measuring long run performance day 0 is excluded (2) nthly return calculations since many investors are not able to purchase the ADR at the issue price. Average return for each month m is calculated across firms by using:

$$R_m = (1 / N_m) \sum_1^N R_{i,m}, m = 1 \,, \ldots\ldots 60$$

Cumulative returns are calculated with the implicit assumption of monthly rebalancing, which assumes that when data for a firm in a particular month's portfolio is not available, the portfolio return for the next month is an equal

weighted average of the remaining firms in the portfolio. Monthly returns are cumulated geometrically over the entire period of interest.

$$CR_{t1,t2} = \prod_{m=t1}^{t2} [1 + R_m] - 1 \qquad (3)$$

Subscripts t_1 and t_2 denote the beginning and ending periods respectively. All returns are calculated in US$.

Two methods were used to evaluate the long run performance. First method uses cumulative abnormal returns (CAR) calculated in the traditional event study manner with the monthly portfolio rebalancing where the adjusted returns are computed using several different benchmarks. In general abnormal returns denoted AR are calculated as

$$AR_{i,m} = R_{i,m} - R_m^I, i = 1,\ldots\ldots,n \qquad (4)$$

Where R_m^I is a market index return during month m. For each month, average abnormal return across firms are calculated as

$$AR_m = (1/N)\sum_{i=1}^{Nm} AR_{i,m}, m = 1,2,\ldots\ldots\ldots,60 \qquad (5)$$

Following the Forrester-Karolyi (1999) several benchmark tests are used to reflect the perspectives of different group of investors. Local market index returns denominated in U.S. dollars are used to represent the perspective of the local market investors. S&P500 index is used to calibrate the ADR returns for the US investors. Finally FT-World Index is used to reflect the perspective of the global investors.

Cumulative abnormal returns (CAR) are calculated as follows:

$$CAR_{t1,t2} = \prod_{m=t1}^{t2} (1 + AR_m) - 1$$

In long run CAR calculations Forrester and Karolyi suggest assigning 0 for the ADR issues with missing data. In other words, I assume that their return is equal to the benchmark return.

The second method uses a "buy and hold" returns for the ADR issues and the benchmarks. Individual ADR abnormal holding period returns calibrated for the selected index are calculated as follows:

$$AHPR_{i,t1,t2} = \prod_{m=t1}^{t2}[1+R_{i,m}] - \prod_{m=t1}^{t2}[1+R_{m}^{I}{}_{m}]$$

Significance Tests:

The significance of the raw and abnormal returns is tested by using t-Statistics. These statistics became the standard in long-term performance literature since Ritter (1991). T-statistic for the raw and abnormal returns are computed as $Rt \,.n_t \,/\, sd_t$ where R_t is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return CR_t (or Cumulative Average Abnormal Return CAR) in month t, is computed as $CR_t \,.\, n_t \,/\, csdt$ where *csdt* is computed as $csdt = [t \,.\, var + 2 \,.(t - 1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

4-Results

The overall average monthly returns assuming monthly portfolio rebalancing subsequent to the issue of ADRs are reported in table-4a. These unadjusted returns are in U.S. dollars. A brief review of the overall sample averages

indicates that 30 of the 36 average monthly returns are positive. Average monthly returns range between +3.69% and –2.78%. However, variation across the companies for a given month is significant. A simple test of significance indicates that only 3 of these average monthly returns are significantly different than zero. On the other hand, cumulative returns based on monthly rebalancing are high. They reach to 18.8%, 36.5%, and 45.2% at the end of 12th, 24th, and 36th month respectively, and all are statistically significant.

A review of emerging market and developed market sub-samples reveal interesting results (see table-4b). While emerging market average monthly returns range between +4.6% and –3.4%, developed country average monthly returns fall into the range of +6.45% and –1.64% (see table-4c). Developed country monthly returns are significantly larger than developing country monthly returns based on month-by-month assessment of the average returns.

Differences in cumulative returns are more resounding. At the end of the 36th month, monthly returns on developed country issues cumulate to 70.63%, while emerging market issues reach to 37.43%.

The analysis of ADR issue performances with respect to three alternative benchmarks, local market index, S&P500 and Financial Times World Index will be discussed next . There are two reasons why I employ three different benchmarks in this part. First, there is a widely shared concern about the biases imposed by the selection of a particular benchmark. In order to alleviate this concern I intend to check the robustness of abnormal returns across the

benchmarks. Second, each index reflects the perspective of a particular investor group. For instance, the use of S&P500 is justified because performance with respect to this index is of interest to US investors considering investments in ADR issues. Similarly use of FT World reflects the perspective of a globally diversified investor.

The first benchmark is the dollar returns on the local market portfolio. I used Morgan Stanley Capital International (MSCI) Country Index for each issue as a proxy for the local market returns. Average abnormal monthly returns range between +2.9% and −1.9%, and 12 of the 36 average monthly abnormal returns are negative. Cumulative abnormal returns are 9.6%, 15.3% and 16.6% at the end of the 12^{th}, 24^{th}, and 36^{th} month respectively. All of the cumulative abnormal returns are significantly positive with the exception of 7^{th}, 8th and 9^{th} months (see table-5a).

While the overall sample points to over performance with respect to local market, analysis of sub-samples warrants some caution with this conclusion. The corresponding cumulative abnormal returns for emerging market issues at the end of 12^{th}, 24^{th} and 36^{th} months are 6.7%, 12.9% and 15% respectively. Cumulative abnormal returns are not significantly different than zero with the exception of 2nd, 3^{rd}, 4^{th}, 18^{th} and 29^{th} months.

On the other hand, developed market issues yield 18.45%, 22.25% and 21.48% for 12, 24 and 36 month periods. All the cumulative returns are significantly different than zero for this sub-sample.

These results indicate that while developed market issues outperform their respective local market indices, this cannot be concluded for the emerging market issues due to significant variation across the company performances in this sub-group. In other words abnormal cumulative returns are not consistently significantly larger than zero.

On a month-by-month basis, developed country average abnormal returns adjusted for the local market indices are significantly larger than emerging market average abnormal returns adjusted for their local indices.

Analysis of overall sample returns adjusted for S&P500 as an alternative benchmark reveals that ADR issues on average under perform this index by 15.13% by the end of the 36^{th} month. This result is consistent with the results reported in Forrester and Karolyi (1999). Analysis of sub-samples confirms the earlier indications that developed country issues perform better than emerging market issues. While the 36 month emerging market cumulative abnormal returns are -19.02%, underperformance for developed country issues are mere –2.78%.

A review of monthly average abnormal returns and cumulative abnormal returns with respect to FT World index suggests that long run performance is sensitive to the choice of benchmark. Overall returns calibrated for FT World index indicate +6.16%, +7.18% and +12.12% cumulative abnormal returns for 12, 24 and 36 months respectively

(see table-7a). While the cumulative abnormal returns for emerging market issues narrows down to +2.52% (see table-7b) at the end of the 36th month, developed country issue returns cumulate to +38.41% (see table-7c).

In addition to comparative analysis of long term performance of developed and emerging market issues, a possible linkage between the type and the setting that the ADRs are traded, and the long term performance was investigated. Our sample includes Level-I, Level-II, Level-III and 144A ADR issues. The difference between these programs was described in section 2 of the paper. Level-I issues are traded in the over the counter ("OTC") market and it is the fastest growing segment of the market. The vast majority of the 1,225 sponsored ADR programs are Level-I facilities. Level-II and Level-III programs are traded on NYSE, AMEX or NASDAQ. In our sample 57 of the 67 Level-II and Level-III programs are traded in NYSE. These are the most expensive and demanding programs regarding compliance and disclosure requirements. As it was mentioned earlier, Level-III programs are used to raise capital. Finally 144A Depository Receipts are capital raising issues in which securities are privately placed to qualified buyers.

A review of abnormal cumulative returns (raw returns adjusted for country index) suggests that 144A issues under-perform the country index by 14.05% at the end of the third year. On the other hand NYSE issues (Level-II and Level-III programs) and OTC issues (Level-I programs) outperform the country index by 25.84% and 51.12% respectively. While 144A and NYSE traded Level-II-Level-III programs under-perform the S&P500 index, OTC

traded Level-I issues outperform the S&P500 by 7.43% at the end of 3 years (see table-8b). OTC and NYSE issues outperform the FTWorld index by 60.11% and 21.69% respectively. 144A issues continue to under perform, when they are tested against FTWorld index, this time by 23.17%.

These results indicate that OTC traded Level-I issues perform better than Level-II, Level-III and 144A issues. Underperformance of 144A issues is notable. Controlling the development level of the economy that each issue originates (Developed/Emerging dichotomy in this case) does not change the results qualitatively.

Finally, I measured the long-term performance by using an alternative method. In this method 12, 24 and 36 month buy and hold returns were calculated (see table-9). These results are consistent with the previous results based on the monthly portfolio balancing return methodology.

