

Operating Performance and Stock Returns of Global Depository Receipt Issuers from Taiwan

Jyh-Dean Hwang

Department of International Business
National Taiwan University, Taipei, Taiwan
E-mail: jdhwang@ntu.edu.tw

Abstract

This paper analyzes the long-run operating performance and stock returns of global depository receipt issuers from Taiwan. Our sample includes 54 Taiwanese firms that issued deposit receipts for the first time in the U.S., the U.K. and Luxemburg from 1992 to 2007. We find the long-run operating performance and stock returns of DR issuers deteriorate and under-perform their benchmarks after issue. These findings do not support the market segmentation hypothesis of cross-border listing, which predicts that the performance of DR issuers will improve in the post-issue period. Our findings are consistent with the prediction of capital structure decision models of Miller and Rock (1985), and Myers and Majluf (1984), as well as the window of opportunity hypothesis. The results suggest that firms time their DR issues during periods of relatively strong operating performance and future decline of operating performance of DR issuers is anticipated at the time of issue.

Keywords: DR Issuers, Cross-Border Listing, Abnormal Operating Performance, Abnormal Stock Returns.

Jel Classification Codes: G14, G15

1. Introduction

Increasing numbers of companies are raising capital internationally by issuing global deposit receipts (DR). This paper analyzes the long-run operating performance and stock returns of DR issuers from Taiwan. Our sample includes 54 Taiwanese firms that issued deposit receipts for the first time in the U.S., the U.K. and Luxemburg from 1992 to 2007.

Prior research on cross-border listing and capital structure decision models provide useful predictions for our study.

1.1. Prior Research on Cross-Border Listing

Errunza and Losq (1985), and Alexander et al. (1987) demonstrate how companies from segmented markets that issue equity overseas can lower their cost of capital. Survey data show that managers perceive many benefits from cross-border listing such as access to foreign capital markets and lower-cost capital, valuation gains, and increase in visibility and prestige (cf. Fanto and Karmel (1997), Karolyi (1998), and Bancel and Mittoo (2001)).

There is extensive empirical evidence consistent with these perceptions, e.g. Alexander et al. (1988), Foerster and Karolyi (1993, 1999, 2000), Miller (1999), and Sarkissian and Schill (2009). Errunza and Miller (2000) and Lins et al. (2005) note the role of cross-border listing in improving firms' access to lower-cost external financing. Khurana and Martin (2008) find a positive relation between cross-border listing and subsequent externally financed firm growth rates. The implication of these studies is that cross-border listing will improve firms' access to lower-cost external financing and have a positive impact on the firms' performance.

1.2. Capital Structure Decision Models

Miller and Rock (1985) demonstrates that raising external capital signals issuers will experience unexpected decreases in cash flows. Myers and Majluf (1984) argue that information asymmetry between managers and outside investors causes an adverse-selection problem. Myers and Majluf suggest that firms have incentives to issue common stock when they are overvalued. As a consequence, those firms will have post-issue underperformance.

Prediction based on Miller and Rock (1985), and Myers and Majluf (1984) is consistent with the window of opportunity hypothesis advanced by Loughran and Ritter (1995), which predicts firms time their stock issues during periods of relatively strong operating performance. Such firms will experience lower post-issue performance.

Extant empirical studies have documented post-issue underperformance for firms issuing stock and equity-like securities, e.g. Loughran and Ritter (1995, 1997), McLaughlin et al. (1998), and Bae et al. (2002), among others.

Investigating pre-issue and post-issue operating performance and stock returns of DR issuers is useful to test the implications of market segmentation hypothesis of cross-border listing, capital structure decision models of Miller and Rock (1985), and Myers and Majluf (1984) and the window of opportunity hypothesis. This paper extends the existing studies in this regard and analyzes the long-run operating performance and stock returns of global depositary receipt issuers from Taiwan.

We find the long-run operating performance and stock returns of DR issuers deteriorate and under-perform their benchmarks after issue. Our findings are consistent with the prediction of capital structure decision models and the window of opportunity hypothesis.

The rest of this paper is organized as follows. Section 2 describes data used in this study and our research methodology. Section 3 presents evidence on the operating performance of DR issuers and section 4 presents evidence on DR issuers' stock returns performance. Section 5 sums up our findings and concludes this paper.

2. Data and Methodology

Our sample includes 54 Taiwanese firms that issued deposit receipts for the first time in the U.S., the U.K. and Luxemburg from 1992 to 2007. All data used in this study are from database of Taiwan Stock Exchange and Taiwan Economic Journal.

