

**The Impact of Investment Opportunities and Free Cash Flow on
Stock Market Liberalizations:
A Cross-Firm Analysis of Five East Asian Countries**

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Abstract

This paper provides a firm-level analysis of investment opportunities and free cash flow in explaining the source of the wealth effect of stock market liberalizations for five East Asian countries. We document that the stock market's responses to announcements of market liberalizations are more favorable for high-growth firms than for low-growth firms. Our results are consistent with the investment opportunities hypothesis. We also show that high-cash-flow firms have lower announcement-period returns associated with market liberalizations than low-cash-flow firms. Our findings suggest that the free cash flow hypothesis dominates the corporate governance hypothesis in terms of the net effect of market liberalizations on the firms' stock returns. These findings hold even after controlling for other potential explanatory variables.

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I. Introduction

Ever since the late 1980s, many emerging countries have liberated their capital markets, inducing a massive amount of capital inflows and at the same time spurring many academic studies. Obstfeld (1994) points out that a significant benefit of financial liberalization comes from improved risk sharing. Global diversification has shifted world portfolios from safe, but low-yield capital into riskier, but high-yield capital. A growing body of empirical research has begun to analyze important questions such as the relation between capital account liberalization and emerging market equity prices (e.g., Bekaert and Harvey (1998), Henry (2000a), and Kim and Singal (2000)), liquidity (e.g., Levine and Zervos (1998a)), private investment (e.g., Bekaert and Harvey (1998, 2000), Levine and Zervos (1998b), and Henry (2000b)), equity flows (e.g., Bekaert et al. (2002)), and economic growth (e.g., Bekaert et al. (2001, 2005)). These studies suggest that capital account liberalizations are associated with higher equity prices, lower cost of capital, investment booms, greater capital flows, and higher economic growth.

Most previous research studies the effects of stock market liberalizations using aggregate stock market indices, yet there is little empirical evidence at the firm level. As suggested by Martell and Stulz (2003), stock market liberalizations increase the pool of investors who can invest in firms. How much a country benefits from stock market liberalization depends on the extent to which firms can take advantage of the liberalization. More importantly, stock market liberalizations do not necessarily benefit the shareholders of firms. They may in fact have a negative economic impact on firms

if the costs of liberalizations outweigh their benefits. A firm-level analysis therefore provides us with fruitful information to assess the impact of capital account liberalizations and the channels through which liberalizations affect firms.

This study investigates the role of investment opportunities and free cash flow in explaining the value-enhancing potential of stock market liberalizations at the firm level. As argued by Henry (2000b) and Bekaert et al. (2001), stock market liberalizations expand a firm's investment opportunity set and stimulate its investment because of the falling cost of equity capital following liberalizations. The value-enhancing potential of investments depends on the availability or lack of investment opportunities (e.g., Lang et al. (1989, 1991), Doukas (1995), and Brailsford and Yeoh (2004)). Specifically, corporate investments by firms with good investment opportunities are generally regarded as worthwhile, but those by firms with poor investment opportunities are not. This suggests that stock market liberalizations create more value for firms with high growth opportunities than for those with poor investment opportunities. Martell and Stulz (2003) also argue that stock market liberalizations are more beneficial for high-growth firms because the local market may not provide enough funding to meet their capital needs. We refer to this conjecture as the *investment opportunities hypothesis*.

It is important to recognize that while stock market liberalizations result in a reduction in the cost of equity capital, they may create an incentive for overinvestment. Berkovitch and Kim (1990) suggest that the lower cost of capital creates an incentive for the firm to undertake excessive investment, which may take the form of accepting negative net present value (NPV) projects. This overinvestment problem is expected to be more

serious for firms with high free cash flow. Jensen's (1986) free cash flow theory argues that potential agency conflicts arise when managers have control of cash flows in excess of those necessary for profitable investment. Potential agency costs result from managers' using the excess cash flow to overinvest in the firm so that shareholder wealth is not maximized. Therefore, if Jensen's free cash flow theory holds, we expect that the value of stock market liberalizations will be inversely related to the firms' levels of existing free cash flow because the potential agency costs associated with free cash flow are higher for high-cash-flow firms. We refer to this possibility as the *free cash flow hypothesis*.

There is an alternative hypothesis predicting that stock market liberalizations may create more value for high-cash-flow firms than for low-cash-flow firms. Stulz (1999) and Martel and Stulz (2003) point out that stock market liberalizations reduce the cost of capital not only by sharing risk but also by improving corporate governance. The introduction of foreign investors increases the monitoring intensity and thereby reduces agency costs of free cash flow. This indicates that after liberalization, firms that are prone to agency problems, such as those with high free cash flow, are more likely to experience larger increases in equity values. We refer to this hypothesis as the *corporate governance hypothesis*.

To examine the empirical relevance of these three hypotheses, we construct a sample of firms from five East Asian emerging markets that experienced stock market liberalizations during the 1980s and 1990s. We show that at the firm level, announcements of market liberalizations are, on average, associated with significantly positive stock returns, which are consistent with the findings in Patro and Wald (2005).

We further divide our sample by firms with good and poor investment opportunities. We find that the average market reaction to stock market liberalizations is more positive for firms with favorable investment opportunities than for firms with poor investment opportunities. In cross-sectional regression analyses of stock returns, we show a significantly positive relation between the market's response to announcements of stock market liberalizations and the firm's investment opportunities. These results hold even after we control for other factors that may affect the valuation effect of stock market liberalizations. Our findings support the investment opportunities hypothesis that stock market liberalizations are more valuable for high-growth firms because they are more likely to make worthwhile investments.