In the overall sample, 36-month holding period returns are 20.35%. Interestingly, holding period returns increase from 21.35% at the end of the 12^{th} month to 30.83% at the end of 24^{th} month, then decline to 20.35%. As in the previous analysis, 36-month buy and hold (B-H) returns are significantly lower for emerging markets group than developed group.

Abnormal holding periods based on alternative benchmarks are also consistent with the previously reported results. As the 36-month holding period abnormal returns for the entire sample are significantly negative for FT World and S&P500 benchmarks, they are positive for the country index. The 36-month holding period returns- for emerging markets group is positive for

country index, but it is negative for FTWorld and S&P500. Abnormal holding period returns for S&P500 benchmark reveals a dramatic underperformance at -74.65% (see table-9). Developed country group 36-month abnormal holding period returns are positive with the exception of S&P500 benchmark. The performances of these two groups differ significantly for 24 and 36 month holding periods. The differences for 12 month holding periods are not statistically significant (see table-9)

5-Concluding Remarks

In this study, a sample of 143 privatization related ADRs' long-term performance was analyzed. The ADR programs covered in the sample were initiated between 1984 and 1999; however, only five of the 143 programs analyzed became effective before 1991. The sample included a diverse mix of companies from 29 different industries across 31 countries.

The analysis of the long run performance of these programs revealed interesting patterns. In all cases, average cumulative returns and average cumulative abnormal returns (returns adjusted for selected benchmarks) of developed country privatizations exceeded emerging market privatization returns. Same conclusion was reached by using an alternative return calculation methodology -buy and-hold returns. While sample companies generally outperformed their respective country indices and FT World index, they under performed the S&P500. This can be attributed to the superb performance of the US equity market during 1990s, which overlapped with the performance measurements of the 96.5% of the sample companies.

Poor performance of emerging market issues is paradoxical. In theory, listing in a more advanced equity market should be beneficial for emerging market companies and the decline in cost of capital should be more dramatic as compared to developed country market companies. Of course this issue warrants further investigation since the methodology employed here is not based on an asset-pricing model, and risk-return characteristics of the companies were not given consideration in the study. The analysis conducted in this study also ignores the returns on initial offerings. It is plausible that some companies capture the benefits by the end of the first day closing, and the returns calculations from the first day closing price may exclude this component.

Another possible explanation for the underperformance may be associated with the status of the privatized companies. The companies in the sample are at different stages of privatization process, and in some cases residual government share is still significant. It is likely that lingering government involvement and, failure in the smooth execution of privatization may increase risks and undermine the company performance in the post issue period. This is more likely to happen in emerging market settings than the developed country settings. This issue will be addressed in a follow up work.

The analysis of different type of ADR programs used by the privatizing governments revealed a rather surprising pattern. Level-I issues traded in the OTC market performed significantly better than Level-II and Level-III programs as well as 144A private placements. International public offering

and cross-listing literature suggests that signals sent by Level-II and Level-III programs should lead to a sharper decline in the cost of capital of the issuers due to an expected increase in transparency and more effective shareholder monitoring as compared to Level-I programs. These performance differences can be attributed to size and risk characteristics of the sample companies, which were not considered in this analysis.

The sample size and simplicity of the methodology employed in this analysis does not allow us to make far-reaching generalizations of the study results. However, these results motivate further investigation of the identified patterns by using alternative methodologies and considering a wider range of variables that would help to describe the context of the privatization for each company.

REFERENCES

Baldwin, Carliss Y. and Sugato Bhattacharyya, 1991, Choosing The Method Of Sale: A Clinical Study Of Conrail, *Journal of Financial Economics* 30, 69-98.

Beatty, Randolph P. and Ivo Welch, 1996, Issuer Expenses And Legal Liability In Initial Public Offerings, *Journal of Law and Economics* 39, 545-602.

Benveniste, M. Lawrence and Walid Y. Busaba 1998, Book Building Versus Fixed Price: An Analysis Of Competing Strategies For Marketing IPOs, *Journal of Financial and Quantitative Analysis* 32, 383-404.

Black, Bernard S. and Ronald J. Gilson, 1998, Venture Capital And The Structure Of Capital Markets Versus Stock Markets, Journal of Financial Economics 47, 243-277.

Boardman, Anthony and Aidan R. Vining, 1989, Ownership And Performance In Competitive Environments: A Comparison Of The Performance Of Private, Mixed, And State-Owned Enterprises, Journal of Law and Economics 32, 1-33.

Boardman, Anthony E. And Claude Laurin, 1998, The Performance Of Privatised British Public Utilities And The Windfall Profits Tax, Working Paper-University of British Columbia.

Bortolotti B, Fantini M, Scarpa C, 2000,Why do Governments Sell Privatized Companies Abroad; Working Paper, Fondazione Eni Enrico Mattei, Milan, Italy.

Boubakri N.and J.C. Cosset, The After Market Performance of Privatization Offerings in Developing Countries, Paper Presented in 1999 AIB Annual Conference.

Boubakhri, Narjess and Jean-Claude Cosset, 1998, The Financial And Operating Performance Of Newly Privatized Firms: Evidence From Developing Countries, Journal of Finance.

Dewenter, Kathryn and Paul H. Malatesta, 1997, Public Offerings Of State-Owned And Privately -Owned Enterprises: An International Comparison, Journal of Finance 52, 1659-1679.

D'Souza, Juliet, and William L. Megginson, 1999, The Financial And Operating Performance Of Newly Privatized Firms In The 1990s, *Journal of Finance*; 54

Foerster S. and Karolyi A, The Long Run Performance of Global Equity Offerings, *Journal of Financial and Quantitative Analysis, Vol. 35 No:4 December 2000.*

Jones, W. Megginson, R. Nash, J. Netter, Share Issue Privatizations and Financial Means to Political and Economic Ends, *Journal of Financial Economics* 2000

Keloharju, Matti, 1994, Initial IPO Returns And The Characteristics Of Post-IPO Financing In Finland, Working Paper Helsiniki School of Economics and Business Administration.

Loughran, Tim, Jay R. Ritter, and Kristian Rydqvist, 1994, Initial-Public Offerings: International Insight, Pacific-Basin Finance Journal 2, 165-199.

Megginson, William L., Robert C. Nash, Jeffry M. Netter, and Adam L. Schwartz, 1998, The Long Term Return To Investors In Share Issue Privatizations, Working paper, University of Georgia, Athens, GA.

Megginson, William L., Robert C. Nash, Jeffry M. Netter, and Annette B. Poulsen, 1997, The Choice Of Privatization Method: An Empirical Analysis, Working Paper, University of Georgia, Athens, GA.

Megginson, William L., Robert C. Nash, and Matthias VanRandenborgh, 1994, The Financial And Operating Performance Of Newly Privatized Firms: An International Empirical Analysis, *Journal of Finance*, 49, 403-452.

Megginson, William and Jeffry Netter, 1998, From State to Market: A Survey of Empirical Articles on Privatization, New York Stock Exchange Working Paper.

Menyah, Kojo and Krishna Paudyal, 1996, Share Issue Privatisations: The UK Experience, In Mario Levis (Ed.), Empirical Issues In Raising Equity Capital, Elsevier Science, Amsterdam.

Menyah, Kojo, Krishna Paudyal, and Charles G. Inyangete, 1995, Subscriber Return, Underpricing, And Long-Term Performance Of U.K. Privatization Initial Public Offers, *Journal of Economics and Business* 47, 473-495.

Mikkelson, Wayne H., and M. Megan Partch, 1986, Valuation Effects Of Security Offerings And The Issuance Process, *Journal of Financial Economics* 15, 31-60.

Miller Darius, 1999, "The Market Reaction to International Cross Listings: Evidence from Depository Receipts", *Journal of Financial Economics* 51 103-123.

Muscarella, Chris J. And Michael R. Vetsuypens, 1989, A Simple Test Of Baron's Model Of IPO Underpricing, *Journal of Financial Economics* 24, 125-135.

Perotti, Enrico and Serhat E. Guney, 1993, Successful Privatization Plans: Enhanced Credibility Through Timing And Pricing Of Sales, *Financial Management* 22, 84-98.

Perotti, Enrico, 1995, Credible Privatization, *American Economic Review* 85, 847-859.

Speiss, D., and J. Affleck-Graves, 1995, Under-Performance In Long-Run Stock Returns Following Seasoned Equity Offerings, Journal of Financial Economics 38, 243-267.

Wu and Kwok Chuck, 1999, "Why US Firms Choose Global Equity Offerings", Paper presented at 1999 AIB Annual Meeting, Charleston, South Caroline.

