# Stock listing, share issues and firm performance: Evidence from Vietnam

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# Stock listing, share issues and firm performance: Evidence from Vietnam*

Duc Kien Vu†‡



## 1. Introduction

It is well documented that listing leads to a deterioration in firm performance (Alexander et al., 1988; Dharan & Ikenberry, 1995; Firth, 1997; Jain & Kini, 1994; Ritter, 1991). The negative listing effect is commonly accepted attributable to earnings management, market-timing, and agency cost increases. Since firms applying for listing generally conduct initial public offerings (IPOs) right before listing, managers attempt to window-dress their financial reports before going public (Jain & Kini, 1994). Besides, firms time to go listing when they unusually well perform (Dharan & Ikenberry, 1995; Jain & Kini, 1994; Ritter, 1991). By issuing new shares in IPOs, managers' percentage ownership decreases, firms incur higher agency costs due to the increase in the agency problem between managers and shareholders (Jensen & Meckling, 1976). The increased number of minority shareholders after IPOs induces higher conflict between minority shareholders and majority shareholders, which also leads to higher agency costs. The increase in agency costs damages listed firms' value compared to the pre-listing period (Jain & Kini, 1994).

It is worth noting that listing investigated in the literature generally embraces two structural changes: firms' (existing) shares are traded on stock exchanges (pure listing), and new shares are issued to the public (i.e. IPOs). The above-mentioned reasons are more subject to share issues rather than pure listing, while listing itself may also have potential effects on firm performance. Lel &

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Miller (2008) argues that firms in stronger investor protection regimes are likely to terminate poorly performing chief executive officers (CEOs). Listed companies are often subject to stricter regulations of investor protection than private companies. Frequently replacing poorly performing CEOs with well-performing ones is likely to increase firm performance. Fang et al. (2009) argue that better liquid firms have enhanced performance due to better information content of market prices and higher performance-sensitive managerial compensation. By allowing firms' shares to be traded on stock exchanges, firms may improve their performance because of higher liquidity. Since listing in most countries embraces both structural changes (pure listing and IPOs), it is highly challenging to identify which factor declines the performance of listed firms.

To address the issue, we examine the listing and share issues in Vietnam. Vietnam provides a proper data set for examining pure listing and share issues without listing. The listing process of Vietnamese companies usually takes place in two separate steps. Private companies usually issue new shares to the public to increase their equity first. These share issues can be done one or more times several years before the official listing. The reason is that private companies must raise capital to ensure the minimum charter capital requirements (10, 30, and 120 billion dong respectively for Ho Chi Minh Stock Exchange (HOSE), Hanoi Stock Exchange (HNX), and UpCom (UpCom)). After meeting the listing requirements, the firms will submit an application for listing on one of the three exchanges above. Since the firms issue new shares before listing, many of them do not issue shares at the time of listing like those in other countries. Remarkably, many large firms do not issue shares by the time of listing since they already meet listing requirements. The time separation of share issues and listing provides us with an ideal opportunity to study the impact of these separate events on performance. In other countries, listings and IPOs are often accompanied, confounding the effects of each other on performance. Second, since the official launch of the Vietnam stock exchange in 2000, this market has witnessed a strong development, constantly increase in the number of listed companies on all three exchanges: Ho Chi Minh Stock Exchange. (HOSE), Hanoi Exchange (HNX), and UpCom (UpCom). There are 1622 listed firms in Vietnam as of 2021. A large number of listed firms in Vietnam provides us with a comprehensive data set to examine share issues and listing effects.

Using univariate analyses on a data set of 24,557 firm-years involving 1622 listed Vietnamese companies, we find that listing with share issues shows a negative effect on firm performance. The finding is consistent with the IPO literature. Pure listing (listing without share issues), however, does not have a significant effect on firm performance. Share issues appear to be the main source of negative effect on the performance of IPOs. Our result shows that share issues after listing have a negative effect on firm performance. Importantly, share issues before listing do not show significant results. The difference in the participating investors in two types of share issues is a potential reason. While listed firms tend to issues new shares to public, private firms meet obstacles to do so.

They often issue new shares to existing shareholders, strategic investors, and their employees. The result is robust when using fixed effects model estimations.

Our study provides significant contributions to the literature. By taking advantage of the separation between listing and share issues, we provide evidence of no pure listing effect on firm performance. Previous studies show negative listing effect by using IPO data. These listing effects are potentially confounded by share issue effect. Our analysis of the unique data in Vietnam offer a new finding on listing effect. Furthermore, we also contribute to literature by providing pre-listing share issue effect. Different from negative effects of IPOs and seasoned equity issues as indicated literature, share issues before listing appear to have no effect on firm performance. Earnings management, market timing are the factors behind the negative share issue effect of IPOs and seasoned equity issues. Managers, however, may not use these devices when they allocate shares to informed investors.

The next sections of the paper are organized as follows. Section 2 presents hypothesis development. Section 3 explains our sample selection procedures and methodology. Our main results in univariate analyses and regression are discussed in Section 4. Section 5 is our conclusion, which summarizes our main findings and contributions.

## 2. Hypothesis development

### *2.1. Listing*

Previous studies on listing show that the operating performance decreases after the listing. Alexander et al. (1988); Dharan & Ikenberry (1995); Firth (1997); Jain & Kini (1994); and Ritter (1991) together present the negative effect of listing. The performance decrease stems from earnings management, market timing, and agency cost increases. Jain & Kini (1994) find that managers attempt to make up their financial reports before listing to get better offering price for their IPOs. The earnings management through related party sales before listing are overlooked by investors (Aharony et al., 2010). Besides, firms time to go listing when they unusually well perform (Dharan & Ikenberry, 1995; Jain & Kini, 1994; Ritter, 1991). By issuing new shares with listing, managers' ownership percentage decreases, firms incur higher agency costs due to the increase in the agency problem between managers and shareholders (Jensen & Meckling, 1976). The increased number of minority shareholders after IPOs induces higher conflict between minority shareholders and majority shareholders, which also leads to higher agency costs. The increase in agency costs damages listed firms' value compared to before listing (Jain & Kini, 1994). Since firms applying for listing generally simultaneously conduct IPOs, we hypothesize that listing with share issues has negative effect on firm performance.