We also find that free cash flow explains the cross-sectional differences in stock returns associated with the announcements of market liberalizations. We show a significantly negative relation between the market's response to announcements of market liberalizations and the firm's free cash flow. This evidence indicates that stock market liberalizations create less value for high-cash-flow firms than for low-cash-flow firms. Our findings suggest that the free cash flow hypothesis dominates the corporate governance hypothesis in terms of the net effect of stock market liberalizations on the firms' stock returns.

The remainder of the paper is organized as follows. Section II describes the sample and presents summary statistics. Section III examines the role of investment opportunities and free cash flow in explaining the value-enhancing potential of stock market liberalizations. The final section concludes.

II. Sample and Descriptive Statistics

A. Stock Market Liberalization Dates

It is difficult to identify the exact dates of liberalization because countries pursue different liberalization strategies and capital market liberalization comes in many forms. One form of liberalization is the removal of barriers to investing directly in some or all classes of shares in an emerging stock market. The introductions of American Depositary Receipts (ADRs) and country funds are other two forms of liberalization that allow stocks to be traded in developed markets and are perhaps more effective in reducing liquidity and information barriers. Most previous research focuses on the effect of the first liberalization event, regardless of the types of liberalization. In this study, we examine all of the three main types of stock market liberalization.

It is generally difficult to pinpoint the exact announcement dates of market liberalization events. However, Bekaert and Harvey (2000) and Henry (2000a) provide a detailed examination of the key economic events that affect the financial liberalization and reform process in emerging markets. Our liberalization dates are taken from these two studies. We choose the earliest dates of each type of liberalizations in each country. Because the exact liberalization dates are difficult to identify, we use liberalization months instead of dates, as do Bekaert and Harvey (2000) and Henry (2000a). The date of stock market liberalization is defined as the first month of liberalization.

Table 1 shows the dates of the three liberalization events for Indonesia, Malaysia, South Korea, Taiwan, and Thailand. The earliest liberalization event occurred in August 1984 in South Korea, when the first country fund was launched. The latest event occurred in August 1992 in Malaysia, when the first ADR was introduced. In our

sample, the first liberalization event in the five East Asian countries coincides with the first country fund launching.

[Insert Table 1 here]

B. Data and Variable Descriptions

The data for the firms in the five East Asian countries are obtained from the Pacific-Basin Capital Markets (PACAP) database, which is compiled by the University of Rhode Island. Data on stock returns and financial statements are recorded. We use daily stock returns to examine the announcement effect of stock market liberalizations. We also use financial statement data to calculate proxies for growth opportunities, free cash flow, and several control variables.

Harvey (1995) points out that the correlation between emerging country returns and the global market is close to zero, and a global beta seems not informative about the cross-section of expected returns. Moreover, data limitations prevent the calculation of market betas for many firms in the emerging markets. We follow Mitton (2002) to measure firm performance during stock market liberalizations and do not calculate abnormal stock returns using historical betas. As an alternative, we use measures of firm size, leverage, liquidity, dividend yield, industry dummies, and country dummies in the regressions to control for factors that could affect expected returns. The stock returns we use are dividend inclusive and are expressed in local currencies adjusted for local price index changes.

Table 2 shows the sample characteristics for the explanatory variables used in this study for each of the five East Asian countries. To empirically distinguish the effects of

investment opportunities, a proxy for the profitability of new investment is needed. Tobin's q , defined as the ratio of a firm's market value to the replacement costs of its assets, is perhaps the most commonly used measure of growth opportunities (Denis (1994)). The deviation of market value from replacement value depends upon the profitability of both the firm's assets in place and its expected investment opportunities. With scale-expanding investments and decreasing marginal returns on capital, if new investment opportunities are expected to be profitable, the firm's assets in place must also be profitable and Tobin's q will be high (Lang and Litzenger (1989)). On the other hand, if the profitability of the firm's assets in place is low, its investment opportunities will also be expected to earn a low rate of return and Tobin's q will be low. Therefore, Tobin's q is positively correlated with the profitability of new investment. Note that there is no necessary connection between the q ratio and the marginal profitability of new investment opportunities. However, it seems reasonable to follow Barclay and Litzenger (1988) and Lang and Litzenger (1989) and assume that, on average, a measure of a firm's average profitability of investment is positively correlated with the marginal profitability of new investment.

[Insert Table 2 here]

We estimate q as the ratio of the market value of the firm's assets to the book value of the firm's assets, where the market value of assets equals the book value of assets minus the book value of common equity plus the market value of common equity.¹ This simple measure of q for investment opportunities has been widely used in previous

¹ The conclusions in this study remain unchanged if the market value of the firm's assets is estimated as the market value of equity plus the liquidating value of preferred stock plus the book value of long-term debt minus the net working capital (as in Song and Walkling (2000)).

studies (e.g., Smith and Watts (1992) and Holderness et al. (1999)).² The q variable is measured at the end of the fiscal year preceding the announcement of stock market liberalization.³ High- q firms are regarded as firms with good investment opportunities while low- q firms are regarded as firms with poor investment opportunities.