Table-1: Sample Characteristics-Number of companies from each country

Country	Number of Companies
Argentina	5
Austria	3
Australia	2
Brazil	17
Chile	2
China	24
France	8
Greece	3
Hungary	7
Indonesia	4
India	3
Ireland	2
Israel	2
Italy	3
Japan	4
Korea	7
Malaysia	2
Mexico	2
Netherlands	3
Norway	1
Peru	3
Philippines	2
Poland	6
Portugal	4
Russia	9
Singapore	2
Spain	2
Taiwan	2
Thailand	2
UK	5
Venezuela	1
Total	143

Table-2: Allocation of Issues by the exchange for each country

Country	144A	NYSE	OTC	Other	Grand Total
Argentina	2	3			6
Austria	2		1		3
Australia	1	1			2
Brazil	1	11	4	1	17
Chile		2			2
China	4	9	9	3	24
France	3	4		1	9
Germany		1			
Greece	1	2			3
Hungary	2	1	1	3	7
Indonesia	4				4
India	1	2			3
Ireland		1	1		2
Israel	1	1			2
Italy	1	2			3
Japan	1	1	2		4
Korea	4	3			7
Malaysia			2		2
Mexico		1		1	2
Netherlands		2	1		3
Norway	1				1
Peru		2	1		5
Philippines	1		1		2
Poland	6				6
Portugal	1	2		1	4
Russia	2		7		9
Singapore			2		2
Spain		2			2
Taiwan	2				2
Thailand	1		1		2
UK	1	3	1		5
Venezuela		1			1
Total	43	57	34	9	143

Table-3: Sample Characteristics-Number of companies in each industry

Industry	Companies
Airline/Airline Services	2
Automobile	5
Beverages	1
Financial Services/Banking	12
Chemicals/Petrochemicals	8
Consumer Electronics	1
Coal	1
Construction/Building Materials	4
Pharmaceuticals	1
Electrical Equipment	5
Extraction and Exploration	2
Engineering	1
Food	2
Insurance	1
Investment	1
Machinery	1
Mining	5
Multi-Industry/Conglomerate	3
Oil and Gas Exploration Dev. Servs.	15
Other	2
Paper	1
Plastic	1
Resources	3
Rubber	2
Shipyard	1
Steel	7
Services	1
Telecom	40
Transportation	4
Utilities	11
Total	143

Table-4a: Average Monthly Returns in the sample

The average returns include all companies in the sample. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	R	t-value	CR	t-value
1	143	0.015945	1.052715	0.015945	1.210167
2	143	0.031169	1.809512	0.047612	2.554882
3	143	0.020779	1.454831	0.06938	3.039713
4	143	0.029105	2.510329	0.100504	3.813347
5	143	0.005945	0.507166	0.107047	3.632755
6	143	0.032383	2.734016	0.142896	4.426791
7	143	0.003938	0.326447	0.147396	4.227469
8	143	0.014487	1.0372	0.164019	4.400371
9	143	0.004518	0.363913	0.169278	4.281728
10	143	-0.01714	-1.34764	0.149231	3.58094
11	143	0.014121	0.824134	0.165458	3.785565
12	143	0.01992	1.502487	0.188674	4.13294
13	142	0.020254	1.605739	0.212749	4.461794
14	142	0.010671	0.849683	0.22569	4.561009
15	137	0.036904	2.219325	0.270923	5.195522
16	135	0.00892	0.710321	0.282259	5.202632
17	133	0.009782	0.73347	0.294802	5.232387
18	132	0.016025	1.067612	0.315552	5.42236
19	132	0.007913	0.691116	0.325961	5.451838
20	130	0.000948	0.069261	0.327218	5.293714
21	128	-0.00064	-0.05232	0.326369	5.112937
22	128	0.014584	0.868805	0.345713	5.291456
23	128	0.014886	1.068544	0.365745	5.475014
24	127	0.00048	0.02786	0.3664	5.348331
25	119	0.015419	1.11632	0.387469	5.364212
26	114	0.028916	2.072125	0.427588	5.681425
27	114	0.011837	1.009855	0.444487	5.795553
28	113	0.001091	0.086628	0.446063	5.686199
29	111	0.011325	0.822971	0.46244	5.740942
30	108	0.0181	1.195798	0.48891	5.886342
31	107	-0.01666	-1.10115	0.46411	5.471385
32	106	0.003178	0.297632	0.468764	5.413735
33	103	0.032499	2.016707	0.516497	5.790212
34	102	-0.00296	-0.24128	0.512005	5.627295
35	102	-0.0121	-0.70078	0.493708	5.348123
36	101	-0.02783	-2.02787	0.452136	4.80555

Table-4b: Average Monthly Returns-Emerging Market Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only emerging market countries. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	R	t-Value	CR	t-value
1	107	0.006011	0.322122	0.006011	0.35484
2	107	0.03748	1.647848	0.043716	1.825071
3	107	0.006078	0.377127	0.050059	1.706485
4	107	0.028108	1.908913	0.079574	2.349254
5	107	0.00306	0.199824	0.082878	2.188502
6	107	0.031117	2.058941	0.116574	2.810112
7	107	-0.00199	-0.12878	0.11435	2.552048
8	107	0.011639	0.662491	0.127321	2.658006
9	107	0.003019	0.188428	0.130724	2.572993
10	107	-0.02127	-1.31893	0.10667	1.991806
11	107	0.014854	0.655627	0.123108	2.191781
12	107	0.021374	1.268103	0.147114	2.507673
13	106	0.021706	1.31306	0.172014	2.803889
14	106	0.013975	0.850945	0.188393	2.95917
15	103	0.033269	1.548629	0.22793	3.409502
16	101	0.000184	0.011441	0.228155	3.272264
17	100	0.013002	0.751945	0.244123	3.379894
18	99	0.022105	1.158016	0.271624	3.636372
19	99	0.0044	0.296662	0.277219	3.612289
20	98	0.005427	0.306589	0.28415	3.590581
21	98	-0.00802	-0.52733	0.273851	3.377051
22	98	0.012019	0.556436	0.289162	3.483879
23	98	0.014299	0.803532	0.307596	3.624514
24	97	-0.00606	-0.27326	0.299674	3.439142
25	90	0.015477	0.867023	0.31979	3.463671
26	85	0.03025	1.67806	0.359714	3.712794
27	85	0.00931	0.635114	0.372373	3.771605
28	84	-0.00174	-0.10695	0.369982	3.658158
29	82	0.011344	0.652012	0.385524	3.700668
30	79	0.017296	0.8477	0.409487	3.793277
31	78	-0.02794	-1.38525	0.370107	3.351313
32	77	0.005137	0.37477	0.377145	3.33964
33	74	0.046734	2.207698	0.441504	3.774112
34	73	-0.00271	-0.1694	0.437592	3.660268
35	73	-0.0103	-0.44402	0.422779	3.485479
36	72	-0.03403	-1.85033	0.37436	3.022223

Table-4c: Average Monthly Returns of Developed Country Companies

Average Monthly Returns and Cumulative Returns were calculated only for Developed Country companies. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR$_t$ for abnormal return), n$_t$ is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR$_t$, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R$_t$ series in particular month.

Month	Firms	AR	t-Value	CR	t-value
1	36	0.045472	1.975725	0.045472	3.081546
2	36	0.012414	1.174784	0.058451	2.785942
3	36	0.064474	2.177643	0.126693	4.92175
4	36	0.032069	2.190323	0.162825	5.473105
5	36	0.01452	1.448138	0.179709	5.400037
6	36	0.036144	2.528768	0.222348	6.097012
7	36	0.021561	1.605899	0.248703	6.312214
8	36	0.022951	1.204993	0.277361	6.583692
9	36	0.008974	0.683221	0.288824	6.462746
10	36	-0.00487	-0.30179	0.282542	5.997032
11	36	0.011941	1.136354	0.297856	6.027293
12	36	0.015596	0.941212	0.318098	6.162359
13	36	0.015977	1.49992	0.339156	6.312132
14	36	0.000941	0.085877	0.340416	6.104762
15	34	0.04781	2.887743	0.404502	6.810265
16	34	0.034614	2.427732	0.453117	7.386187
17	33	0.000122	0.00976	0.453294	7.061977
18	33	-0.00203	-0.11101	0.450345	6.818122
19	33	0.018345	1.638105	0.476952	7.028134
20	32	-0.01263	-0.99222	0.4583	6.481609
21	30	0.023222	1.482028	0.492165	6.576941
22	30	0.022876	1.729947	0.5263	6.871237
23	30	0.016783	1.275549	0.551916	7.047143
24	30	0.021403	1.52906	0.585132	7.31381
25	29	0.015243	1.145044	0.609293	7.336395
26	29	0.025134	1.591153	0.649742	7.671376
27	29	0.018998	1.103368	0.681083	7.890976
28	29	0.009024	0.626209	0.696253	7.921274
29	29	0.011273	0.575583	0.715375	7.997158
30	29	0.020218	1.792678	0.750056	8.243825
31	29	0.01268	0.980557	0.772246	8.349601
32	29	-0.00185	-0.12593	0.768972	8.183173
33	29	-0.00261	-0.14264	0.764348	8.009701
34	29	-0.00357	-0.22093	0.758055	7.825991
35	29	-0.01647	-0.9178	0.729095	7.418636
36	29	-0.01316	-0.87909	0.70634	7.086517