*Hypothesis 1a: Listing with share issues has a negative effect on firm performance.*

As pointed above, listed firms generally conduct IPOs at the same time with listing. The findings on listing effect, therefore, is likely to be contaminated by share issue effect. Meanwhile, listing itself may also have own potential effect on firm performance because listed firms generally abide by stricter regulations, more transparent information disclosure, stringent public monitoring, higher liquidity for the firms' shares after listing. Lel & Miller (2008) argues that firms in stronger investor protection regulations are likely to terminate poorly performing chief executive officers (CEOs). Listed companies are often subject to stricter regulations of investor protection than private companies. Frequently replacing poorly performing CEOs with well-performing ones is likely to increase firm performance. Fang et al. (2009) argue that more liquid firms have enhanced performance due to better information content of market prices and higher performance-sensitive managerial compensation. By allowing firms' shares to be traded on stock exchanges, firms may improve their performance because of higher liquidity. Since there may be potential factors that can generate a positive effect of listing besides the negative factors, we hypothesize that listing without share issues has a better performance effect than listing with share issues.

*Hypothesis 1b: Listing only has better performance effect than listing with share issues.*

### 2.2. Share issues

The negative IPO effect may not come entirely from the issue of shares, but also from the listing effect. Studies on the seasoned equity issues, however, also confirm the decrease in operating performance after the issues. Research on seasoned equity issues can reduce concerns about the listing effect since both before and after the issue the firms are still listed. The typical reasons for this negative effect are optimistic expectations of investors and managers in growth (Loughran & Ritter, 1997), earnings management (Rangan, 1998; Shivakumar, 2000), and market timing (Spiess & Affleck-Graves, 1995). Share issues after listing have the same features as seasoned equity issues, thus we hypothesize that share issue after listing has negative effect on firm performance.

*Hypothesis 2a: Share issue after listing has negative effect on firm performance.*

The effect of share issues before listing may be different. Share issues after listing are likely to aim at public investors since they are listed firms and can easily sell their shares on stock exchanges. Meanwhile, it is not easy to issue shares to public investors before listing. Private firms are quite unfamiliar with the public. These firms neither have to periodically disclose their financial information to public nor are able to get access to a stock exchange. Private firms in Vietnam, therefore, often issue new shares to strategic (institutional) investors or their employees. Motivation for earning management or market timing before the private share offerings is little since both strategic investors and employees know well about issuing firms. Thus, negative share issue effects that can be observed in IPOs or seasoned equity issues may not be seen in share issues before listing.

We hypothesize that share issue before listing has no significant effect on firm performance.

*Hypothesis 2b: Share issue before listing has no significant effect on firm performance.*

## 3. Data and sample

### *3.1. Sample selection*

We collect data of all non-financial companies listed on the Vietnamese stock market as of 2021 from cophieu68, a well-known database for financial information of Vietnamese listed companies. There is a total of 1622 companies in the dataset. Financial firms were excluded from the dataset due to differences in regulations and accounting regimes. To identify the listing year, share issues before listing, we look at the listing prospectus of all listed companies. The listing prospectus is a public document required by Vietnam Security law, which provides all information of firms applying for listing. All the share issues before listing are informed in this official document. For the share issue events after listing, we extract the information synthesized by cophieu68. Cophieu68 provides all the important events of listed firms (after listing) on their website.

Since pre-listing data are often not available, we also use the enterprise data set of the General Statistics Office of Vietnam. This data set is built from the annual enterprise survey of the General Statistics Office of Vietnam since 2000. The subjects of the survey are all enterprises with over 100 employees no matter whether a company is listed or unlisted. This dataset is advantageous in obtaining data many years before the listing of companies, so that we can perform analyses on the change in operating performance before and after listing, as well as before and after the issuance of shares in the pre-listing stage. Eventually, our dataset includes 1622 listings (with 790 listings without share issues), 2518 share issues (with 459 share issues before listing, 1414 share issues with listing, and 645 share issues after listing)[1)].

Table 1 presents the year and industry distribution of listings and share issues. Column (1) of Panel A shows that the number of listed companies per period increases over time. If in the initial phase of Vietnam's stock market, there were only 22 newly listed companies (accounting for 1.36%), the period 2015-2019 saw 817 newly listed companies (50.37%). Column (2) shows that 790 out of 1622 listed firms do not issue share within three years. This important characteristic allows us to trace performance surrounding listing without share issues (pure listing effect). Not surprisingly, a similar trend to listing is observed in share issues (Column 3). Of the total 2518 share issuances, the period 2000-2004 only accounts for about 1% (25 events), while the period 2015-2019 accounts for the highest

1) We consider a listing as without share issues if firms do not issue shares within three years surrounding listing. A share issue as before listing if the share issue takes place at least four years before listing. A share issue as with listing if the share issue takes place within three years surrounding listing. A share issue as after listing if the share issue takes place at least four years after listing.

portion (35.27% with 888 events). Importantly, in each period, the number of share issues is always greater than the number of listings. For example, in the initial phase, while only 22 companies are newly listed, there are 25 share issues. In the period 2005-2009, the number of share issues is double the number of newly listed firms (756 and 370 respectively). This indicates that many companies issue new shares before going public. In fact, there are 459 pre-listing share issues in our data set (Column 4). This is an important feature that enables us to extract pre-listing share issue effect.

Panel B shows the industry distribution. As can be seen, the sample includes various industries, in which the majority of listed companies come from Manufacturing (34.71%) and Construction and Real Estate (20.65％). There is no significant difference in industry distribution between listing and issuing shares.

### *3.2. Variables and methodology*

To examine performance around listing and share issue, we use two measures: ROA (earnings before interests and taxes over total assets), ROE (net income over equity).

For the regression part, we use the control variables: leverage (total liabilities over total assets), log_ass (natural logarithm of total assets), and sales growth or SGR (sales of this year minus sales of last year divided by sales of last year).

Table 1: Year and industry distribution of listing and share issues

This table presents the year and industry distribution of listed firms. Panel A provides the distribution of listing and share issue year. Column (1) reports the listing year. Column (2) reports listing year for the listing without share issues within three years. Column (3) reports share issue year for all the events (before, within, and after listing). Column (4) reports share issue year for the events before listing at least four years. Panel B presents the industry distribution of all listed firms and share issues.