Jensen (1986) defines free cash flow as cash flow left after the firm has invested in all available positive NPV projects. Unfortunately, as pointed out by Lang et al. (1991), the literature provides little or no guidance on the measures for free cash flow as defined by Jensen (1986). We adopt the most widely used definition of free cash flow (as in Lehn and Poulsen (1989), Lang et al. (1991), Lie (2000), and others), which is operating income before depreciation minus interest expenses, taxes, preferred dividends, and common dividends for the fiscal year preceding the announcement. Free cash flow is normalized by the book value of total assets.

We also control for other potential variables that could affect firm performance. The first is firm size, measured by the logarithm of the book value of total assets for the fiscal year preceding the announcement. Chui and Wei (1998) find a strong size effect in most of the East Asian markets, where stock returns are negatively related to firm size. Moreover, Laeven (2003) points out that liberalization affects small and large firms differently in emerging markets. He argues that small firms are financially constrained before the start of the liberalization process, but become less constrained after liberalization. In many developing countries, large firms have access to preferential

² Chung and Pruitt (1994) show that at least 96.6% of the variability of Tobin's q (based on Lindenberg and Ross (1981)) is explained by this simple measure of q .

³ The results are qualitatively similar if the average q for the three fiscal years prior to the announcement is used (as in Lang et al. (1989, 1991)).

credit during the period before financial liberalization and this form of favoritism is likely to decrease during financial liberalization.

An additional control variable is the firm's debt ratio, measured as the book value of total debt divided by the book value of total assets for the fiscal year preceding the announcement. The debt ratio reflects the firm's leverage risk and is related to the return of stocks. Moreover, debt can be used to monitor managerial inefficiency to mitigate the agency problem (Hart and Moore (1990) and Stulz (1990)). When leverage is sufficiently large, managers do not make value-destroying investment decisions because they are under legal obligations to service debt payments, and negative NPV projects increase the probability of bankruptcy. Debt itself is a control for agency problems and thus stock values.

We also control for liquidity. The liquidity of stocks is a particular concern of investors in emerging markets. Amihud and Mendelson (1986), Chalmers and Kadlec (1998), and others suggest that liquidity is compensated for in expected returns and thus it is warranted to control for differences in liquidity. We use the share turnover rate as a proxy for liquidity. Turnover rate is measured as the average monthly number of shares traded over the total number of shares for the year preceding the announcement. Finally, the firm's dividend yield is included as an alternative measure of investment opportunities (Smith and Watts (1992)). Dividend yield is the firm's dividend to price per share for the year preceding the announcement.

III. Empirical Results

A. Overall Effect of Liberalization on Stock Returns

Following Henry (2000a), we use an eight-month period $(-7, 0)$ to measure the price reaction to the announcement of stock market liberalization, where month 0 is defined as the month of liberalization.⁴ We examine the announcement-period returns for all three types of liberalization and for the first liberalization event regardless of the types of liberalization. Table 3 presents the results on a country-by-country basis.

[Insert Table 3 here]

Panel A shows that the average (median) announcement-period stock returns for all types of liberalization are 1.614% (1.103%), 0.262% (0.173%), 0.061% (0.038%), 0.074% (0.012%), and 0.382% (0.091%) per day for Indonesia, Malaysia, South Korea, Taiwan, and Thailand, respectively, all statistically significant at the 1% level. The average (median) announcement-period return across the five countries is 0.173% (0.073%) per day for all types of liberalization, also significant at the 1% level. This indicates that at the firm level, the average (median) increase in stock returns is approximately 3.5% (1.5%) per month during liberalization. Henry (2000a) and Kim and Signal (2000) use market level analysis and report that the average impact of liberalization is about 1.7% to 4.7% per month, while Patro and Wald (2005) provide firm level analysis and show that the average increase in returns is 1.5% per month. Therefore, our results are consistent with previous findings that announcements of stock market liberalization are associated with significantly positive stock valuation effects.

⁴ We treat 20 trading days as one month. Our results are similar if 21 or 22 trading days are defined as one month.

Panel B presents the average and median stock returns for the first liberalization event in each of the five East Asian countries. The results are similar to those reported in Panel A. The average sample firms in the five East Asian countries all experience significantly positive stock returns during liberalization. The mean (median) announcement-period return across the five countries is 0.385% (0.281%) per day, or equivalently 7.7% (5.6%) per month, for the first liberalization event only. Our findings suggest that at the firm level, the first liberalization event, on average, has a higher impact on stock valuations than subsequent liberalization events.

B. Analysis of Subsamples Based on Investment Opportunities and Free Cash Flow

In Panel A, Table 4, we examine the importance of investment opportunities in explaining the announcement effect of all three types of stock market liberalization. The sample firms are divided according to whether they have a q greater or less than the median for the whole sample. High- q firms are those with q above the sample median while low- q firms are those with q below the sample median. High- q firms are those with good investment opportunities whereas low- q firms are those with poor investment opportunities.

[Insert Table 4 here]

Our results show that high- q firms have a positive average announcement-period return of 0.205% per day, statistically significant at the 1% level. The median announcement-period return for high- q firms is 0.09% per day, also significant at the 1% level. In contrast, the average and median announcement-period returns for the low- q firms are respectively 0.141% and 0.05% per day, both statistically significant at the 1%

level. The mean difference between the announcement-period returns for high- q and low- q firms is 0.064% per day, or approximately 1.3% per month, and is statistically significant at the 1% level. This result is robust to possible deviations from non-normality, since it also holds for the non-parametric Kruskal-Wallis test statistic. Our findings are consistent with the investment opportunities hypothesis that stock market liberalizations are more valuable for firms with high growth opportunities than for those with low growth opportunities. High-growth firms are more likely to make worthwhile investments and stock market liberalization provides funding to meet their capital needs.