Table-5a: Average Monthly Abnormal Returns and Cumulative Abnormal Returns adjusted for Local Index

The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting local MSCI dollar index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-Value	CAR	t-value
1	143	0.019144	1.411197	0.019144	1.77918
2	143	0.029249	2.20891	0.048953	3.219484
3	143	0.015111	1.102446	0.064803	3.480752
4	143	0.006228	0.673121	0.071435	3.323331
5	143	-0.01342	-1.68172	0.057053	2.37421
6	143	0.017113	1.88884	0.075142	2.854696
7	143	-0.00794	-0.77525	0.066605	2.342738
8	143	-0.01136	-1.033	0.054485	1.792718
9	143	0.007465	0.692064	0.062357	1.934428
10	143	0.000367	0.032551	0.062747	1.846669
11	143	0.02671	1.698237	0.091133	2.5573
12	143	0.004695	0.473839	0.096256	2.586099
13	142	0.008402	0.9736	0.105467	2.712887
14	142	0.000527	0.04957	0.10605	2.628669
15	137	0.021698	1.737848	0.130048	3.058926
16	135	-0.00756	-0.58929	0.121503	2.746926
17	133	0.014405	1.466467	0.137659	2.996821
18	132	0.012081	1.060433	0.151404	3.191124
19	132	-0.00385	-0.37901	0.146966	3.014997
20	130	-0.01023	-0.83759	0.135235	2.683528
21	128	0.008911	0.737775	0.145351	2.793033
22	128	0.001204	0.094532	0.146731	2.754723
23	128	0.005304	0.522167	0.152813	2.805864
24	127	0.000306	0.029056	0.153166	2.742363
25	119	0.003417	0.297516	0.157107	2.667876
26	114	0.000676	0.059298	0.157889	2.573265
27	114	0.01863	1.716212	0.17946	2.870166
28	113	-0.00099	-0.11126	0.178297	2.787875
29	111	0.021214	1.996869	0.203294	3.095686
30	108	-0.01995	-1.80943	0.179282	2.647642
31	107	-0.0013	-0.11814	0.177747	2.570309
32	106	-0.0123	-1.20881	0.163261	2.31277
33	103	0.013141	0.917605	0.178548	2.455214
34	102	-0.0063	-0.63103	0.171122	2.306965
35	102	0.011164	0.769773	0.184196	2.447492
36	101	-0.01484	-1.30945	0.166627	2.17235

Table-5b: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for Local Index-Emerging Market Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only emerging market companies. The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting local MSCI dollar index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-Value	CAR	t-value
1	107	0.014236	0.844039	0.014236	1.036786
2	107	0.035496	2.052348	0.050238	2.592474
3	107	0.002368	0.15376	0.052725	2.223082
4	107	0.005298	0.451532	0.058302	2.129659
5	107	-0.01475	-1.42913	0.04269	1.395042
6	107	0.018557	1.606523	0.062039	1.850965
7	107	-0.01385	-1.06336	0.047332	1.307547
8	107	-0.02234	-1.66166	0.023937	0.618592
9	107	0.006828	0.487694	0.030928	0.753592
10	107	0.000387	0.026986	0.031326	0.724165
11	107	0.033023	1.598432	0.065384	1.441187
12	107	0.001654	0.132394	0.067147	1.417072
13	106	0.010953	0.993789	0.078835	1.591031
14	106	0.004757	0.343089	0.083968	1.633006
15	103	0.019866	1.243543	0.105502	1.954019
16	101	-0.0199	-1.20748	0.083499	1.482803
17	100	0.018366	1.436447	0.103398	1.772543
18	99	0.021154	1.508295	0.126738	2.100905
19	99	-0.00767	-0.58768	0.118094	1.905419
20	98	-0.00568	-0.35662	0.111738	1.74834
21	98	0.008213	0.537945	0.120868	1.84564
22	98	0.003339	0.202419	0.124611	1.859056
23	98	0.003952	0.308059	0.129055	1.883055
24	97	-0.00014	-0.01043	0.128897	1.831747
25	90	0.00273	0.18421	0.131979	1.770114
26	85	-0.00432	-0.29818	0.127084	1.624279
27	85	0.021993	1.602524	0.151871	1.90482
28	84	-0.006	-0.53146	0.144963	1.774891
29	82	0.026502	1.995484	0.175308	2.083836
30	79	-0.03064	-2.14031	0.139299	1.597931
31	78	0.005484	0.37974	0.145547	1.632032
32	77	-0.00777	-0.58632	0.13665	1.498449
33	74	0.025952	1.359792	0.166149	1.758809
34	73	-0.00999	-0.78022	0.154502	1.600368
35	73	0.013178	0.687496	0.169716	1.732669
36	72	-0.01675	-1.08688	0.150125	1.500845

Table-5c: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for Local Index-Developed Country Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only Developed Country companies The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting local MSCI dollar index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR$_t$ for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR$_t$, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R$_t$ series in particular month.

Month	Firms	AR	t-Value	CAR	t-value
1	36	0.03373	1.693386	0.03373	2.613499
2	36	0.01068	0.975785	0.04477	2.442414
3	36	0.052986	1.830259	0.100128	4.453708
4	36	0.008992	0.760022	0.11002	4.235063
5	36	-0.00947	-1.15745	0.099505	3.424464
6	36	0.012822	1.164913	0.113603	3.567994
7	36	0.009617	0.779057	0.124312	3.614004
8	36	0.021258	1.264489	0.148213	4.029928
9	36	0.00936	0.889271	0.15896	4.074488
10	36	0.000309	0.021701	0.159319	3.873755
11	36	0.007946	0.694011	0.168531	3.906739
12	36	0.013733	1.041979	0.184579	4.096327
13	36	0.00089	0.08559	0.185634	3.9579
14	36	-0.01193	-1.24221	0.171491	3.523189
15	34	0.027192	1.912924	0.203346	3.922117
16	34	0.028737	2.270985	0.237927	4.443227
17	33	0.002525	0.30357	0.241053	4.302358
18	33	-0.01486	-0.87231	0.22261	3.861147
19	33	0.007486	0.67005	0.231762	3.912573
20	32	-0.024	-2.62855	0.202199	3.276183
21	30	0.01117	0.823729	0.215627	3.301227
22	30	-0.0057	-0.70966	0.208701	3.121672
23	30	0.009677	0.840904	0.220398	3.224105
24	30	0.001734	0.157261	0.222513	3.186469
25	29	0.005479	0.481646	0.229211	3.161974
26	29	0.014843	1.023173	0.247456	3.347328
27	29	0.009102	0.617112	0.258811	3.435432
28	29	0.013044	1.153233	0.275231	3.58752
29	29	0.006761	0.427363	0.283853	3.635517
30	29	0.008176	0.675355	0.294349	3.706549
31	29	-0.01894	-1.55833	0.269829	3.342497
32	29	-0.02394	-1.91822	0.239434	2.919242
33	29	-0.01846	-1.31306	0.216556	2.59998
34	29	0.002671	0.186502	0.219806	2.599877
35	29	0.006262	0.358891	0.227444	2.651496
36	29	-0.01031	-0.95057	0.214787	2.468901

Table-6a: Average Monthly Abnormal Returns and Cumulative Abnormal Returns adjusted for S&P500 Index.

The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting S&P500 index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t is computed as $CR_t \,.\, nt \,/\, csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-Value	CAR	t-value
1	143	0.002787	0.18671	0.002787	0.214613
2	143	0.01614	0.98539	0.018972	1.032455
3	143	0.007901	0.53506	0.027023	1.200493
4	143	0.013621	1.201385	0.041012	1.577724
5	143	-0.01151	-0.97196	0.029028	0.998737
6	143	0.00981	0.869371	0.039123	1.228733
7	143	-0.01527	-1.29547	0.023254	0.676148
8	143	-0.00865	-0.64014	0.014405	0.391778
9	143	-0.01005	-0.84152	0.004206	0.107851
10	143	-0.02528	-2.07809	-0.02118	-0.51528
11	143	0.009231	0.542715	-0.01215	-0.28172
12	143	0.000594	0.047579	-0.01156	-0.2567
13	142	0.008479	0.683817	-0.00318	-0.06758
14	142	-0.00839	-0.67444	-0.01154	-0.23638
15	137	0.019035	1.15007	0.007278	0.141478
16	135	-0.00157	-0.12204	0.005701	0.106519
17	133	-0.01172	-0.89132	-0.00609	-0.1095
18	132	0.003022	0.196643	-0.00308	-0.05369
19	132	-0.0075	-0.65948	-0.01056	-0.17897
20	130	-0.01194	-0.90265	-0.02237	-0.36687
21	128	-0.01507	-1.24198	-0.0371	-0.5892
22	128	0.001051	0.063244	-0.03609	-0.55994
23	128	0.002546	0.186919	-0.03363	-0.51039
24	127	-0.01327	-0.83032	-0.04646	-0.6875
25	119	-0.00307	-0.22269	-0.04939	-0.69312
26	114	0.010727	0.794212	-0.03919	-0.52788
27	114	-0.00215	-0.17945	-0.04126	-0.54531
28	113	-0.00673	-0.5481	-0.04771	-0.61655
29	111	-0.00122	-0.083	-0.04888	-0.61507
30	108	0.000719	0.046993	-0.04819	-0.58816
31	107	-0.03385	-2.50128	-0.08041	-0.96092
32	106	-0.01471	-1.33221	-0.09394	-1.09972
33	103	0.017056	1.026635	-0.07848	-0.89188
34	102	-0.01434	-1.19763	-0.0917	-1.02159
35	102	-0.02884	-1.69233	-0.11789	-1.2945
36	101	-0.03787	-2.71159	-0.15129	-1.63003