We examine operating performance of DR issuers over a seven-year period around the issue year including the issue year (designated year 0), the three-year period before the issue (years -3, -2 and -1), and the three-year period after the issue year (years +1, +2 and +3).

Our measurement of performance includes returns on asset (ROA), returns on equity (ROE), ratio of earnings before interest, tax, depreciation and amortization to total asset (EBITDA/TA), and turnover on asset (Sales/TA).

We use two benchmarks to measure abnormal operating performance of DR issuers. One is the performance of the other firms in the issuer's industry. We calculate an issuer's industry-adjusted performance by subtracting the performance of the other firms in the issuer's industry from the performance of the issuer over the same period. Changes in abnormal operating performance of DR

issuers are measured relative to the year before the issue (year -1). We test for these changes using t test and Wilcoxon signed-rank test.

The other benchmark is the performance of the matched firm. The matched firm is defined as a firm that is in the same or similar industry of the DR issuer, has a seasoned equity offering in the year when the DR issuer offers its DR for the first time, and has a book value most comparable to the DR issuer. We calculate an issuer's matched-firm-adjusted performance by subtracting the performance of the matched-firm from the performance of the issuer over the same period. Again, changes in abnormal operating performance of DR issuers are measured relative to the year before the issue (year -1) and we test for these changes using t test as well as Wilcoxon signed-rank test.

This methodology controls for the possible changes in industry-wide as well as economy-wide business conditions and also control for possible mean reversion in operating performance reported in previous studies (cf. Fama and French (1995)).

We also examine factors that may be related to changes in abnormal earnings performance of DR issuers after the issue. For this purpose, the following regression model is used,

$$\Delta Y_{-1,j} = \beta_0 + \beta_1 \Delta Y_{-2,-1} + \beta_2 \text{growth_opp} + \beta_3 \text{value_enhance}_{0,j} + \beta_4 \text{firm_size} + \beta_5 \text{leverage}, \quad j=1,2,3$$

where $\Delta Y_{-1,j}$ and $\Delta Y_{-2,-1}$ are changes in abnormal earnings performance (ΔROA and ΔROE) of DR issuers from year -1 to year j and from year -2 to year -1, growth_opp is growth opportunity measured in year -1; value_enhance is value-enhancing activities from year 0 to year j , firm_size is the size of the firm measured by the natural log of total asset (in thousands of NT dollars) in year -1, and leverage is debt/(debt+ market value of equity) of the firm in year -1.

If firms time their DR issues during periods of strong earnings performance, we expect that pre-issue earnings performance will be better than post-issue earnings performance. Therefore, $\Delta Y_{-1,j}$ should be negative on average and the coefficient of $\Delta Y_{-2,-1}$ should be negative.

DR issuers with better growth opportunities should have better performance after issue. We use the market-to-book value of equity to proxy growth opportunities. Firms that use proceeds from the issue to invest in value-enhancing activities should have better performance too. We use the change in property, plant and equipment for the period of interest scaled by the book value of total asset in year -1 to proxy such investment. We control for firm size and leverage of the issuer.

Capital structure decision models of Miller and Rock (1985), and Myers and Majluf (1984) and the window of opportunity hypothesis suggest that firms tend to issue equity following periods of strong stock price performance. We examine if this is applicable to DR issuers.

Two holding period returns are calculated in the period around the DR issue. The first holding period, designated [-252,-60], starts one year, defined as 252 trading days, before the issue and ends 60 trading days before the issue. The second holding period, designated [+1, +3*252], begins on the day after the issue and ends three years later. We use two benchmarks to measure abnormal returns of DR issuer. One is the stock returns of the other firms in the issuer's industry. The other benchmark is the stock returns of the matched firm. An issuer's industry-adjusted stock returns and matched-firm-adjusted stock returns are calculated in the same manners as its industry-adjusted operating performance and matched-firm-adjusted operating performance. We test for the changes in abnormal returns of DR issuers using t test and Wilcoxon signed-rank test.

3. Evidence on Operating Performance

Unadjusted, industry-adjusted and matched-firm-adjusted operating performance measures are reported in table 1. Table 1 shows a clear pattern that all earning measurements of DR issuers (ROA, ROE, and EBITDA/TA) deteriorate after the issue. In general, ratios of Sales/TA are lower in year +1 and year +2 than in year -1, but pick up in year +3.