*Panel A: Year distribution*

| Year | Listing | Listing without share issues | Share issues | Share issues before listing |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| 2000-2004 | 22 (1.36%) | 3 (0.38%) | 25 (0.99%) | 19 (4.14%) |
| 2005-2009 | 370 (22.81%) | 264 (33.42%) | 756 (30.02%) | 229 (49.89%) |
| 2010-2014 | 343 (21.15%) | 215 (27.21%) | 782 (31.06%) | 183 (39.87%) |
| 2015-2019 | 817 (50.37%) | 292 (36.96%) | 888 (35.27%) | 28 (6.10%) |
| 2020-2021 | 70 (4.32%) | 16 (2.03%) | 67 (2.66%) | 0 (0.00%) |
| Total | 1622 (100%) | 790 (100%) | 2518 (100%) | 459 (100%) |

Table 1: (Continued)

| *Panel B: Industry distribution* | | |
|---|---|---|
| | Listing | Share issues |
| Accommodation and Food Services | 19 (1.17%) | 23 (0.91%) |
| Administrative and Support and Waste Management and Remediation Services activities | 40 (2.47%) | 19 (0.75%) |
| Agriculture Production | 35 (2.16%) | 38 (1.51%) |
| Arts, Entertainment, and Recreation | 5 (0.31%) | 6 (0.24%) |
| Construction and Real Estate | 335 (20.65%) | 718 (28.51%) |
| Educational Services | 2 (0.12%) | 3 (0.12%) |
| Health Care and Social Assistance | 2 (0.12%) | 1 (0.04%) |
| Information and Technology | 51 (3.14%) | 83 (3.30%) |
| Manufacturing | 563 (34.71%) | 889 (35.31%) |
| Mining, Quarrying, and Oil and Gas Extraction | 63 (3.88%) | 84 (3.34%) |
| Other Services (except Public Administration) | 2 (0.12%) | 0 (0.00%) |
| Professional, Scientific, and Technical Services | 48 (2.96%) | 50 (1.99%) |
| Public Administration | 1 (0.06%) | 0 (0.00%) |
| Rental and Leasing | 1 (0.06%) | 4 (0.16%) |
| Retail Trade | 43 (2.65%) | 108 (4.29%) |
| Transportation and Warehousing | 150 (9.25%) | 182 (7.23%) |
| Utilities | 148 (9.12%) | 121 (4.81%) |
| Wholesale Trade | 114 (7.03%) | 189 (7.51%) |
| Total | 1622 (100%) | 2518 (100%) |

## 4. Empirical results

### *4.1. Firm performance surrounding listing*

To examine firm performance surrounding listing, we trace performance from Year -1 to Year 3 (Year 0 is the listing year). We limit to firms with available observations in these five years. First, we investigate listing without share issue. The availability of these non-share issue listing events is advantageous since we can extract pure listing effect without share issue effect. Panel A of Table 2 shows the result. The result suggests that firm performance tends to gradually decrease after listing. For instance, mean (median) ROA is 9.7% (8.1%) in Year 0, and declines to 8.5% (7.5%) in Year

3. The performance decrease between Year 0 and Year 3 is statistically significant at the 5% level or more. The negative change is also economically significant since listed firms tends to have 1.1% lower ROA after three years from listing. The negative effect, however, are only evident when Year 0 is base year.

Since the performance change is likely to be affected by industry growth or macro factors, we deduct the industry-year median value from firm performance to calculate adjusted variables. Panel A of Table 2 presents the result. Most of the adjusted variables are significantly positive, suggesting that the performance of listed firms is higher than the industry average. Vietnam Securities law requires firms to be profitable within five years before listing, it is plausible that listed firms perform better than their counterparts. While raw measures provide evidence of negative effect, industry-year median adjusted variables do not show significant changes surrounding listing. Most of the performance changes are insignificant. Overall, we do not find evidence of a negative effect of listing without share issues.

Next, we examine the listing effect with share issues. We consider an event as listing with share issue if firms issue new shares within three years before or after listing. The variety in forms of listing in Vietnam allows us to compare the pure listing effect with share-issue listing effect, which has been examined by many previous studies. Panel B of Table 2 shows the result. All four measures report the highest values at Year -1 or Year 0, and gradually decrease after listing. For instance, mean (median) ROA declines from 11.1% (10.0%) in Year 0 to 8.1% (7.3%) in Year 3. The performance change surrounding listing are mostly significantly negative, suggesting that listing has a negative effect on firm performance. Importantly, the finding is robust while using industry-year median adjusted variables. The result supports Hypothesis 1a.

Panel C of Table 2 presents the result of mean (median) difference test. The result indicates that non-share issue listed firms perform worse than firms with share issue listing in Year -1 and Year 0. The difference becomes positive in Year 3. For instance, the mean (median) difference in ROE in Year -1 is -2.7% (-0.9%), and increase to 3.4% (1.6%) in Year 3. Jain and Kini (1994) attribute the negative IPO effect on operating performance to managers' earning management and market timing. Combined with the above-mentioned results, we find that earning management and market timing are likely related to share issues rather than (pure) listing.

Overall, the result suggests that the negative listing effect is observable for listing with share issues, but for those without share issue, the effect is insignificant. The result supports Hypothesis 1b.