Table-6b: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for S&P500-Emerging Market Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only emerging market companies. The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting S&P500 index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt.n_t/sd_t$ where Rt is the average raw return for month t (AR$_t$ for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR$_t$, is computed as $CR_t.\ nt/csdt$ where csdt is computed as $csdt = [t.var + 2.(t-1).cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R$_t$ series in particular mont

Month	Firms	AR	t-value	CAR	t-value
1	107	-0.00449	-0.24258	-0.00449	-0.26933
2	107	0.023195	1.075153	0.018603	0.789513
3	107	-0.00506	-0.30686	0.013448	0.466007
4	107	0.012976	0.905481	0.026599	0.798228
5	107	-0.0149	-0.96461	0.011306	0.30346
6	107	0.010632	0.735132	0.022057	0.540469
7	107	-0.02176	-1.44017	-0.00018	-0.00416
8	107	-0.01457	-0.87564	-0.01475	-0.3131
9	107	-0.01155	-0.74981	-0.02613	-0.52287
10	107	-0.03234	-2.09737	-0.05763	-1.0938
11	107	0.007584	0.339492	-0.05048	-0.91357
12	107	0.002384	0.150293	-0.04822	-0.83545
13	106	0.012655	0.787967	-0.03617	-0.59935
14	106	-0.00156	-0.09666	-0.03767	-0.60148
15	103	0.015566	0.729777	-0.02269	-0.34504
16	101	-0.01128	-0.68503	-0.03372	-0.49153
17	100	-0.01091	-0.63486	-0.04426	-0.62281
18	99	0.006708	0.347447	-0.03785	-0.51499
19	99	-0.01114	-0.75608	-0.04856	-0.6432
20	98	-0.00693	-0.40409	-0.05516	-0.70842
21	98	-0.0201	-1.31488	-0.07415	-0.92938
22	98	0.002823	0.130938	-0.07153	-0.876
23	98	0.003292	0.190414	-0.06848	-0.82013
24	97	-0.01731	-0.84205	-0.0846	-0.98685
25	90	-0.00512	-0.2876	-0.08929	-0.98301
26	85	0.011702	0.672023	-0.07863	-0.82496
27	85	-0.00628	-0.4169	-0.08442	-0.86907
28	84	-0.01146	-0.71512	-0.09491	-0.95381
29	82	-0.00099	-0.05309	-0.09581	-0.93476
30	79	0.004443	0.216898	-0.09179	-0.86426
31	78	-0.04133	-2.30118	-0.12932	-1.19028
32	77	-0.01225	-0.86579	-0.13999	-1.26
33	74	0.031678	1.451353	-0.11275	-0.97964
34	73	-0.0175	-1.09898	-0.12827	-1.09059
35	73	-0.03247	-1.42865	-0.15658	-1.3121
36	72	-0.03992	-2.13458	-0.19025	-1.56117

Table-6c: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for S&P500 Index-Developed Country Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only Developed Country companies The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting S&P500 index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t . nt / csdt$ where csdt is computed as $csdt = [t . var + 2 .(t - 1) . cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-value	CAR	t-value
1	36	0.024408	1.099714	0.024408	1.635504
2	36	-0.00483	-0.44524	0.019464	0.919176
3	36	0.046426	1.461515	0.066793	2.572677
4	36	0.015538	1.040834	0.083369	2.779419
5	36	-0.00145	-0.13841	0.081796	2.438274
6	36	0.007368	0.566617	0.089767	2.442207
7	36	0.004017	0.307998	0.094145	2.370951
8	36	0.008964	0.429225	0.103952	2.448576
9	36	-0.0056	-0.43848	0.097765	2.170945
10	36	-0.0043	-0.28479	0.093042	1.959888
11	36	0.014128	1.084806	0.108484	2.178695
12	36	-0.00473	-0.30361	0.103243	1.985081
13	36	-0.00382	-0.30299	0.099031	1.829314
14	36	-0.0285	-2.29593	0.06771	1.205215
15	34	0.029442	1.72027	0.099146	1.656833
16	34	0.027005	1.993804	0.128829	2.084444
17	33	-0.01416	-1.3336	0.11285	1.745105
18	33	-0.00792	-0.37636	0.104032	1.563381
19	33	0.003319	0.301385	0.107696	1.575253
20	32	-0.02713	-2.31838	0.077641	1.089966
21	30	0.001201	0.087178	0.078935	1.047074
22	30	-0.00468	-0.4815	0.073888	0.957574
23	30	0.000132	0.009225	0.07403	0.938316
24	30	-0.00036	-0.02678	0.073645	0.913764
25	29	0.003094	0.234542	0.076967	0.919955
26	29	0.007967	0.509298	0.085547	1.002639
27	29	0.009543	0.56406	0.095906	1.103029
28	29	0.006496	0.522251	0.103025	1.163541
29	29	-0.00182	-0.08802	0.101012	1.12096
30	29	-0.00909	-0.69872	0.091008	0.992963
31	29	-0.0144	-1.10177	0.075297	0.808178
32	29	-0.02102	-1.37543	0.052696	0.556684
33	29	-0.01901	-1.00735	0.03268	0.339962
34	29	-0.00664	-0.48796	0.02582	0.264613
35	29	-0.01999	-1.05474	0.005314	0.053674
36	29	-0.03301	-2.10997	-0.02787	-0.27756

Table-7a: Average Monthly Abnormal Returns and Cumulative Abnormal Returns adjusted for Financial Times World Index.

The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting FT World index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t \,.\, nt \,/\, csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-value	CAR	t-value
1	143	0.023725	1.368325	0.023725	1.619109
2	143	0.01177	0.824628	0.035774	1.726575
3	143	0.021686	1.825831	0.058236	2.295001
4	143	-0.00698	-0.60257	0.050845	1.735322
5	143	0.020484	1.701599	0.07237	2.20924
6	143	-0.01372	-1.20904	0.057657	1.606768
7	143	0.002583	0.178708	0.060389	1.558073
8	143	-0.01283	-0.98602	0.046789	1.129211
9	143	-0.02638	-2.04819	0.019176	0.436334
10	143	0.012708	0.731425	0.032128	0.693529
11	143	0.019957	1.461	0.052726	1.085202
12	143	0.008431	0.653648	0.061601	1.213893
13	142	0.003054	0.243489	0.064843	1.223359
14	142	0.020731	1.274436	0.086918	1.580188
15	137	-0.00197	-0.15597	0.084775	1.462507
16	135	0.001464	0.107325	0.086363	1.432032
17	133	-0.00025	-0.01656	0.086088	1.374558
18	132	0.000778	0.063482	0.086933	1.343859
19	132	-0.00707	-0.50196	0.079249	1.192407
20	130	-0.00914	-0.73858	0.069382	1.009774
21	128	0.005621	0.329574	0.075393	1.062544
22	128	0.002513	0.173995	0.078095	1.075323
23	128	-0.00888	-0.49392	0.068521	0.922755
24	127	0.003129	0.231201	0.071865	0.943697
25	119	0.018749	1.383838	0.091961	1.145322
26	114	-0.00158	-0.12641	0.090231	1.078554
27	114	-0.00404	-0.31345	0.085828	1.006746
28	113	0.011276	0.784849	0.098072	1.124668
29	111	0.007969	0.527893	0.106822	1.19301
30	108	-0.02953	-1.90597	0.074134	0.802952
31	107	-0.00987	-0.82466	0.063531	0.673775
32	106	0.016069	0.990893	0.080621	0.837617
33	103	-0.01382	-1.08499	0.065685	0.66244
34	102	-0.0185	-0.99921	0.045967	0.454498
35	102	-0.03992	-2.95189	0.004208	0.041011
36	101	0.116556	2.374568	0.121254	1.159388