Table 2 reports the mean and median of the changes in abnormal operating performance of DR issuers, and statistics of t test and Wilcoxon signed-rank test for such changes. As is evidenced in table

2, while the operating performance of DR issues stay at a relatively high level, all measures of operating performance of DR issuers deteriorate after the issue, especially for the earnings performance.

Regression estimates relating post-issue changes in earnings performance to pre-issue change in earnings performance and firm variables are reported in table 3. Each row in table 3 reports estimated results for the post-issue changes in abnormal earnings performance (ΔROA and ΔROE) of the DR issuers as the dependent variable. The first column reports estimated coefficients of the pre-issue changes in abnormal earnings performance. All of these coefficients are negative and almost all of them are significant at the conventional level, indicating that DR issuers with better pre-issue earnings performance will have larger declines in earnings after issue. This suggests that firms might choose to offer DRs when performance is relatively strong.

The second column reports estimated coefficients of the growth opportunity. All of these coefficients are negative and about half of them are significant at the conventional level. This implies that DR issuers with better growth prospect right before the issue do not have better earnings performance after issue. One explanation for this result is that investors are too optimistic about the growth prospect of the DR issuers and the market-to-book value awarded to the firms is too high.

The third column reports estimated coefficients of investment in value-enhancing activities. Three of them are negative and significant at the 5% or 1% level while the rest of the coefficients are not significantly different from zero, indicating DR issuers investing in value-enhancing activities do not have better earnings performance. This implies that DR issuers may not be able to invest in a profitable way or their investments take too long to bring in profits.

4. Evidence on Stock Return Performance

Summary results for the pre-issue and post-issue abnormal stock returns of DR issuer are reported in Table 4. On the whole, stock returns of the DR issuers out-perform their benchmarks by a small margin in the pre-issue period, but under-perform their benchmarks in the post-issue period. Specifically, the mean and median of the industry-adjusted returns for DR issuers in the three-year holding period after the issue are -54.32% and -50.61%, both of which are significant at the 1% level. The mean of the matched-firm-adjusted returns for DR issuers in the three-year holding period after the issue is -15.51% (significant at the 10% level), though the median of this returns is not significantly different from zero. Taken together, our results suggest that firms tend to issue DR in the period when their stock prices are relatively high.

5. Conclusion

Investigating pre-issue and post-issue operating performance and stock returns of DR issuers is useful to test the implications of market segmentation hypothesis of cross-border listing, capital structure decision models of Miller and Rock (1985), and Myers and Majluf (1984) and the window of opportunity hypothesis. This paper extends the existing studies in this regard and analyzes the long-run operating performance and stock returns of global depositary receipt issuers from Taiwan.

We find the long-run operating performance and stock returns of DR issuers deteriorate and under-perform their benchmarks after issue. These findings are consistent with the prediction of capital structure decision models of Miller and Rock (1985), and Myers and Majluf (1984), and the window of opportunity hypothesis, but do not support the market segmentation hypothesis. Firms may have access to lower-cost capital by issuing DR, but the issuers may not be able to invest it profitably. Therefore, the issue of DR may not have a positive impact on the firms' future performance. Moreover, the issuers have an incentive to time the issue during periods of relatively strong performance. Such performance cannot sustain after issue.