### *4.2. Firm performance surrounding share issues*

Many previous studies examine share issue effect on operating performance through IPOs and seasoned equity issues. While share issue effects in IPOs are likely contaminated by listing, seasoned equity issues are the behavior of listed companies. Share issue of non-listed companies are not

Table 2: Listing effect

This table reports the raw and adjusted performance of listed companies surrounding listing. Panel A presents performance surrounding listing without share issues. The listing without share issues is a listing that has no share issue(s) within three years surrounding listing. Panel B presents performance surrounding listing with share issues. The listing with share issues is a listing that has share issue(s) within three years surrounding listing. Year 0 indicates the listing year. The adjusted performance is the raw performance minus the industry-year median measure. The presented data are limited to firms for which the performance measure is available from Year -1 to Year 3. Panel C presents the mean and median performance difference test between listing with and without share issues (adjusted variables only). ROA is earnings before interest and taxes over total assets. ROE is net income over equity. The t-statistics and z-statistics of the mean and median tests are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

| | | Year −1 | Year 0 (Stock listing) | Year 1 | Year 2 | Year 3 | Change Year −1 to Year 1 | Change Year −1 to Year 3 | Change Year 0 to Year 1 | Change Year 0 to Year 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Panel A: Performance surrounding listing: Without share issues* | | | | | | | | | | |
| *ROA* | | | | | | | | | | |
| Raw | Mean | .091 | .097 | .091 | .089 | .085 | .000 | −.005 | −.005** | −.011*** |
| | (t-stat) | | | | | | (0.115) | (−1.424) | (−2.243) | (−3.202) |
| (N = 498) | Median | .076 | .081 | .078 | .075 | .075 | .003 | .002 | −.000 | −.003** |
| | (z-stat) | | | | | | (1.336) | (−0.319) | (−1.429) | (−2.491) |
| Adjusted | Mean | .008 | .014*** | .012*** | .014*** | .016*** | .004 | .008** | −.002 | .001 |
| | (t-stat) | (2.342) | (4.147) | (3.493) | (4.076) | (4.454) | (1.380) | (2.184) | (−0.848) | (0.399) |
| (N = 498) | Median | −.001 | .002*** | 0** | .001*** | .007*** | .007*** | .012*** | .000 | .006** |
| | (z-stat) | (0.558) | (2.669) | (2.163) | (3.014) | (4.060) | (2.845) | (4.127) | (0.384) | (1.984) |
| *ROE* | | | | | | | | | | |
| Raw | Mean | .129 | .138 | .118 | .123 | .114 | −.011 | −.014 | −.020*** | −.023*** |
| | (t-stat) | | | | | | (−1.534) | (−1.530) | (−3.257) | (−2.809) |
| (N = 580) | Median | .115 | .122 | .115 | .113 | .113 | .002 | −.003** | −.002*** | −.010*** |
| | (z-stat) | | | | | | (−0.830) | (−2.473) | (−3.480) | (−4.397) |
| Adjusted | Mean | .018*** | .031*** | .015** | .027*** | .024*** | −.002 | .005 | .015** | −.007 |
| | (t-stat) | (2.626) | (4.648) | (2.317) | (4.206) | (3.360) | (−0.374) | (0.584) | (−2.531) | (−0.859) |
| (N = 580) | Median | .007*** | .010*** | .013*** | .014*** | .016*** | .007 | .013 | .000* | .004 |
| | (z-stat) | (2.851) | (5.199) | (4.123) | (5.131) | (5.601) | (1.001) | (1.536) | (−1.817) | (−0.259) |
| *Panel B: Performance surrounding listing: With share issues* | | | | | | | | | | |
| *ROA* | | | | | | | | | | |
| Raw | Mean | .104 | .111 | .097 | .087 | .081 | −.007*** | −.023*** | −.014*** | −.030*** |
| | (t-stat) | | | | | | (−2.657) | (−7.174) | (−6.276) | (−9.803) |
| (N = 640) | Median | .088 | .100 | .085 | .082 | .073 | −.003** | −.018*** | −.007*** | −.021*** |
| | (z-stat) | | | | | | (−2.505) | (−7.273) | (−6.186) | (−10.107) |
| Adjusted | Mean | .014*** | .021*** | .011*** | .006** | .007** | −.002 | −.007** | −.010*** | −.014*** |
| | (t-stat) | (5.539) | (8.013) | (4.092) | (2.305) | (2.250) | (−1.006) | (−2.367) | (−4.524) | (−4.984) |
| (N = 640) | Median | .001*** | .012*** | .001*** | .000* | −.000 | .000 | −.006** | −.003*** | −.009*** |
| | (z-stat) | (3.574) | (6.888) | (2.862) | (1.710) | (1.505) | (−0.642) | (−2.184) | (−3.746) | (−4.927) |
| *ROE* | | | | | | | | | | |
| Raw | Mean | .166 | .165 | .126 | .106 | .085 | −.039*** | −.080*** | −.039*** | −.080*** |
| | (t-stat) | | | | | | (−6.174) | (−9.003) | (−6.988) | (−9.059) |
| (N = 662) | Median | .143 | .152 | .125 | .105 | .098 | −.017*** | −.054*** | −.015*** | −.056*** |
| | (z-stat) | | | | | | (−6.214) | (−10.682) | (−7.779) | (−11.518) |
| Adjusted | Mean | .045*** | .046*** | .014** | .003 | −.009 | −.031*** | −.055*** | −.032*** | −.056*** |
| | (t-stat) | (8.314) | (8.682) | (2.512) | (0.543) | (−1.277) | (−4.989) | (−6.358) | (−5.876) | (−6.651) |
| (N=662) | Median | .016*** | .028*** | .010*** | −.002 | −.000 | −.010*** | −.030*** | −.009*** | −.030*** |
| | (z-stat) | (7.217) | (8.801) | (3.116) | (1.305) | (0.471) | (−4.333) | (−6.755) | (−5.761) | (−8.000) |
| *Panel C: Difference test (without-with share issues) (adjusted variables)* | | | | | | | | | | |
| ROA | Mean | −.006 | −.006 | .000 | .007 | .009* | .007* | .015*** | .007** | .016*** |
| | (t-stat) | (−1.466) | (−1.584) | (0.184) | (1.636) | (1.929) | (1.710) | (3.211) | (2.294) | (3.515) |
| | Median | −.002** | −.010** | −.001 | .001 | .007** | .007** | .018*** | .003*** | .015*** |
| | (z-stat) | (−2.062) | (−2.359) | (−0.318) | (1.023) | (2.028) | (2.447) | (4.380) | (2.689) | (4.654) |
| ROE | Mean | −.027*** | −.015* | .001 | .024** | .034*** | .028*** | .061*** | .016** | .049*** |
| | (t-stat) | (−3.083) | (−1.815) | (0.154) | (2.513) | (3.188) | (2.980) | (4.715) | (2.049) | (4.138) |
| | Median | −.009*** | −.018** | .003 | .016*** | .016*** | .017*** | .043*** | .009*** | .034*** |
| | (z-stat) | (−2.835) | (−2.231) | (0.962) | (2.722) | (3.733) | (3.532) | (5.741) | (2.740) | (5.602) |

documented by literature. With variety in types of share issues (before, with, and after listing), Vietnam is an ideal dataset to investigate the share issues in different circumstances.