To test the robustness of our results, we also divide our sample firms according to whether they have a q greater or less than one. High- q firms are those with q above one while low- q firms are those with q below one. This classification follows that of Lang et al. (1991), Howe et al. (1992), Brailsford and Yeoh (2004), and others. As also shown in Panel A, the average market reaction to liberalization announcements is significantly more positive for high- q firms than for low- q firms. These results are again consistent with the investment opportunities hypothesis.

In Panel B, Table 4, we investigate the importance of free cash flow in explaining the announcement effect associated with all three types of stock market liberalization. High-cash-flow (low-cash-flow) firms have a free cash flow ratio above (below) the median for the whole sample. This classification follows that of Lang et al. (1991), Howe et al. (1992), Brailsford and Yeoh (2004), and others. We find that low-cash-flow firms have a significantly positive average (median) announcement-period return of 0.203% (0.089%) per day. The average (median) announcement-period return for

high-cash-flow firms, in contrast, is 0.143% (0.057%) per day. Furthermore, the mean difference between the announcement-period returns for high-cash-flow and low-cash-flow firms is -0.06% per day, or approximately -1.2% per month, and is statistically significant at the 1% level. This result is robust to possible deviations from non-normality, since it also holds for the non-parametric Kruskal-Wallis test statistic. Therefore, high-cash-flow firms have lower announcement-period returns than low-cash-flow firms, consistent with what would be expected under the free cash flow hypothesis that the value of stock market liberalizations is inversely related to the firms' levels of existing free cash flow. The reduction in the cost of equity capital associated with stock market liberalizations may provide an incentive for high-cash-flow firms to undertake excessive investment. Our findings appear to be inconsistent with the corporate governance hypothesis. However, it should be noted that these two hypotheses are not mutually exclusive. A more cautious interpretation of the results is that the free cash flow hypothesis dominates the corporate governance hypothesis in terms of the net effect of stock market liberalizations on the firms' stock returns.

Table 5 examines the role of investment opportunities and free cash flow in explaining the effect of the first liberalization event, regardless of the types of liberalization. The results are similar to those reported in Table 4. The average market reaction to stock market liberalization is more positive for firms with favorable investment opportunities or low free cash flow. Our findings in Table 5 again support the investment opportunities and the free cash flow hypotheses.

[Insert Table 5 here]

C. Cross-Sectional Regression Analyses

Table 6 presents cross-sectional regression analyses of the announcement-period returns on Tobin's q and free cash flow for all types of stock market liberalization. The t -values are computed with heteroskedasticity-consistent standard errors if tests reject homoskedasticity at the 10% significance level (White (1980)). The significance of investment opportunities and free cash flow are tested separately in Models 1 and 2, respectively.

[Insert Table 6 here]

We find in Model 1 that the coefficient for the q variable is positive and statistically significant at the 1% level. This finding supports the investment opportunities hypothesis that stock market liberalization is more valuable for firms with good growth opportunities than for those with poor growth opportunities. In Model 2, we find that the coefficient for the free cash flow variable is significantly negative at the 1% level. That is, low-cash-flow firms have higher stock returns than high-cash-flow firms, consistent with what would be expected under the free cash flow hypothesis. The results appear to be inconsistent with the corporate governance hypothesis. However, as noted earlier, these two hypotheses are not mutually exclusive. A more cautious interpretation of our findings in Table 6 is that the free cash flow hypothesis dominates the corporate governance hypothesis in terms of the net effect of market liberalization on the firms' stock performance.

In Model 3, we test jointly for the significance of investment opportunities and free cash flow. We find that the coefficient for the q variable is significantly positive whereas that for the free cash flow variable is significantly negative. Therefore, we

show again for our sample of stock market liberalization that the investment opportunities and the free cash flow hypotheses are supported.

The analysis so far does not control for other potential determinants of a stock price's reaction to announcements of market liberalization. In Model 4, we regress the announcement-period return against the q variable, free cash flow, and several control variables, for all types of stock market liberalization. The control factors include firm size, debt ratio, turnover rate, dividend yield, industry dummies, and country dummies.⁵ Results in model 4 are consistent with those in Model 3. After controlling for other potentially influential factors, the investment opportunities and the free cash hypotheses still hold.

The control variables that are significant in Model 4 are firm size and turnover rate. Firms with a smaller size or a lower turnover rate experience more favorable share price responses associated with the announcements of stock market liberalization. The results on firm size are consistent with the size effect in most Pacific-Basin emerging markets (e.g., Chui and Wei (1998)) and support Laeven (2003) that small firms gain more from the liberalization. Our findings on turnover rate are consistent with Amihud and Mendelson (1986), Chalmers and Kadlec (1998), and others that liquidity is compensated for in expected returns.