Table 1: Operating Performance of DR Issuers around the Issue Year

Year		-3	-2	-1	+1	+2	+3
Panel A unadjusted operating performance of DR issuers							
ROA	Mean	0.0995	0.0908	0.0833	0.0717	0.0499	0.0420
	Median	0.0797	0.0730	0.0707	0.0727	0.0518	0.0449
ROE	Mean	0.1637	0.1418	0.1358	0.1174	0.0772	0.0555
	Median	0.1409	0.1324	0.1288	0.1318	0.0988	0.0958
EBITDA/TA	Mean	0.2463	0.2295	0.2355	0.2336	0.1794	0.1862
	Median	0.1929	0.1793	0.1874	0.1764	0.1757	0.1456
Sales/TA	Mean	0.9128	0.8856	0.8415	0.7848	0.7916	0.8631
	Median	0.7435	0.6780	0.6572	0.5913	0.5847	0.5996
Panel B industry-adjusted operating performance of DR issuers							
ROA	Mean	0.0235	0.0272	0.0270	0.0043	-0.0062	-0.0144
	Median	-0.0066	0.0047	0.0087	-0.0065	0.001	-0.0056
ROE	Mean	0.0423	0.0387	0.0445	0.0102	-0.0122	-0.0359
	Median	0.0111	0.0081	0.0348	0.0098	0.0058	0.0032
EBITDA/TA	Mean	0.0652	0.0615	0.0764	0.0631	0.0175	0.0246
	Median	0.0066	0.0365	0.0317	0.0379	0.0217	0.0153
Sales/TA	Mean	0.1509	0.1493	0.0929	0.0345	0.0435	0.0999
	Median	0.0346	-0.0996	-0.0491	-0.0868	-0.0438	-0.0201
Panel C matched-firm-adjusted operating performance of DR issuers							
ROA	Mean	0.0396	0.0495	0.0534	0.0147	0.0142	-0.0075
	Median	0.0292	0.0192	0.0501	-0.0058	0.0156	0.0055
ROE	Mean	0.1246	0.0774	0.1006	0.0152	0.0192	-0.0190
	Median	0.0516	0.0330	0.0748	-0.0149	0.0278	0.0081
EBITDA/TA	Mean	0.1178	0.0674	0.1014	0.0415	0.0173	-0.0062
	Median	0.0447	0.0519	0.0693	0.0231	0.0472	0.0631
Sales/TA	Mean	-0.0621	-0.0546	-0.0620	-0.1241	-0.1241	-0.0386
	Median	-0.0455	-0.0927	-0.0179	-0.1507	-0.1015	-0.0675

Note: Year -3, -2, -1, +1, +2, and +3 in the first row stand for the year around the issue year. Industry-adjusted performance is calculated by subtracting the performance of the other firms in the issuer's industry from the performance of the issuer over the same period. Matched-firm-adjusted performance is calculated by subtracting the performance of the matched-firm from the performance of the issuer over the same period.

Table 2: Change in Operating Performance of DR Issuers around the Issue Year

period around issue year		[-3,-1]	[-2,-1]	[-1,+1]	[-1,+2]	[-1,+3]
Panel A change in industry-adjusted operating performance of DR issuers						
ΔROA	Mean	0.0065 (0.727)	0.0028 (0.398)	-0.0226*** (-2.778)	-0.0363*** (-2.828)	-0.0421*** (-2.720)
	Median	-0.0021 [0.455]	0.0026 [0.474]	-0.0157*** [-2.790]	-0.0217*** [-2.769]	-0.0230** [-2.512]
ΔROE	Mean	0.008 (0.507)	0.0117 (0.748)	-0.0343** (-2.436)	-0.0626** (-2.497)	-0.0845** (-2.472)
	Median	-0.0031 [0.401]	0.0001 [0.537]	-0.0295*** [-2.891]	-0.0411*** [-2.778]	-0.0588*** [-2.587]
$\Delta EBITDA/TA$	Mean	0.0112 (0.616)	0.0128 (0.768)	-0.0132 (-0.668)	-0.0566* (-1.990)	-0.0481* (-1.785)
	Median	0.0147 [1.067]	-0.0003 [0.337]	-0.0117 [-0.930]	-0.0256** [-2.140]	-0.0058 [-1.115]
$\Delta Sales/TA$	Mean	-0.0243 (-0.422)	-0.0227 (-0.544)	-0.0583 (-1.627)	-0.0830* (-1.973)	-0.0289 (-0.561)
	Median	-0.0201 [-0.556]	-0.0244 [-0.419]	-0.0160 [-1.047]	-0.0740** [-2.131]	-0.0249 [-0.694]

Table 2: Change in Operating Performance of DR Issuers around the Issue Year - continued

Panel B change in matched-firm-adjusted operating performance of DR issuers						
ΔROA	Mean	0.0132 (0.561)	0.0055 (0.275)	-0.0373 (-1.341)	-0.0353** (-2.239)	-0.0422* (-1.884)
	Median	-0.0084 [0.074]	0.0107 [1.374]	-0.0193 [-1.626]	-0.0196** [-2.413]	-0.0318** [-2.229]
ΔROE	Mean	-0.0221 (-0.282)	0.0271 (0.681)	-0.0801** (-2.059)	-0.0778* (-1.978)	-0.0948** (-2.016)
	Median	0.0107 [0.571]	0.0323 [1.569]	-0.0160 [-1.537]	-0.0235* [-1.672]	-0.0655** [-2.128]
$\Delta EBITDA/TA$	Mean	-0.0265 (-0.323)	0.0257 (0.830)	-0.0584** (-2.321)	-0.0764** (-2.208)	-0.0809** (-2.488)
	Median	0.0214 [1.432]	0.0153 [1.295]	-0.0058* [-1.672]	-0.0356** [-2.038]	-0.0268** [-2.299]
$\Delta Sales/TA$	Mean	0.0055 (0.073)	0.0085 (0.143)	-0.0621 (-0.785)	-0.0829 (-0.912)	0.0031 (0.038)
	Median	0.0186 [0.174]	0.0545 [1.047]	-0.0615 [-1.556]	-0.0802* [-1.805]	-0.0745 [-1.143]