Panel A of Table 3 presents the performance surrounding share issue before listing. Performance reports the highest values in Year -1 or Year 0. Mean (median) ROA reaches a peak of 9.5% (8.2%) in Year 0 before declining to 5.2% (6.1%) in Year 3. Meanwhile, ROE shows the highest value of mean (median) of 16.5% (15.2%) in Year -1, and drops to 11.4% (11.0%) in Year 3. All the performance changes surrounding share issues are significantly negative, suggesting that share issue before listing has a negative effect on firm performance. The finding is relatively robust for industry-year median adjusted measures, especially for ROE. Our findings of negative effect of before-listing share issue are consistent with what was found by literature of IPOs and seasoned equity issues. The result does not support Hypothesis 2b. However, firm performance is affected by many firms' characteristics, we also need to control for these factors, which will be presented in regression section.

Panel B of Table 3 reports the performance surrounding share issue after listing. Year -1 also presents the highest values for both mean and median of ROA and ROE. After three years of share issues, performance is significantly decrease comparing to Year -1. The negative effect is robust for adjusted ROE after one and three years, and more obvious for ROA after three years. The result supports Hypothesis 2a.

In the previous section, we find that listing with share issues induce performance deterioration. It may be more convinced if we can find a performance reduction surrounding share issues with listing. Panel C of Table 3 presents the univariate analysis of the events. The result again shows the highest value of raw (and adjusted) ROA and ROE in Year -1 or Year 0, while the values then steadily decline in three years. The finding is consistent with that effect surrounding listing with share issues.

Finally, we conduct mean and median difference test for share issue effect among subsamples: share issue before listing and share issue with listing, share issue after listing and share issue with listing. There is no evidence for a significant difference in share issue effect among these groups, suggesting that negative share issue effect is similar no matter when (before, with, or after listing) it occurs. The result also indicates that listing appears to contribute a trivial impact on the negative effect of IPOs, which simultaneously include both share issues and listing.

### *4.3. Regression results*

Univariate analysis is limited when it fails to control for other firm characteristics that affect firm performance. In order to confirm the results drawn from the previous section, we perform a regression analysis. To be able to control the firm-specific factors that do not change over time, we use the fixed-effects model. Specifically, we use the following model:

$$Y_{it}=\alpha+\alpha_1 Post\_lis_{it}+\alpha_2 Sha\_pre\_lis_{it}+\alpha_3 Sha\_pos\_lis_{it}+\alpha_4 Post\_lis\times Sha\_with\_lis_{it}+\alpha_5 CV_{it}+\alpha_i+\alpha_t Year_t+\varepsilon_{it}$$

Table 3: Share issue effect

This table reports the raw and adjusted performance of listed companies surrounding share issues. Panel A presents performance surrounding pre-listing share issues. The pre-listing share issue is a share issue before listing at least four years. Panel B presents performance surrounding post-listing share issues. The post-listing share issue is a share issue after listing at least four years. Panel C presents performance surrounding with-listing share issues. The with-listing share issue is a share issue within three years surrounding listing. Year 0 indicates the listing year. The adjusted performance is the raw performance minus the industry-year median measure. The presented data are limited to firms for which the performance measure is available from Year -1 to Year 3. Panel D presents the mean and median performance difference test between pre-listing share issues and with-listing share issues (adjusted variables only). Panel E presents the mean and median performance difference test between post-listing share issues and with-listing share issues (adjusted variables only). ROA is earnings before interest and taxes over total assets. ROE is net income over equity. The t-statistics and z-statistics of the mean and median tests are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