Table-7b: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for Financial Times World Index-Emerging Market Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only emerging market companies. The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting FTWorld index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt . n_t / sd_t$ where Rt is the average raw return for month t (AR$_t$ for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR$_t$, is computed as $CR_t . nt / csdt$ where csdt is computed as $csdt = [t . var + 2 .(t-1) . cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R$_t$ series in particular mont

Month	Firms	AR	t-value	CAR	t-value
1	107	0.000566	0.03052	0.000566	0.030059
2	107	0.029155	1.341201	0.029738	1.117507
3	107	0.00064	0.038549	0.030397	0.933086
4	107	0.015454	1.076148	0.046321	1.231681
5	107	-0.01033	-0.67756	0.03551	0.844656
6	107	0.014974	1.037846	0.051016	1.10784
7	107	-0.01428	-0.96772	0.036002	0.723862
8	107	-0.0079	-0.48177	0.027822	0.523289
9	107	-0.00692	-0.44575	0.020707	0.367198
10	107	-0.02603	-1.69936	-0.00587	-0.09868
11	107	0.014233	0.641748	0.008284	0.132888
12	107	0.01162	0.749374	0.02	0.307179
13	106	0.015432	0.974992	0.035741	0.524937
14	106	0.019177	0.911362	0.055603	0.78696
15	103	-0.01068	-0.65949	0.044329	0.597493
16	101	0.003798	0.215606	0.048295	0.624141
17	100	0.001962	0.100686	0.050352	0.628166
18	99	-0.0051	-0.32686	0.044995	0.542792
19	99	-0.00226	-0.12492	0.042638	0.500646
20	98	-0.01714	-1.09713	0.024762	0.281956
21	98	0.005459	0.248508	0.030356	0.337322
22	98	0.005821	0.318633	0.036354	0.394683
23	98	-0.01368	-0.59385	0.022178	0.235485
24	97	0.004777	0.279094	0.027061	0.279846
25	90	0.018807	1.095011	0.046377	0.452644
26	85	-0.00632	-0.41209	0.039769	0.369891
27	85	-0.00717	-0.43594	0.032317	0.294958
28	84	0.008248	0.458616	0.040831	0.363799
29	82	0.007147	0.358555	0.04827	0.417536
30	79	-0.0369	-1.80159	0.009588	0.080041
31	78	-0.00449	-0.29328	0.00506	0.041291
32	77	0.031036	1.491623	0.036253	0.289289
33	74	-0.01518	-0.91705	0.020523	0.158094
34	73	-0.01943	-0.78264	0.000695	0.005238
35	73	-0.04988	-2.8086	-0.04922	-0.36566
36	72	0.078295	1.239494	0.025222	0.183492

Table-7c: Average Abnormal Monthly Returns and Cumulative Abnormal Returns adjusted for Financial Times World Index-Developed Country Companies

The average monthly returns R and Cumulative Returns (CR) were calculated for only Developed Country companies The average returns include all companies in the sample. The average abnormal monthly returns were calculated by subtracting FTWorld index returns from each company monthly returns. T-statistic for the raw and abnormal returns are computed as $Rt \,.\, n_t / sd_t$ where Rt is the average raw return for month t (AR_t for abnormal return), n_t is the number of observations in month t, and sd_t is the cross-sectional standard deviation of returns for month t. T-statistics for the cumulative average return (or Cumulative Average Abnormal Return CAR) in month t, CR_t, is computed as $CR_t \,.\, nt / csdt$ where csdt is computed as $csdt = [t \,.\, var + 2 \,.(t-1) \,.\, cov]^{1/2}$, where *var* is the average cross-sectional variance, and *cov* is the first-order autocovariance of the R_t series in particular month.

Month	Firms	AR	t-value	CAR	t-value
1	36	-0.00098	-0.10771	-0.00098	-0.05259
2	36	0.053431	1.81004	0.052403	2.003556
3	36	0.018762	1.244115	0.072148	2.254344
4	36	0.000771	0.075555	0.072974	1.97558
5	36	0.028683	1.762557	0.10375	2.512912
6	36	-0.0006	-0.04192	0.103092	2.279842
7	36	0.012204	0.599837	0.116555	2.386669
8	36	-0.00186	-0.13065	0.114479	2.192984
9	36	-0.012	-0.6938	0.101103	1.826126
10	36	0.020477	1.530837	0.12365	2.118895
11	36	0.017589	0.994305	0.143414	2.343317
12	36	-0.00143	-0.11464	0.141776	2.218022
13	36	-0.01106	-0.92102	0.129153	1.941347
14	36	0.025264	1.457709	0.157681	2.284003
15	34	0.024151	1.816277	0.18564	2.524682
16	34	-0.0054	-0.37127	0.179238	2.360265
17	33	-0.0069	-0.38302	0.171103	2.153534
18	33	0.018233	1.250278	0.192456	2.354079
19	33	-0.02136	-1.35123	0.16698	1.988015
20	32	0.015115	0.998772	0.184618	2.109682
21	30	0.006146	0.464831	0.191899	2.072103
22	30	-0.00818	-0.51529	0.182145	1.921584
23	30	0.006634	0.424254	0.189987	1.960281
24	30	-0.00214	-0.13898	0.187435	1.893253
25	30	0.018573	1.126589	0.20949	2.07329
26	30	0.011819	0.583253	0.223785	2.171777
27	30	0.004826	0.300627	0.229691	2.187444
28	30	0.019754	0.948143	0.253983	2.37521
29	30	0.010216	0.733813	0.266793	2.451632
30	30	-0.01013	-0.66853	0.253956	2.294459
31	30	-0.02388	-1.47552	0.224016	1.991056
32	30	-0.02181	-1.03175	0.19732	1.726173
33	30	-0.01093	-0.63528	0.184231	1.587066
34	30	-0.01624	-0.83719	0.164993	1.400292
35	30	-0.0157	-0.98603	0.146704	1.227161
36	30	0.207106	3.103406	0.384193	3.168798

Table-8a: Average Monthly Returns and Cumulative Abnormal Returns (Benchmark-CI) based on exchange