In Table 6, we also examine cross-sectional regression analyses of the announcement-period returns for the first liberalization event in the five East Asian countries. The results for the q and free cash flow variables are similar to those for all types of stock market liberalization. The announcement-period returns are significantly

⁵ Industries are defined broadly according to Campbell (1996) and Mitton (2002), who group firms in emerging markets into 11 industries.

positively related to the q variable and are significantly negatively related to the free cash flow variable. Our findings again support the investment opportunities and free cash hypotheses. The only control variable that is significant for the first liberalization event is the debt ratio. The higher the debt ratio is, the more favorable is the market response. This evidence is consistent with Jensen (1986) that a firm's debt ratio can be considered as an alternative measure of free cash flow. Firms with more free cash flow choose higher levels of debt in their capital structure as a credible pre-commitment to pay out the excess cash flow, thus lowering the expected costs of free cash flow.⁶

To check the robustness of our regression results, we also use three different window lengths to measure the price reaction to the announcement of stock market liberalization: 6 months (months -5 to 0), 4 months (months -3 to 0), and 2 months (months -1 to 0). We report our findings for all three types of liberalization and for the first liberalization event. As seen from Table 7, the results are still robust for various window lengths of announcement-period returns after controlling for other potential explanatory variables. The coefficient for the q variable is significantly positive, while the coefficient for the free cash flow variable is significantly negative. That is, the stock valuation effect associated with stock market liberalization is more favorable for firms with high growth opportunities and is less favorable for those with high free cash flow.

[Insert Table 7 here]

⁶ The conclusions in this study remain unchanged if the q variable is replaced by a dummy that takes a value of one for firms with a q that exceeds one and zero otherwise.

IV. Conclusion

This paper tests the investment opportunities, the free cash flow, and the corporate governance hypotheses to examine the importance of growth opportunities and free cash flow in explaining the value-enhancing potential of stock market liberalizations at the firm level. The investment opportunities hypothesis predicts that market liberalization is more valuable for high-growth firms than for low-growth firms, because high-growth firms are more likely to make worthwhile investments and stock market liberalization provides funding to meet their capital needs. The free cash flow hypothesis predicts that market liberalization is less valuable for high-cash-flow firms than for low-cash-flow firms, because the reduction in the cost of equity capital associated with market liberalization may provide an incentive for high-cash-flow firms to undertake excessive investment. By contrast, the corporate governance hypothesis predicts that market liberalization creates more value for high-cash-flow firms than for low-cash-flow firms, because the introduction of foreign investors through market liberalization increases the monitoring intensity and thereby reduces the agency costs of free cash flow.

We investigate a sample of firms from five East Asian emerging markets that experienced stock market liberalizations during the 1980s and 1990s. We find that at the firm level, announcements of market liberalizations are, on average, associated with significantly positive stock returns, consistent with previous findings. We further show that the average market reaction to such announcements is more favorable for firms with high growth opportunities than for those with low growth opportunities. Our results are consistent with the investment opportunities hypothesis and hold even after controlling for other factors which could affect market responses to the announcements. Our

findings suggest that the availability or lack of investment opportunities is an important consideration in assessing the value of stock market liberalizations.

We also find that free cash flow explains the cross-sectional differences in stock returns associated with the announcements of market liberalizations. We show that high-cash-flow firms have lower announcement-period returns than low-cash-flow firms. Our findings are consistent with what would be expected under the free cash flow hypothesis that the value of stock market liberalizations is inversely related to the firms' levels of existing free cash flow. Our results suggest that the free cash flow hypothesis dominates the corporate governance hypothesis in terms of the net effect of market liberalizations on the firms' stock returns.

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Table 1
The Dates of Three Types of Liberalization Events for Five East Asian Countries

This table lists the timing of the three types of liberalization events for Indonesia, Malaysia, South Korea, Taiwan, and Thailand. We choose the earliest date for each type in each country. Because the exact date is hard to be defined, we use months instead of the exact dates, as in Bekaert and Harvey (2000) and Henry (2000a).

Country	Dates	Events	References
Indonesia	1989.01	First country fund introduction.	Bekaert & Harvey (2000)
	1989.09	Official liberalization date.	Bekaert & Harvey (2000)
	1991.04	First ADR introduction.	Bekaert & Harvey (2000)
Malaysia	1987.05	Country fund Introduction.	Henry (2000a)
	1988.12	Official liberalization date.	Bekaert & Harvey (2000)
	1992.08	First ADR introduction.	Bekaert & Harvey (2000)
South Korea	1984.08	First country fund introduction.	Bekaert & Harvey (2000)
	1990.11	First ADR introduction.	Bekaert & Harvey (2000)
	1992.01	Official liberalization date. Foreigners are allowed to hold up to 10% of market.	Bekaert & Harvey (2000) Henry (2000a)
Taiwan	1986.05	Country fund Introduction.	Bekaert & Harvey (2000) Henry (2000a)
	1991.01	Official liberalization date. Implementation date of phase three of liberalization plan.	Bekaert & Harvey (2000) Henry (2000a)
	1991.12	First ADR introduction.	Bekaert & Harvey (2000)
Thailand	1985.07	First country fund introduction.	Bekaert & Harvey (2000)
	1987.09	Official liberalization date.	Bekaert & Harvey (2000)
	1991.01	First ADR introduction.	Bekaert & Harvey (2000) Henry (2000a)

Table 2
Sample Characteristics

This table presents the sample characteristics for firms in Indonesia, Malaysia, South Korea, Taiwan, and Thailand. Data are obtained from the PACAP database. Tobin's q is estimated as the ratio of the market value of the firm's assets to the book value of the firm's assets for the fiscal years before the announcement of market liberalization, where the market value of assets is estimated as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is defined as operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, all divided by total assets, for the year preceding the announcement. Firm size is the logarithm of the book value of assets for the fiscal year preceding the announcement. Debt ratio is measured as the book value of total debt divided by the book value of total assets for the fiscal year preceding the announcement. Turnover rate is the average monthly number of shares traded over total number of shares for the year preceding the announcement. Dividend yield is the firm's dividend to price per share for the year preceding the announcement.