| | | Year −1 | Year 0 (Stock listing) | Year 1 | Year 2 | Year 3 | Change Year −1 to Year 1 | Change Year −1 to Year 3 | Change Year 0 to Year 1 | Change Year 0 to Year 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| *Panel A: Performance surrounding share issue: Before listing* | | | | | | | | | | |
| *ROA* | | | | | | | | | | |
| Raw | Mean | .088 | .095 | .074 | .062 | .052 | −.013* | −.035*** | −.021*** | −.042*** |
| | (t-stat) | | | | | | (−1.899) | (−4.228) | (−3.056) | (−4.757) |
| (N = 114) | Median | .082 | .082 | .067 | .063 | .061 | −.006* | −.021*** | −.014*** | −.022*** |
| | (z-stat) | | | | | | (−1.834) | (−4.177) | (−3.483) | (−4.785) |
| Adjusted | Mean | −.004 | .005 | −.010 | −.014** | −.017*** | −.006 | −.013 | −.015** | −.022*** |
| | (t-stat) | (−0.766) | (0.881) | (−1.546) | (−2.210) | (−2.734) | (−0.861) | (−1.603) | (−2.326) | (−2.620) |
| (N = 114) | Median | −.013 | −.003 | −.006*** | −.005** | −.006*** | 0 | −.003 | −.005** | −.004** |
| | (z-stat) | (−1.589) | (−0.696) | (−2.679) | (−2.556) | (−3.006) | (−0.574) | (−1.131) | (−2.423) | (−2.157) |
| *ROE* | | | | | | | | | | |
| Raw | Mean | .165 | .160 | .137 | .121 | .114 | −.028*** | −.051*** | −.022*** | −.045*** |
| | (t-stat) | | | | | | (−3.011) | (−4.340) | (−2.701) | (−4.832) |
| (N = 366) | Median | .152 | .141 | .128 | .113 | .110 | −.023*** | −.041*** | −.007*** | −.026*** |
| | (z-stat) | | | | | | (−4.144) | (−5.666) | (−3.403) | (−5.372) |
| Adjusted | Mean | .039*** | .035*** | .019** | .008 | .006 | −.019** | −.032*** | −.015* | −.028*** |
| | (t-stat) | (4.566) | (4.315) | (2.391) | (0.864) | (0.715) | (−2.100) | (−2.810) | (−1.888) | (−3.099) |
| (N = 366) | Median | .017*** | .014*** | .009** | .002 | 0 | −.016*** | −.014*** | −.004** | −.007*** |
| | (z-stat) | (4.770) | (3.970) | (2.539) | (1.607) | (0.904) | (−2.826) | (−3.262) | (−1.978) | (−2.974) |
| *Panel B: Performance surrounding share issue: After listing* | | | | | | | | | | |
| *ROA* | | | | | | | | | | |
| Raw | Mean | .096 | .090 | .087 | .082 | .073 | −.008*** | −.022*** | −.002 | −.016*** |
| | (t-stat) | | | | | | (−2.885) | (−6.066) | (−1.018) | (−4.718) |
| (N = 462) | Median | .088 | .084 | .082 | .075 | .067 | −.008*** | −.020*** | −.001* | −.015*** |
| | (z-stat) | | | | | | (−3.626) | (−7.538) | (−1.739) | (−6.401) |
| Adjusted | Mean | .020*** | .017*** | .017*** | .015*** | .010*** | −.003 | −.010*** | −.000 | −.007** |
| | (t-stat) | (7.012) | (5.580) | (5.430) | (4.887) | (3.255) | (−1.176) | (−2.948) | (−0.018) | (−2.081) |
| (N = 462) | Median | .010*** | .011*** | .012*** | .010*** | .005*** | −.003* | −.007*** | −.000 | −.005* |
| | (z-stat) | (6.688) | (5.889) | (5.375) | (5.040) | (3.395) | (−1.651) | (−3.434) | (−0.216) | (−2.720) |
| *ROE* | | | | | | | | | | |
| Raw | Mean | .128 | .119 | .108 | .099 | .075 | −.019** | −.053*** | −.010* | −.044*** |
| | (t-stat) | | | | | | (−2.526) | (−5.692) | (−1.800) | (−5.370) |
| (N = 469) | Median | .130 | .110 | .100 | .092 | .080 | −.021*** | −.040*** | −.004*** | −.022*** |
| | (z-stat) | | | | | | (−5.056) | (−8.497) | (−3.178) | (−7.556) |
| Adjusted | Mean | .025*** | .017*** | .010 | .004 | −.014** | −.015* | −.039*** | −.006 | −.031*** |
| | (t-stat) | (3.467) | (2.687) | (1.618) | (0.625) | (−2.016) | (−1.942) | (−4.215) | (−1.168) | (−3.747) |
| (N = 469) | Median | .021*** | 0*** | 0* | −.001 | −.008 | −.018*** | −.028*** | −.002* | −.011*** |
| | (z-stat) | (5.819) | (2.850) | (1.741) | (0.669) | (−0.946) | (−4.519) | (−6.448) | (−1.757) | (−3.861) |
| *Panel C: Performance surrounding share issue: With listing* | | | | | | | | | | |
| *ROA* | | | | | | | | | | |
| Raw | Mean | .104 | .103 | .098 | .089 | .080 | −.006*** | −.024*** | −.004*** | −.023*** |
| | (t-stat) | | | | | | (−2.661) | (−9.337) | (2.580) | (−9.642) |
| (N = 1006) | Median | .056 | .058 | .053 | .046 | .036 | −.002** | −.017*** | −.000 | −.053*** |
| | (z-stat) | | | | | | (−2.129) | (−8.781) | (−1.544) | (−8.978) |
| Adjusted | Mean | .016*** | .017*** | .015*** | .011*** | .006*** | −.001 | −.010*** | −.002 | −.010*** |
| | (t-stat) | (7.740) | (8.376) | (6.566) | (4.893) | (2.938) | (−0.810) | (−3.996) | (−1.257) | (−4.574) |
| (N = 1006) | Median | .003*** | .006*** | .006*** | .002*** | .001*** | .000 | −.001*** | .001 | −.002*** |
| | (z-stat) | (5.164) | (6.302) | (5.620) | (4.424) | (2.628) | (−0.065) | (−2.731) | (0.279) | (−3.090) |

Table 3:

| | | Year −1 | Year 0 (Stock listing) | Year 1 | Year 2 | Year 3 | Change Year −1 to Year 1 | Change Year −1 to Year 3 | Change Year 0 to Year 1 | Change Year 0 to Year 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| *ROE* | | | | | | | | | | |
| Raw | Mean | .173 | .147 | .128 | .110 | .093 | −.044*** | −.080*** | −.018*** | −.054*** |
| | (t-stat) | | | | | | (−7.548) | (−11.827) | (−4.078) | (−9.119) |
| (N=1089) | Median | .159 | .136 | .126 | .117 | .099 | −.037*** | −.061*** | −.007*** | −.032*** |
| | (z-stat) | | | | | | (−10.569) | (−14.920) | (−5.367) | (−11.020) |
| Adjusted | Mean | .053*** | .027*** | .018*** | .004 | −.004 | −.034*** | −.058*** | −.009** | −.032*** |
| | (t-stat) | (10.887) | (7.185) | (3.922) | (0.979) | (−0.869) | (−6.009) | (−8.849) | (−2.088) | (−5.704) |
| (N=1089) | Median | .037*** | .012*** | .011*** | .006*** | 0 | −.026*** | −.039*** | −.001* | −.013*** |
| | (z-stat) | (12.290) | (6.679) | (5.464) | (3.207) | (0.917) | (−8.408) | (−10.989) | (−1.821) | (−5.651) |
| *Panel D: Difference test (pre-with listing) (adjusted variables)* | | | | | | | | | | |
| ROA | Mean | −.021*** | −.011* | −.025*** | −.026*** | −.024*** | −.004 | −.002 | −.013** | −.012* |
| | (t-stat) | (−3.122) | (−1.779) | (−3.526) | (−3.560) | (−3.336) | (−0.578) | (−0.360) | (−2.313) | (−1.651) |
| | Median | −.016*** | −.009** | −.012*** | −.007*** | −.007*** | −.000 | −.002 | −.006** | −.002 |
| | (z-stat) | (−3.097) | (−2.423) | (−3.996) | (−3.746) | (−3.548) | (−0.491) | (−0.231) | (−2.376) | (−1.252) |
| ROE | Mean | −.014 | .007 | .001 | .003 | .011 | .015 | .025* | −.006 | .003 |
| | (t-stat) | (−1.467) | (0.907) | (0.133) | (0.336) | (1.057) | (1.378) | (1.957) | (−0.679) | (0.346) |
| | Median | −.020** | .002 | −.002 | −.004 | 0 | .010 | ***.025 | −.003 | .006 |
| | (z-stat) | (−1.991) | (0.329) | (−0.505) | (−0.092) | (0.325) | (1.618) | (2.632) | (−0.973) | (0.168) |
| *Panel E: Difference test (post-with listing) (adjusted variables)* | | | | | | | | | | |
| ROA | Mean | .004 | .000 | .002 | .004 | .003 | −.001 | −.000 | .002 | .003 |
| | (t-stat) | (1.052) | (0.019) | (0.578) | (1.088) | (0.858) | (−0.423) | (−0.125) | (0.697) | (0.816) |
| | Median | .007*** | .005 | .006 | .008 | .004 | −.003 | −.004 | −.001 | −.003 |
| | (z-stat) | (2.614) | (1.317) | (1.164) | (1.597) | (1.242) | (−1.243) | (−1.133) | (−0.445) | (−0.411) |
| ROE | Mean | −.028*** | −.010 | −.008 | −.000 | −.009 | .019* | .018 | .002 | .001 |
| | (t-stat) | (−3.199) | (−1.501) | (−1.022) | (−0.041) | (1.014) | (1.948) | (1.604) | (0.305) | (0.130) |
| | Median | −.016*** | −.012 | −.011* | −.007 | −.008 | .008* | .011* | −.001 | .002 |
| | (z-stat) | (−2.942) | (−1.473) | (−1.729) | (−1.164) | (−1.333) | (1.802) | (1.947) | (−0.505) | (0.196) |