	144A					NYSE					OTC				
Month	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value
1	43	1.69%	0.63	1.69%	0.26	57	0.54%	0.25	0.54%	0.10	34	-0.83%	-0.16	-0.83%	-0.10
2	43	-2.11%	-0.74	-0.45%	-0.05	57	5.07%	1.12	5.63%	0.74	34	0.15%	0.04	-0.68%	-0.06
3	43	0.66%	0.18	0.21%	0.02	57	-1.17%	-0.58	4.40%	0.47	34	1.20%	0.26	0.51%	0.04
4	43	2.12%	0.87	2.33%	0.18	57	-1.30%	-0.49	3.04%	0.28	34	4.53%	1.48	5.06%	0.30
5	43	-0.03%	-0.01	2.30%	0.16	57	1.04%	0.37	4.11%	0.34	34	-2.11%	-0.56	2.85%	0.15
6	43	2.07%	0.87	4.43%	0.28	57	1.54%	0.75	5.72%	0.43	34	-0.82%	-0.19	2.01%	0.10
7	43	-5.10%	-2.00	-0.90%	-0.05	57	4.79%	1.87	10.78%	0.75	34	0.67%	0.23	2.69%	0.12
8	43	4.21%	1.59	3.27%	0.18	57	2.73%	1.46	13.80%	0.90	34	1.68%	0.35	4.41%	0.19
9	43	4.84%	1.91	8.27%	0.43	57	-0.30%	-0.17	13.46%	0.83	34	1.26%	0.41	5.73%	0.23
10	43	-4.96%	-1.68	2.90%	0.14	57	-2.06%	-0.95	11.13%	0.65	34	-0.77%	-0.23	4.92%	0.19
11	43	1.69%	0.43	4.64%	0.22	57	-6.19%	-3.77	4.25%	0.24	34	4.60%	1.45	9.75%	0.35
12	43	1.30%	0.44	6.00%	0.27	57	-3.12%	-1.31	1.00%	0.05	34	6.22%	1.74	16.58%	0.57
13	43	3.98%	1.57	10.23%	0.44	57	3.30%	1.36	4.33%	0.22	34	-6.83%	-1.66	8.61%	0.29
14	43	-3.05%	-1.24	6.86%	0.28	57	4.35%	1.67	8.87%	0.44	34	-5.63%	-1.80	2.49%	0.08
15	40	-4.09%	-1.38	2.49%	0.10	57	3.06%	1.87	12.20%	0.58	31	10.52%	2.34	13.28%	0.39
16	38	1.68%	0.55	4.21%	0.15	57	1.69%	0.81	14.09%	0.65	31	-2.42%	-0.62	10.54%	0.30
17	37	0.01%	0.00	4.22%	0.15	56	2.19%	0.95	16.59%	0.74	31	-4.25%	-1.06	5.85%	0.16
18	37	1.99%	0.70	6.30%	0.21	55	0.19%	0.06	16.82%	0.72	31	3.23%	0.61	9.26%	0.25
19	37	1.33%	0.51	7.71%	0.25	55	1.83%	0.94	18.95%	0.79	31	4.23%	1.54	13.89%	0.36
20	37	-3.89%	-1.19	3.51%	0.11	55	0.76%	0.26	19.85%	0.81	29	0.36%	0.08	14.30%	0.35
21	37	0.08%	0.02	3.60%	0.11	55	-1.37%	-0.69	18.20%	0.72	27	-0.27%	-0.06	13.99%	0.33
22	37	0.06%	0.02	3.66%	0.11	55	0.74%	0.37	19.08%	0.74	27	3.84%	0.56	18.37%	0.42
23	37	-5.54%	-1.87	-2.08%	-0.06	55	2.46%	1.27	22.01%	0.83	27	2.38%	0.51	21.19%	0.47
24	37	-9.93%	-2.05	-11.81%	-0.35	54	0.45%	0.27	22.55%	0.83	27	3.87%	0.53	25.88%	0.56
25	36	4.03%	1.47	-8.25%	-0.23	50	-1.44%	-0.69	20.78%	0.72	26	5.38%	1.19	32.66%	0.68
26	36	9.59%	2.40	0.55%	0.02	45	-1.96%	-0.80	18.42%	0.59	26	1.77%	0.48	35.01%	0.72
27	36	1.77%	0.73	2.34%	0.06	45	3.34%	1.30	22.37%	0.71	26	1.58%	0.38	37.14%	0.75
28	36	-4.99%	-1.72	-2.77%	-0.07	44	-0.87%	-0.33	21.31%	0.65	26	-5.03%	-1.09	30.24%	0.60
29	36	-1.65%	-0.59	-4.37%	-0.12	44	2.13%	0.90	23.89%	0.72	24	9.99%	2.00	43.26%	0.81
30	34	-2.30%	-0.88	-6.57%	-0.17	43	0.24%	0.08	24.19%	0.71	24	3.61%	0.74	48.43%	0.89
31	34	-5.02%	-1.79	-11.26%	-0.28	42	-1.58%	-0.71	22.22%	0.63	24	-5.53%	-0.81	40.23%	0.73
32	34	-0.74%	-0.30	-11.91%	-0.29	42	1.65%	0.84	24.23%	0.68	24	-0.15%	-0.04	40.02%	0.71
33	34	4.98%	1.43	-7.53%	-0.18	41	0.85%	0.34	25.29%	0.69	22	12.44%	2.53	57.43%	0.96
34	33	1.19%	0.50	-6.43%	-0.15	41	1.11%	0.46	26.67%	0.72	22	1.45%	0.26	59.72%	0.99
35	33	-5.99%	-2.77	-12.03%	-0.28	41	2.66%	1.18	30.04%	0.80	22	-1.29%	-0.22	57.66%	0.94
36	33	-2.30%	-1.21	-14.05%	-0.32	41	-3.22%	-1.73	25.84%	0.67	20	-4.15%	-0.87	51.12%	0.78

Table-8b: Average Monthly Returns and Cumulative Abnormal Returns (Benchmark-S&P500) based on exchange

	144A						NYSE						OTC			
Month	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value	
1	43	1.12%	0.42	1.12%	0.19	57	-1.16%	-0.36	-1.16%	-0.45	34	0.33%	0.08	0.33%	0.10	
2	43	-0.91%	-0.46	0.20%	0.02	57	3.13%	1.22	1.93%	0.53	34	4.83%	1.42	5.18%	1.10	
3	43	1.36%	0.44	1.57%	0.15	57	0.13%	0.05	2.06%	0.46	34	0.58%	0.16	5.78%	1.00	
4	43	1.80%	0.86	3.39%	0.29	57	0.60%	0.37	2.68%	0.52	34	1.31%	0.62	7.17%	1.08	
5	43	-2.28%	-1.20	1.04%	0.08	57	0.70%	0.36	3.40%	0.59	34	0.06%	0.02	7.23%	0.97	
6	43	1.93%	0.90	2.99%	0.21	57	1.97%	0.91	5.44%	0.86	34	-1.47%	-0.51	5.66%	0.69	
7	43	-6.10%	-3.53	-3.29%	-0.21	57	1.51%	0.70	7.04%	1.03	34	-1.67%	-0.58	3.89%	0.44	
8	43	0.61%	0.26	-2.71%	-0.16	57	-0.13%	-0.04	6.90%	0.95	34	-2.27%	-0.53	1.53%	0.16	
9	43	2.33%	1.10	-0.45%	-0.03	57	-2.22%	-0.96	4.52%	0.59	34	-0.47%	-0.15	1.05%	0.11	
10	43	-6.93%	-3.42	-7.34%	-0.39	57	-2.31%	-0.94	2.11%	0.26	34	2.88%	0.90	3.96%	0.38	
11	43	2.82%	0.79	-4.72%	-0.24	57	-2.11%	-0.88	-0.04%	0.00	34	0.28%	0.09	4.25%	0.38	
12	43	-1.29%	-0.54	-5.95%	-0.29	57	-1.09%	-0.46	-1.13%	-0.13	34	3.24%	1.03	7.63%	0.66	
13	43	0.75%	0.34	-5.25%	-0.25	57	3.29%	1.56	2.13%	0.23	34	-3.65%	-1.30	3.69%	0.31	
14	43	-2.71%	-1.19	-7.81%	-0.36	57	2.27%	1.24	4.44%	0.46	34	-3.22%	-1.32	0.35%	0.03	
15	40	-5.77%	-2.29	-13.13%	-0.56	57	0.86%	0.32	5.35%	0.54	31	6.49%	1.72	6.87%	0.51	
16	38	-0.09%	-0.04	-13.21%	-0.53	57	1.57%	0.61	7.00%	0.68	31	-2.97%	-0.83	3.70%	0.26	
17	37	0.63%	0.22	-12.67%	-0.48	56	0.18%	0.10	7.19%	0.67	31	-2.97%	-1.18	0.62%	0.04	
18	37	0.29%	0.12	-12.42%	-0.46	55	-0.15%	-0.05	7.03%	0.63	31	1.82%	0.49	2.45%	0.17	
19	37	-0.69%	-0.27	-13.02%	-0.47	55	-0.51%	-0.27	6.49%	0.57	31	-0.44%	-0.17	2.00%	0.13	
20	37	-4.28%	-1.77	-16.75%	-0.59	55	0.58%	0.36	7.10%	0.61	29	-0.74%	-0.33	1.24%	0.08	
21	37	-2.84%	-1.08	-19.11%	-0.66	55	-1.00%	-0.48	6.03%	0.50	27	-0.49%	-0.16	0.74%	0.04	
22	37	-1.22%	-0.37	-20.10%	-0.68	55	-0.26%	-0.08	5.75%	0.47	27	3.89%	0.75	4.66%	0.27	
23	37	-4.00%	-2.52	-23.29%	-0.77	55	1.31%	0.54	7.14%	0.57	27	1.75%	0.48	6.49%	0.36	
24	37	-6.02%	-1.90	-27.91%	-0.90	54	-3.30%	-0.82	3.60%	0.28	27	7.43%	1.26	14.40%	0.79	
25	36	1.13%	0.48	-27.10%	-0.84	50	-2.99%	-0.99	0.50%	0.04	26	1.68%	0.38	16.32%	0.86	
26	36	7.84%	2.31	-21.38%	-0.65	45	-3.03%	-1.88	-2.54%	-0.17	26	1.32%	0.60	17.86%	0.92	
27	36	-0.83%	-0.41	-22.04%	-0.66	45	1.99%	0.98	-0.61%	-0.04	26	-1.83%	-0.66	15.70%	0.79	
28	36	-3.83%	-1.89	-25.03%	-0.74	44	0.92%	0.32	0.31%	0.02	26	-1.13%	-0.29	14.40%	0.71	
29	36	-3.54%	-1.63	-27.68%	-0.80	44	0.89%	0.28	1.20%	0.08	24	2.72%	0.61	17.51%	0.82	
30	34	-1.74%	-0.86	-28.94%	-0.80	43	0.57%	0.18	1.78%	0.11	24	0.85%	0.19	18.51%	0.85	
31	34	-3.66%	-1.47	-31.54%	-0.86	42	-2.32%	-0.68	-0.58%	-0.03	24	-3.49%	-0.75	14.38%	0.65	
32	34	-2.56%	-1.01	-33.29%	-0.89	42	-1.20%	-0.69	-1.77%	-0.10	24	1.16%	0.49	15.71%	0.70	
33	34	1.77%	0.56	-32.11%	-0.85	41	-0.75%	-0.28	-2.51%	-0.14	22	4.08%	1.07	20.43%	0.86	
34	33	-1.51%	-0.83	-33.14%	-0.85	41	-0.32%	-0.13	-2.82%	-0.16	22	-2.48%	-0.75	17.44%	0.72	
35	33	-5.99%	-2.77	-37.14%	-0.94	41	0.40%	0.10	-2.43%	-0.14	22	-2.72%	-0.46	14.25%	0.58	
36	33	-2.30%	-1.21	-38.59%	-0.96	41	-3.55%	-1.09	-5.90%	-0.32	20	-5.97%	-1.24	7.43%	0.29	