Note: In the first row, [i, j] stands for the period from year i to year j. The t-statistics are in parentheses. Figures in squared brackets are the z-statistics of Wilcoxon signed-rank test. ***, ** and * denote significant at the 1%, 5%, and 10% levels.

Table 3: Regressions Relating Changes in Earnings Performance to Firm Variables

	β_1	β_2	β_3	β_4	β_5	R^2
Panel A regressions relating changes in industry-adjusted earnings performance to firm variables						
$\Delta ROA_{-1,1}$	-0.3231 (-1.87)	-0.0071 (-1.21)	-0.0155 (-0.22)	0.0047 (0.65)	0.1137* (2.01)	0.303
$\Delta ROA_{-1,2}$	-0.6006** (-2.61)	-0.0128* (-1.69)	-0.0542 (-0.67)	0.0095 (0.83)	0.0566 (0.93)	0.220
$\Delta ROA_{-1,3}$	-0.4609 (-1.63)	-0.0151* (-1.76)	-0.0416 (-0.69)	0.0087 (0.63)	0.0744 (1.13)	0.186
$\Delta ROE_{-1,1}$	-0.3496** (-2.59)	-0.0098 (-1.11)	-0.0402 (-0.35)	0.0170 (1.43)	0.1993* (1.98)	0.390
$\Delta ROE_{-1,2}$	-0.6347*** (-3.15)	-0.0181 (-1.66)	-0.1212 (-0.74)	0.0258 (1.13)	0.086 (0.89)	0.245
$\Delta ROE_{-1,3}$	-0.5019 (-1.66)	-0.0207 (-1.02)	-0.0881 (-0.57)	0.0243 (0.74)	0.1400 (1.20)	0.143
Panel B regressions relating changes in matched-firm-adjusted earnings performance to firm variables						
$\Delta ROA_{-1,1}$	-0.4502** (-2.37)	-0.0199 (-1.30)	-0.0071 (-1.13)	0.0088 (0.76)	-0.034 (-0.62)	0.386
$\Delta ROA_{-1,2}$	-0.6843*** (-4.71)	-0.0194* (-1.75)	-0.0223*** (-3.73)	-0.0124* (-1.70)	-0.029 (-0.72)	0.655
$\Delta ROA_{-1,3}$	-0.7517*** (-5.32)	0.0374** (2.15)	-0.0008 (-0.23)	-0.0099 (-1.00)	-0.0995** (-2.03)	0.549
$\Delta ROE_{-1,1}$	-0.6687*** (-3.08)	-0.0313 (-0.92)	-0.0379** (-2.40)	0.0126 (0.51)	-0.0632 (-0.51)	0.484
$\Delta ROE_{-1,2}$	-0.6911*** (-3.97)	-0.0379 (-1.59)	-0.0628*** (-3.93)	-0.0258 (-1.58)	-0.0891 (-0.89)	0.575
$\Delta ROE_{-1,3}$	-0.8059*** (-4.58)	-0.0865*** (-2.79)	0.0005 (0.05)	-0.0354 (-1.59)	-0.2458*** (-2.31)	0.485

Note: Regression equation is as follows:

$$\Delta Y_{-1,j} = \beta_0 + \beta_1 \Delta Y_{-2,-1} + \beta_2 \text{growth_opp} + \beta_3 \text{value_enhance}_{0,j} + \beta_4 \text{firm_size} + \beta_5 \text{leverage}, \quad j=1,2,3. \quad \text{where}$$

$\Delta Y_{-1,j}$ and $\Delta Y_{-2,-1}$ are changes in abnormal earnings performance (ΔROA and ΔROE) of DR issuers from year -1 to year j and from year -2 to year -1, growth_opp is growth opportunity measured in year -1; value_enhance is value-enhancing activities from year 0 to year j , firm_size is the size of the firm measured by the natural log of total asset in year -1, and leverage is $\text{debt}/(\text{debt} + \text{market value of equity})$ of the firm in year -1. The t-statistics are in parentheses. ***, ** and * denote significant at the 1%, 5%, and 10% levels.