where Y is the performance measure. Post_lis is a dummy variable, which equals one for observations after listing, and zero otherwise. This dummy variable captures the listing effect. Sha_pre_lis is a dummy variable, which equals one for observations after the pre-listing share issue, and zero otherwise. A share issue is considered as a pre-listing share issue if the issue takes place at least four years before listing. This dummy variable captures the effect of the share issue before listing. Sha_pos_lis is a dummy variable, which equals one for observations after post-listing share issue, and zero otherwise. A share issue is considered a post-listing share issue if the issue takes place at least four years after listing. This dummy variable captures the effect of the share issue after listing. To see the difference in listing effect with and without share issues, we adopt the dummy variable Sha_with_lis. Sha_with_lis equals one for the firms that have the share issue within three years surrounding listing, and zero otherwise. CV is the set of control variables.

Table 4 presents the summary statistics of the control variables. On average, Vietnamese firms have high leverage (54.6%), indicating that firms need to issue shares before listing to meet listing requirements. Assets size is 1,106,044 million VND (approximately 48 million US dollars) for average firms. The median asset size is 252417.5 million VND (about 11 million US dollars). The figures indicate that listed firms in Vietnam are often big ones. The average firm increases sales by 22.6% per year, while the median sale growth is 9.6%.

Table 5 presents regression results. Models (1)-(2) implement the regression for estimation with Post_lis and control variables only to capture the listing effect for a great variety of firms (with and

Table 4: Summary statistics

This table reports the summary statistics of the control variables used in regression. *Leverage* is total liabilities to total assets. *Assets* is in million Vietnam dong. *SGR* is sales of this year minus sales of last year divided by sales of last year.

| | Mean | Standard deviation | Min. | Median | Max. | N |
|---|---|---|---|---|---|---|
| Leverage | .546 | .277 | .024 | .561 | 1.529 | 24482 |
| Assets (mil. VND) | 1106044 | 3021076 | 7429 | 252417.5 | 22700000 | 24508 |
| SGR | .226 | .790 | −.831 | .096 | 5.739 | 22409 |

without share issues). The coefficients of Post_lis are significantly negative for most of the models (except for ROA), suggesting that firm performance tends to decrease after listing. The result is consistent with the literature of IPOs. Jain & Kini (1994) provides evidence of negative effect of IPOs on operating performance. Dharan & Ikenberry (1995) and Ritter (1991) indicate that IPOs and listing decrease long-term performance. The estimated coefficients detect economically significant performance decline surrounding listing. For instance, Model (2) indicates that ROE decreases by 2.5 % after listing on average. Hypothesis 1a is supported.

Model (3)-(4) examines share issue effect on performance by adopting Sha_pre_lis and Sha_pos_lis in the regression. All estimations offer negative coefficients of Sha_pre_lis and Sha_pos_lis performance measures. However, coefficients of Sha_pre_lis are insignificant for both two performance measures, while Sha_pos_lis shows significantly negative effect on ROE. One possible reason why ROA does not show a significant effect on Sha_pos_lis is that ROE is the performance measure that gets more attention of investors than ROA. Issuing firms are likely to manipulate ROE rather than ROA. The results suggest that there is evidence for a negative effect on firm performance for post-listing share issues. The effect, however, is not seen in pre-listing share issues. The results support Hypothesis 2a and 2b.

Previous studies document that share issues have long-term effects on firm performance (Spiess & Affleck-Graves, 1995). To prevent potential effects of share issues on listing, Model (5)-(6) includes all three main variables: Post_lis, Share_pre_lis and Sha_pos_lis. The results are quantitatively similar to the results provided by Model (1)-(4), suggesting robust evidence for negative listing effect and post-listing share issues.