Table-8c: Average Monthly Returns and Cumulative Abnormal Returns (Benchmark-FTWorld) based on exchange classification

	144A					NYSE					OTC				
Month	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value	Firms	AR	t-value	CAR	t-value
1	43	-0.82%	-0.46	-0.82%	-0.31	57	4.38%	1.30	4.38%	2.07	34	5.47%	1.41	5.47%	1.49
2	43	3.24%	1.08	2.40%	0.64	57	-0.27%	-0.16	4.10%	1.37	34	2.36%	0.64	7.97%	1.54
3	43	3.61%	1.68	6.09%	1.32	57	2.17%	1.04	6.36%	1.74	34	1.05%	0.50	9.09%	1.44
4	43	-1.99%	-1.03	3.98%	0.75	57	0.97%	0.50	7.39%	1.75	34	-0.78%	-0.31	8.24%	1.13
5	43	2.56%	1.31	6.64%	1.12	57	3.38%	1.83	11.01%	2.34	34	-0.40%	-0.13	7.80%	0.96
6	43	-5.43%	-2.98	0.85%	0.13	57	0.96%	0.54	12.08%	2.34	34	-0.30%	-0.12	7.48%	0.84
7	43	0.97%	0.45	1.83%	0.26	57	0.73%	0.43	12.89%	2.31	34	-1.27%	-0.28	6.12%	0.63
8	43	1.74%	0.75	3.60%	0.48	57	-3.53%	-2.06	8.90%	1.49	34	-0.42%	-0.13	5.66%	0.55
9	43	-7.25%	-3.61	-3.91%	-0.49	57	-1.67%	-0.99	7.08%	1.12	34	3.41%	1.03	9.27%	0.85
10	43	3.36%	1.02	-0.68%	-0.08	57	-1.95%	-1.41	4.99%	0.75	34	-0.08%	-0.03	9.18%	0.80
11	43	-0.13%	-0.06	-0.81%	-0.09	57	0.94%	0.41	5.99%	0.86	34	5.79%	1.78	15.50%	1.28
12	43	1.72%	0.77	0.90%	0.10	57	3.78%	1.87	9.99%	1.37	34	-4.53%	-1.54	10.26%	0.81
13	43	-2.10%	-0.97	-1.22%	-0.13	57	2.94%	1.33	13.22%	1.74	34	-1.30%	-0.55	8.83%	0.67
14	42	-3.53%	-1.42	-4.71%	-0.47	57	0.53%	0.40	13.82%	1.75	34	6.44%	1.88	15.84%	1.16
15	40	1.29%	0.61	-3.48%	-0.33	57	0.22%	0.13	14.08%	1.72	31	-1.88%	-0.53	13.67%	0.92
16	38	0.98%	0.36	-2.53%	-0.22	57	2.37%	1.18	16.78%	1.99	31	-3.89%	-1.33	9.25%	0.61
17	37	-0.91%	-0.37	-3.42%	-0.29	56	-1.01%	-0.41	15.60%	1.78	31	3.08%	0.81	12.62%	0.80
18	37	-0.50%	-0.20	-3.90%	-0.32	55	1.00%	0.60	16.76%	1.84	31	0.31%	0.11	12.96%	0.80
19	37	-2.39%	-0.92	-6.20%	-0.50	55	0.75%	0.30	17.64%	1.89	31	-1.17%	-0.47	11.64%	0.70
20	37	-2.95%	-1.07	-8.97%	-0.70	55	-0.75%	-0.48	16.75%	1.75	29	1.36%	0.44	13.16%	0.75
21	37	-1.70%	-0.58	-10.51%	-0.80	55	0.27%	0.14	17.07%	1.74	27	3.14%	0.59	16.71%	0.89
22	37	-3.58%	-2.09	-13.71%	-1.02	55	1.19%	0.47	18.46%	1.83	27	2.74%	0.76	19.91%	1.04
23	37	-3.97%	-1.31	-17.14%	-1.25	55	-2.07%	-1.40	16.01%	1.56	27	6.78%	1.03	28.04%	1.43
24	37	2.47%	1.20	-15.09%	-1.07	54	-3.06%	-1.70	12.46%	1.18	27	3.19%	0.75	32.12%	1.60
25	36	7.55%	2.17	-8.68%	-0.60	50	-3.03%	-1.98	9.05%	0.80	26	1.28%	0.64	33.81%	1.62
26	36	-2.21%	-1.05	-10.70%	-0.72	45	2.30%	1.10	11.56%	0.96	26	-1.47%	-0.54	31.84%	1.50
27	36	-2.76%	-1.33	-13.16%	-0.87	45	1.58%	0.90	13.33%	1.08	26	-0.38%	-0.10	31.35%	1.45
28	36	-0.81%	-0.34	-13.86%	-0.90	44	1.09%	0.53	14.56%	1.15	26	3.52%	0.89	35.97%	1.63
29	36	-0.65%	-0.35	-14.42%	-0.92	44	1.70%	0.67	16.51%	1.28	24	1.67%	0.38	38.24%	1.64
30	34	-4.49%	-2.03	-18.27%	-1.11	43	-1.72%	-1.00	14.50%	1.09	24	-3.73%	-0.68	33.08%	1.39
31	34	-2.45%	-0.89	-20.27%	-1.22	42	-0.68%	-0.48	13.72%	1.00	24	1.87%	0.90	35.57%	1.47
32	34	1.30%	0.40	-19.24%	-1.14	42	-0.72%	-0.34	12.90%	0.93	24	4.62%	1.26	41.84%	1.71
33	34	-1.38%	-0.65	-20.35%	-1.18	41	-1.55%	-0.81	11.15%	0.78	22	-2.00%	-0.58	39.00%	1.50
34	33	-7.14%	-2.86	-26.04%	-1.47	41	2.79%	1.12	14.25%	0.98	22	-2.91%	-0.48	34.96%	1.32
35	33	-3.28%	-1.72	-28.46%	-1.58	41	-4.99%	-2.68	8.55%	0.58	22	-4.50%	-1.04	28.89%	1.08
36	33	7.39%	0.76	-23.17%	-1.27	41	12.11%	1.75	21.69%	1.46	20	24.23%	2.03	60.11%	2.11

Table-9: Holding Period Returns under the Buy and Hold Assumption

Buy and hold returns were calculated from the closing price on the issue date to the anniversary of the holding period. The returns reflect capital gains only.
T statistics in the table were calculated to test the differences of mean (abnormal) holding period returns between emerging and developed market companies.

	Raw Returns			Country Index			FTWorld			S&P500		
	HPR-(12)	HPR-(24)	HPR-(36)	AHPR(12)	AHP(24)	AHPR(36)	AHPR(12)	AHPR(24)	AHPR(36)	AHPR-(12)	AHPR-(24)	AHPR-(36)
Total	21.35%	30.83%	20.35%	13.33%	16.91%	11.16%	9.68%	3.87%	-23.83%	1.42%	-14.37%	-58.08%
STDV	76.79%	113.40%	95.09%	64.49%	98.72%	75.88%	76.07%	118.04%	98.14%	77.92%	115.26%	102.37%
MED	5.95%	-1.24%	3.43%	1.52%	4.41%	-4.93%	-1.04%	-24.23%	-45.13%	-10.41%	-43.29%	-89.47%
Emerging	15.04%	22.25%	2.36%	8.04%	14.58%	8.07%	3.15%	-4.05%	-42.19%	-5.42%	-20.95%	-74.65%
STDV	72.97%	122.98%	94.95%	58.97%	107.30%	76.45%	72.23%	129.16%	98.41%	73.35%	125.89%	103.10%
MED	1.10%	-9.13%	-25.26%	1.46%	-3.57%	-8.29%	-7.73%	-36.21%	-73.38%	-19.01%	-53.83%	-104.84%
N	107	95	75	107	95	75	107	95	75	107	95	75
Developed	40.61%	58.96%	66.24%	29.50%	24.54%	19.04%	22.31%	29.80%	23.00%	29.66%	7.19%	-15.80%
STDV	86.73%	72.36%	80.00%	78.57%	59.72%	75.13%	89.36%	69.39%	81.67%	85.80%	69.49%	88.81%
MED	10.44%	40.66%	52.70%	4.22%	19.01%	21.54%	-6.00%	13.53%	25.58%	-0.63%	-5.72%	-13.61%
N	36	29	29	36	29	29	36	29	29	36	29	29
T	1.59	1.99	3.46	1.50	0.64	0.66	1.16	1.83	3.44	2.20	1.54	2.89