Variables	Mean	Median	Standard Deviation	Kurtosis	Skewness
Panel A: Indonesia (N = 56)					
Tobin's q	1.609	1.175	1.110	14.370	3.134
Free cash flow	0.112	0.098	0.084	2.863	0.583
Firm size	17.252	17.440	1.191	3.122	-0.079
Debt ratio	0.400	0.404	0.151	2.945	0.432
Turnover rate	34.490	14.495	3.678	4.261	1.506
Dividend yield	0.032	0.026	0.028	7.987	1.674
Panel B: Malaysia (N = 689)					
Tobin's q	1.658	1.507	0.803	11.508	2.257
Free cash flow	0.027	0.014	0.127	22.195	2.765
Firm size	17.971	17.983	1.271	3.417	-0.154
Debt ratio	0.402	0.359	0.319	56.525	5.519
Turnover rate	19.293	7.795	28.109	14.293	2.905
Dividend yield	0.041	0.026	0.078	41.533	5.501
Panel C: South Korea (N = 1,216)					
Tobin's q	1.277	1.225	0.318	16.364	-0.882
Free cash flow	0.082	0.072	0.072	5.436	0.837
Firm size	18.573	18.456	1.289	3.443	0.604
Debt ratio	0.682	0.692	0.047	55.365	4.746
Turnover rate	73.964	50.584	72.136	5.815	1.636
Dividend yield	0.052	0.030	0.007	21.506	3.878
Panel D: Taiwan (N = 416)					
Tobin's q	0.756	0.754	0.177	17.309	1.386
Free cash flow	0.041	0.026	0.109	4.957	-0.026
Firm size	18.596	18.510	1.101	3.131	0.182
Debt ratio	0.509	0.423	0.440	18.394	3.580
Turnover rate	616.049	441.462	553.909	3.698	1.123
Dividend yield	0.232	0.181	0.245	10.087	1.861
Panel E: Thailand (N = 169)					
Tobin's q	1.678	1.406	0.832	12.080	2.433
Free cash flow	0.028	0.022	0.064	4.359	0.689
Firm size	17.295	17.187	1.074	2.880	0.432
Debt ratio	0.566	0.574	0.192	2.962	-0.508
Turnover rate	45.603	21.125	80.068	33.156	4.809
Dividend yield	0.071	0.040	0.157	53.045	6.547

Table 3
Average Announcement-Period Returns for Five East Asian Countries

This table presents the average eight-month announcement-period [-7, 0] returns for Indonesia, Malaysia, South Korea, Taiwan, and Thailand, where month 0 is the month of liberalization. Data on daily stock returns are obtained from the PACAP database. Twenty trading days are defined as one month. There are three types of liberalization events: decree release, first country fund launching, and first ADR listing. Panel A shows the results for all three types of liberalization. Panel B show the results for the first liberalization event regardless of the event type. “***” and “**” represent 1% and 5% significance levels, respectively.

Country	Number of Observations	Average Announcement-Period Return (%)	<i>t</i> -statistic	Median Announcement-Period return (%)	<i>p</i> -value for the Wilcoxon <i>z</i> -statistic
Panel A: All Types of Liberalization					
Indonesia	56	1.614	5.69***	1.103	< 0.01
Malaysia	689	0.262	13.92***	0.173	< 0.01
S. Korea	1,216	0.061	10.55***	0.038	< 0.01
Taiwan	416	0.074	5.11***	0.012	< 0.01
Thailand	169	0.382	5.89***	0.091	< 0.01
Overall	2,546	0.173	15.87***	0.073	< 0.01
Panel B: First Liberalization Event					
Indonesia	14	3.019	3.23***	1.975	< 0.01
Malaysia	210	0.511	20.87***	0.427	< 0.01
S. Korea	237	0.177	14.37***	0.166	< 0.01
Taiwan	86	0.197	6.23***	0.201	< 0.01
Thailand	38	0.438	2.14**	0.202	< 0.01
Overall	585	0.385	11.62***	0.281	< 0.01

Table 4
Analysis of Subsamples Stratified According to Tobin's q and Free Cash Flow: All Types of Liberalization

This table presents mean and median announcement-period [-7, 0] returns for Indonesia, Malaysia, South Korea, Taiwan, and Thailand, where month 0 is the month of liberalization. Data on daily stock returns are obtained from the PACAP database. Twenty trading days are defined as one month. This table examines all three types of liberalization events: decree release, first country fund launching, and first ADR listing. Panel A shows the results of event tests performed on the announcements of liberalization classified as either "high q " or "low q ." Tobin's q is estimated as the ratio of the market value of the firm's assets to the book value of the firm's assets for the fiscal years before the announcement of liberalization, where the market value of assets is estimated as the book value of assets minus the book value of common equity plus the market value of common equity. High- q (low- q) firms are firms with Tobin's q above (below) the median for the whole sample or one. Panel B shows the results of event tests performed on the liberalization announcements classified as either "high cash flow" or "low cash flow." Free cash flow is defined as operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, all divided by total assets, for the year preceding the announcement. High-cash-flow (low-cash-flow) firms are firms with free cash flow above (below) the median for the whole sample. For each cell, we report the mean return, the median return, and, in parentheses, the t -statistic, the p -value for the Wilcoxon z -statistic, and the number of observations. For the comparison of means, we report mean difference, the t -statistic in parentheses assuming unequal variances, and the p -value for the non-parametric Kruskal-Wallis statistic in square brackets. The results are similar with the assumption of equal variances. "****" and "***" represent 1% and 5% significance levels, respectively.