We found evidence for negative performance effect of share issue after listing. Literature also well indicates that listing (with share issues) has negative effect on firm performance. One important question is that whether share issue is the main source of negative listing effect when listing takes place at the same time with share issues, and that if we exclude share issue effect from listing effect, whether we find a significant result. By using Vietnamese listing data, which includes numerous listings without share issues, we can examine the questions. Model (7)-(8) adds dummy variable Sha_

Table 5: Regression results

This table reports the regression results of performance for the entire sample. The dependent variables include ROA and ROE. ROA is earnings before interest and taxes over total assets. ROE is net income over equity. *Post_lis* is a dummy variable that equals to one for observations after listing, and zero otherwise. *Sha_pre_lis* is a dummy variable that equals one for observations after pre-listing share issue, and zero otherwise. *Sha_pos_lis* is a dummy variable that equals to one for observations after post-listing share issue, and zero otherwise. *Sha_with_lis* is a dummy variable that equals one for the firms that have the share issue within three years surrounding listing, and zero otherwise. *Leverage* is total liabilities to total assets. *Log_ass* is the Natural logarithm of total assets; Assets are in million Vietnam dong. *SGR* is Sales of this year minus sales of last year divided by sales of last year. A firm fixed-effects model with year dummies is adopted. The t-values reported in parentheses are estimated by using firm-clustering standard errors. *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| Dependent | ROA | ROE | ROA | ROE | ROA | ROE | ROA | ROE |
| Post_lis | -.002 | -.025*** | | | -.002 | -.028*** | .002 | -.011** |
| | (-1.12) | (-5.79) | | | (-1.39) | (-6.36) | (0.77) | (-2.04) |
| Sha_pre_lis | | | -.013 | .002 | -.014 | -.002 | -.014* | -.002 |
| | | | (-1.55) | (0.24) | (-1.61) | (-0.24) | (-1.68) | (-0.20) |
| Sha_pos_lis | | | -.002 | -.036*** | -.003 | -.041*** | -.003 | -.037*** |
| | | | (-0.68) | (-5.03) | (-0.93) | (-5.62) | (-0.88) | (-5.05) |
| Post_lis*Sha_with_lis | | | | | | | -.009*** | -.029*** |
| | | | | | | | (-2.93) | (-4.33) |
| Total_leverage | -.100*** | .054*** | -.100*** | .054*** | -.100*** | .052*** | -.101*** | .050*** |
| | (-14.30) | (4.37) | (-14.35) | (4.38) | (-14.39) | (4.20) | (-14.47) | (3.98) |
| Log_ass | .003* | -.006** | .003** | -.004 | .004** | -.003 | .004** | -.001 |
| | (1.89) | (-1.98) | (1.96) | (-1.34) | (2.05) | (-1.05) | (2.41) | (-0.55) |
| SGR | .010*** | .017*** | .010*** | .018*** | .010*** | .017*** | .010*** | .017*** |
| | (12.42) | (8.12) | (12.49) | (8.35) | (12.42) | (8.06) | (12.32) | (7.96) |
| Year dummy | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Firm FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| R2 | 0.171 | 0.039 | 0.171 | 0.039 | 0.172 | 0.041 | 0.173 | 0.043 |
| N | 15610 | 22290 | 15610 | 22290 | 15610 | 22290 | 15610 | 22290 |

with_lis to capture the difference in listing effect between listing with and without share issues. Surprisingly, the coefficients of Post_lis are positive on ROA. Only the coefficient on ROE has a significantly negative coefficient, but the magnitude is smaller. The result indicates that listing without share issues do not have a clear negative effect. Meanwhile, the coefficients of interaction term are all negative and significant at a 1% level, suggesting that the effect of listing with share issue are lower than that without share issues. The result suggests that the negative listing effect found in Model (1)-(2) and (4)-(5) is likely to attribute to share issue. When controlling for share issue, the listing effect becomes unclear.

Overall, consistent with Jain and Kini (1994), we find that listing has a negative effect on

performance. Our results, however, show a novel finding that the negative listing effect is attributable to share issues. Listing without share issues does not show an obvious evidence of a negative effect. The result support Hypothesis 1b.

With respect to control variables, total leverage has negative coefficients on ROA, while presents positive coefficient on ROE. A possible interpretation is that the debt burden prevents firms from conducting future positive net present value projects. However, the positive effect of leverage on ROE is higher than the negative effect on ROA, resulting in the total effect on ROE being positive. Log_ass has positive coefficients on ROA, but the coefficients on ROE are insignificant. While large firms tend to enjoy profit margin and asset efficiency. Asset size, however, increases mostly through share issues, leading to leverage decreases and shareholder return reduction. Not surprisingly, the coefficients of sale growth rate on all performance measures are positive, suggesting that firms with high growth rates have better performance.

## 5. Conclusion

Taking advantage of the separation between listing and share issues, we find that listing with share issues shows a negative effect on firm performance. Pure listing (listing without share issues), however, does not have a significant effect on firm performance. Share issue appears to be the main source of negative effect on the performance of IPOs. Our result shows that share issues after listing have a negative effect on firm performance. Importantly, share issues before listing do not show significant results. The difference in the participating investors in two types of share issues is a potential reason. While listed firms tend to issue new shares to public, private firms meet obstacles to do so. They often issue new shares to existing shareholders, strategic investors, and their employees.

Our study provides significant contributions to the literature. We show evidence of no pure listing effect on firm performance. Previous studies show negative listing effects by using IPO data (Alexander et al., 1988; Dharan & Ikenberry, 1995; Firth, 1997; Jain & Kini, 1994; Ritter, 1991). These listing effects are potentially confounded by the share issue effect. Our analysis of the unique data in Vietnam offers a novel finding on the listing effect. Furthermore, we also contribute to the literature by providing the pre-listing share issue effect. Different from the negative effects of IPOs and seasoned equity issues as indicated in the literature, share issues before listing appear to have no effect on firm performance. Earning management, and market timing are the factors behind the negative share issue effect of IPOs (Jain & Kini, 1994) and seasoned equity issues (Rangan, 1998; Shivakumar, 2000; Spiess & Affleck-Graves, 1995). Managers, however, may not use these devices when their offered objects are well perceived about firms' potentials.

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Appendix A: Definition of variable

| Variable | Definition |
|---|---|
| ROA | Earnings before interest and taxes over total assets |
| ROE | Net income over equity |
| Post_Lis | A dummy variable that equals to one for observations after listing, and zero otherwise. |
| Sha_pre_lis | A dummy variable that equals to one for observations after pre-listing share issue, and zero otherwise. |
| Sha_pos_lis | A dummy variable that equals to one for observations after post-listing share issue, and zero otherwise. |
| Sha_with_lis | A dummy variable that equals to one for the firms that have the share issue within three years surrounding listing, and zero otherwise. |
| Leverage | Total liabilities over total assets |
| Log_ass | Natural logarithm of total assets; Assets is in million Vietnam dong |
| SGR | Sales of this year minus sales of last year divided by sales of last year |