Table 4: Abnormal Holding Period Returns of DR Issuers

holding period	pre-issue: [-252, -60]	post-issue: [+1, +3*252]
Panel A industry-adjusted returns of DR issuers		
Mean	0.0033 (0.373)	-0.5432*** (-6.724)
Median	0.0011 [0.254]	-0.5061*** [-5.098]
Panel B matched-firm-adjusted returns of DR issuers		
Mean	0.1027*** (3.203)	-0.1551* (-1.681)
Median	0.0128*** [2.900]	-0.0010 [-1.417]

Note: Holding period [-252,-60] starts one year, defined as 252 trading days, before issue and ends 60 trading days before issue, and [+1, +3*252] begins on the day after issue and ends three years later. The t-statistics are in parentheses. Figures in squared brackets are the z-statistics of Wilcoxon signed-rank test. ***, ** and * denote significant at the 1%, 5%, and 10% levels.

References

- [1] Alexander, G., C. Eun, and S. Janakiraman. (1987). Asset pricing and dual listing on foreign capital markets: A note. *Journal of Finance* 42, 151-158.
- [2] -----.(1988). International listings and stock returns: some empirical evidence. *Journal of Financial and Quantitative Analysis* 23, 135-151.
- [3] Bae, G. S., J. Jeong, H. Sun, and A. P. Tang. (2002). Stock returns and operating performance of securities issuers. *Journal of Financial Research* 30, 337-352.
- [4] Bancel, F., and U. Mittoo. (2001). European managerial perceptions of the net benefits of foreign stock listings. *European Financial Management Journal* 7, 213-236.
- [5] Doidge, C., G. A. Karolyi, and R. Stulz. (2004). Why are foreign firms that are listed in the U.S. worth more? *Journal of Financial Economics* 1, 205-238.
- [6] Errunza, V., and E. Losq. (1985). International asset pricing under mild segmentation: Theory and test. *Journal of Finance* 40 105-124.
- [7] Errunza, V., and D. Miller. (2000). Market segmentation and the cost of capital in international equity markets, *Journal of Financial and Quantitative Analysis* 35, 577-600.
- [8] Fama, E., and K. French. (1995). Size and book-to-market factors in earning and returns. *Journal of Finance* 50, 131-155.
- [9] Fanto J., and R. Karmel. (1997). A report on the attitudes of foreign companies regarding a U.S. listing. *Stanford Journal of Law, Business and Finance* 3, 143-162.
- [10] Foerster, S., and G. A. Karolyi. (1993). International listings of stocks: The case of Canada and the U.S.. *Journal of International Business Studies* 24, 763-784.
- [11] Foerster, S. R., and G. A. Karolyi. (1999). The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States. *Journal of Finance*, 54, 981-1013.
- [12] Foerster, S. R., and G. A. Karolyi. (2000). The long-run performance of global equity offerings. *Journal of Financial and Quantitative Analysis* 35, 499-528.
- [13] Karolyi, G. A.. (1998). Why do companies list shares abroad? A survey of the evidence and its managerial implications. *Financial Markets, Institutions and Instruments* 7, 1-60.
- [14] Khurana, I. K., and X. Martin. (2008). Cross-border listing and firm growth. *Review of Finance* 12, 293-322.
- [15] Lins, K., D. Strickland, and M. Zenner. (2005). Do non-U.S. firms issue equity on U.S. exchanges to relax capital constraints? *Journal of Financial and Quantitative Analysis* 40, 109-133.
- [16] Loughran, T., and J. Ritter. (1995). The new issues puzzle. *Journal of Finance* 50, 23-51.

- [17] Loughran, T., and J. Ritter. (1997). The operating performance of firms conducting seasoned equity offerings. *Journal of Finance* 52, 1823–1850.
- [18] McLaughlin, R., A. Safieddine, and G. Vasudevan. (1998). The information content of corporate offerings of seasoned securities: An empirical analysis. *Financial Management* 27, 31–45.
- [19] Miller, D.. (1999). The market reaction to international cross-border listing: Evidence from depositary receipts. *Journal of Financial Economics* 51, 103-123.
- [20] Miller, M. H. and K. Rock. (1985). Dividend policy under asymmetric information. *Journal of Finance* 40, 1031–51.
- [21] Myers, S. and N. Majluf. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13, 187–221.
- [22] Sarkissian, S., and M. J. Schill. (2009). Are there permanent valuation gains to overseas listing? *Review of Financial Studies* 22, 371-412.