PANEL A: Analysis of Subsamples Based on Tobin's q		
A.1. High- q and low- q firms are defined by q being above or below the sample median respectively		
High q	Low q	Mean difference
Mean return = 0.205%	Mean return = 0.141%	0.064%
Median return = 0.090%	Median return = 0.050%	(2.96)***
(11.79***, < 0.01, 1,273)	(10.78***, < 0.01, 1,273)	[< 0.01]
A.2. High- q and low- q firms are defined by q being above or below one respectively		
High q	Low q	Mean difference
Mean return = 0.185%	Mean return = 0.136%	0.049%
Median return = 0.081%	Median return = 0.039%	(2.12)**
(14.13***, < 0.01, 1,926)	(7.28***, < 0.01, 620)	[< 0.01]
PANEL B: Analysis of Subsamples Based on Free Cash Flow		
High cash flow	Low cash flow	Mean difference
Mean return = 0.143%	Mean return = 0.203%	-0.060%
Median return = 0.057%	Median return = 0.089%	(-2.74)***
(11.50***, < 0.01, 1,273)	(11.36***, < 0.01, 1,273)	[0.03]

Table 5
Analysis of Subsamples Stratified According to Tobin's q and Free Cash Flow: First Liberalization Event

This table presents mean and median announcement-period [-7, 0] returns for Indonesia, Malaysia, South Korea, Taiwan, and Thailand, where month 0 is the month of liberalization. Data on daily stock returns are obtained from the PACAP database. Twenty trading days are defined as one month. There are three types of liberalization events: decree release, first country fund launching, and first ADR listing. This table examines the first liberalization event regardless of the event type. Panel A shows the results of event tests performed on the announcements of liberalization classified as either "high q " or "low q ." Tobin's q is estimated as the ratio of the market value of the firm's assets to the book value of the firm's assets for the fiscal years before the announcement of liberalization, where the market value of assets is estimated as the book value of assets minus the book value of common equity plus the market value of common equity. High- q (low- q) firms are firms with Tobin's q above (below) the median for the whole sample or one. Panel B shows the results of event tests performed on the liberalization announcements classified as either "high cash flow" or "low cash flow." Free cash flow is defined as operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, all divided by total assets, for the year preceding the announcement. High-cash-flow (low-cash-flow) firms are firms with free cash flow above (below) the median for the whole sample. For each cell, we report the mean return, the median return, and, in parentheses, the t -statistic, the p -value for the Wilcoxon z -statistic, and the number of observations. For the comparison of means, we report mean difference, the t -statistic in parentheses assuming unequal variances, and the p -value for the non-parametric Kruskal-Wallis statistic in square brackets. The results are similar with the assumption of equal variances. "****" and "***" represent 1% and 5% significance levels, respectively.

PANEL A: Analysis of Subsamples Based on Tobin's q		
A.1. High- q and low- q firms are defined by q being above or below the sample median respectively		
High q	Low q	Mean difference
Mean return = 0.464%	Mean return = 0.305%	0.159%
Median return = 0.354%	Median return = 0.207%	(2.41)**
(8.62****, < 0.01, 292)	(8.02****, < 0.01, 293)	[< 0.01]
A.2. High- q and low- q firms are defined by q being above or below one respectively		
High q	Low q	Mean difference
Mean return = 0.425%	Mean return = 0.289%	0.136%
Median return = 0.309%	Median return = 0.222%	(2.13)**
(10.04****, < 0.01, 411)	(9.81****, < 0.01, 174)	[< 0.01]
PANEL B: Analysis of Subsamples Based on Free Cash Flow		
High cash flow	Low cash flow	Mean difference
Mean return = 0.284%	Mean return = 0.485%	-0.201%
Median return = 0.201%	Median return = 0.357%	(-3.07)***
(8.28****, < 0.01, 292)	(8.66****, < 0.01, 293)	[< 0.01]

Table 6
Cross-Sectional Regression Analyses of Announcement-Period Returns

This table presents cross-sectional regression analyses of announcement-period returns for the sample of stock market liberalization. The dependent variable is the eight-month (-7, 0) announcement-period return for the sample firms in Indonesia, Malaysia, South Korea, Taiwan, and Thailand, where month 0 is the month of liberalization. Data on daily stock returns are obtained from the PACAP database. Twenty trading days are defined as one month. There are three types of liberalization events: decree release, first country fund launching, and first ADR listing. This table shows the results for all three types of liberalization and for the first liberalization event regardless of the event type. Tobin's q is estimated as the ratio of the market value of the firm's assets to the book value of the firm's assets for the fiscal years before the announcement of market liberalization, where the market value of assets is estimated as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is defined as operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, all divided by total assets, for the year preceding the announcement. Firm size is the logarithm of the book value of assets for the fiscal year preceding the announcement. Debt ratio is measured as the book value of total debt divided by the book value of total assets for the fiscal year preceding the announcement. Turnover rate is the average monthly number of shares traded over total number of shares for the year preceding the announcement. Dividend yield is the firm's dividend to price per share for the year preceding the announcement. The t -values in parentheses are computed with heteroskedasticity-consistent standard errors if tests reject homoskedasticity at the 10% significance level (White (1980)). "****" and "***" represent 1% and 5% significance levels, respectively.

Variables	All Types of Liberalization				First Liberalization
	Model 1	Model 2	Model 3	Model 4	Event
Intercept	-0.0007 (-2.99)****	0.0019 (15.16)****	-0.0006 (-2.41)**	0.0130 (8.06)****	0.0035 (0.78)
Tobin's q	0.0019 (10.98)****		0.0020 (11.47)****	0.0014 (7.38)****	0.0054 (9.16)****
Free cash flow		-0.0030 (-2.78)****	-0.0046 (-4.28)****	-0.0036 (-3.46)****	-0.0087 (-2.21)**
Firm size				-0.0007 (-8.61)****	-0.0004 (-1.53)
Debt ratio				0.0005 (1.29)	0.0029 (2.51)**
Turnover rate				-0.0000020 (-4.59)****	-0.0000024 (-0.36)
Dividend yield				-0.0009 (-1.18)	0.0004 (0.23)
Industry dummies	No	No	No	Included	Included
Country dummies	No	No	No	Included	Included
Adjusted R^2	0.045	0.003	0.051	0.246	0.391
F -statistic	120.48****	7.73****	69.80****	40.58****	18.87****
N	2,546	2,546	2,546	2,546	585

Table 7
Cross-Sectional Regression Analyses of Announcement-Period Returns: Alternative Event Window Lengths

This table presents cross-sectional regression analyses of announcement-period returns of stock market liberalization using windows of three different lengths: 6 months (months -5 to 0), 4 months (months -3 to 0), and 2 months (months -1 to 0), where month 0 is the month of liberalization. Data on daily stock returns are obtained from the PACAP database. Twenty trading days are defined as one month. There are three types of liberalization events: decree release, first country fund launching, and first ADR listing. This table shows the results for all three types of liberalization and for the first liberalization event regardless of the event type. Tobin's q is estimated as the ratio of the market value of the firm's assets to the book value of the firm's assets for the fiscal years before the announcement of market liberalization, where the market value of assets is estimated as the book value of assets minus the book value of common equity plus the market value of common equity. Free cash flow is defined as operating income before depreciation minus interest expense, taxes, preferred dividends, and common dividends, all divided by total assets, for the year preceding the announcement. Firm size is the logarithm of the book value of assets for the fiscal year preceding the announcement. Debt ratio is measured as the book value of total debt divided by the book value of total assets for the fiscal year preceding the announcement. Turnover rate is the average monthly number of shares traded over total number of shares for the year preceding the announcement. Dividend yield is the firm's dividend to price per share for the year preceding the announcement. The t -values in parentheses are computed with heteroskedasticity-consistent standard errors if tests reject homoskedasticity at the 10% significance level (White (1980)). "****", "***", and "**" represent 1%, 5%, and 10% significance levels, respectively.

Variables	Event Window Lengths					
	6 months (-5, 0)		4 months (-3, 0)		2 months (-1, 0)	
	All Types of Liberalization	First Liberalization Event	All Types of Liberalization	First Liberalization Event	All Types of Liberalization	First Liberalization Event
Intercept	0.0156 (8.95)***	0.0082 (1.80)*	0.0141 (6.96)***	0.0039 (0.73)	0.0148 (5.07)***	-0.0043 (-0.44)
Tobin's q	0.0013 (6.19)***	0.0053 (8.99)***	0.0013 (5.38)***	0.0044 (6.51)***	0.0008 (2.27)**	0.0034 (2.64)***
Free cash flow	-0.0041 (-3.69)***	-0.0134 (-3.26)***	-0.0044 (-3.46)***	-0.0125 (-2.65)***	-0.0043 (-2.34)**	-0.0157 (-1.73)*
Firm size	-0.0008 (-8.93)***	-0.0006 (-2.50)**	-0.0006 (-6.41)***	-0.0004 (-1.40)	-0.0007 (-4.90)***	0.0002 (0.43)
Debt ratio	0.0003 (0.89)	0.0034 (2.91)***	0.0002 (0.56)	0.0023 (1.71)*	-0.0005 (-0.78)	-0.0009 (-0.38)
Turnover rate	-0.0000026 (-5.59)***	-0.0000009 (-0.14)	0.0000004 (0.67)	-0.0000011 (-0.13)	-0.0000021 (-2.70)***	0.0000116 (0.79)
Dividend yield	-0.0010 (-1.21)	0.0001 (0.15)	-0.0015 (-1.60)	0.0003 (0.14)	-0.0020 (-1.51)	0.0007 (0.20)
Industry dummies	Included	Included	Included	Included	Included	Included
Country dummies	Included	Included	Included	Included	Included	Included
Adjusted R^2	0.259	0.434	0.239	0.452	0.207	0.356
F -statistic	43.14***	22.02***	38.61***	23.43***	31.90***	17.53***
N	2,546	585	2,546	585	2,546	585