Foreign Institutional Investors, Controlling Shareholders and Market Timing: Evidence from India ☆

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Abstract

Using a regulatory feature governing foreign institutional investors (FIIs) in India, we study the timing of increase in firm-specific limit on aggregate FII shareholding of Indian companies. We find that controlling shareholders (promoters) exploit their information advantage to sell overvalued equity to FIIs around valuation peaks. Despite the initial positive market reaction to greater anticipated FII shareholding, we find severe under-performance in the long-run, both in stock prices and operating performance. At the same time, there are no changes in board structure. Our study thus reevaluates the role of FIIs in markets characterized by opaque information environment.

JEL Codes: G15, G23, G35, O16, F65.

Keywords: Foreign institutional investors, Emerging markets, Market timing.

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1. Introduction

How effective are foreign institutional investors (FIIs) in identifying valuable investment opportunities and exporting good governance practices to capital markets in developing countries? This question is particularly relevant for emerging market countries where foreign portfolio investors have become a prominent source of equity capital. In a frictionless world, financial liberalization would ideally benefit all the parties involved in the transaction. Financially constrained firms in developing countries invest in their growth options at a lower cost of capital (Bekaert and Harvey (2000)) while investors in the developed world receive a higher return on their savings. But in a world where most emerging market firms have controlling shareholders, significant risk of expropriation exist for minority investors, weak legal institutions, and high information barriers, does the bargain still hold? (Stulz (2005))

Using a unique regulatory feature governing FII investments in Indian companies[1], we study the timing of increases in the limit on aggregate FII shareholding for a cross-section of Indian companies. While the initial market reaction to greater anticipated FII shareholding is strongly positive, the stocks of these firms severely under-perform in the long run. We also document a significant decline in firms' operating performance thereafter. Our evidence points to promoters facilitating greater FII shareholding at a time when the firm has plateaued in its growth opportunities. It appears that promoters exploit their information advantage to sell overvalued equity to a subset of foreign institutional investors (FIIs). Thus, contrary to their reputation as sophisticated investors, FIIs appear to be relatively uninformed and buy stocks at excessive valuations.

The theoretical literature on blockholders has offered new insights into how large shareholders can leverage their size and their reputation as informed traders to discipline man-

[1] Aggregate FII shareholding for any given Indian firm is initially restricted to a total of 24% of the paid up capital of the company. This limit can be raised if the board passes a resolution to that effect, the same is subsequently approved by the company's shareholders followed by approval by the central bank of India (The Reserve Bank of India or RBI). See section 2 for more details.

agement (see: Admati and Pfleiderer (2009), Edmans (2009)). This has implications for the role of FIIs in developing countries given their reputation as informed, uncompromising investors whose actions are intensely scrutinized by the local financial markets. Anecdotal evidence suggests that foreign portfolio investors engage in both the "voice" and the "threat of exit" disciplinary mechanisms. They can also coordinate with local institutional investors to confront entrenched promoters to prevent expropriation[2].

However, there may be limits to what FIIs can achieve when they invest in emerging market countries. The "twin agency problems" of state and private expropriation as highlighted by Stulz (2005) could reduce the actual rate of return on their invested capital. Not only could FIIs face direct expropriation by the state through unfair rules or unpredictable regulatory changes, but also their investments in state owned enterprises (SOEs) may be diverted towards fulfilling social welfare objectives rather than towards firm value maximization. Moreover, foreign investors may face private expropriation from promoters who often have the backing of the local authorities. FIIs may find that their efforts to protect themselves from such expropriation is stymied by weak legal enforcement mechanisms and slow court actions. In addition, information disadvantages relative to domestic investors (Choe et. al (2005)) can also result in inefficient capital allocation. Thus, when foreign capital and expertise runs into deep institutional flaws, the outcome may not be value maximizing. The persistence of the well documented "home bias effect", despite the near elimination of barriers to the flow of financial capital, indicates that the aforementioned factors do deter the flow of investment from the rich world to developing economies. Thus, whether FIIs are able to overcome the "twin agency problems" or significant information barriers in emerging market countries and make good investments is an empirical question

[2] Maruti Suzuki, a subsidiary of Suzuki corporation of Japan, has substantial FII ownership totaling 21.5%. When the company attempted to transfer a project to the parent firm in Japan, domestic mutual funds and insurance companies teamed up with FIIs which included, HSBC, Credit Suisse and Norway's government pension fund, to oppose the decision. They collectively argued to the company's directors and regulatory authorities that this amounted to transferring over a valuable investment project to the promoter's (Suzuki) instead of using it maximize shareholder value. The coordinated actions of the institutional shareholders were helped by developments in corporate law which require companies to seek the approval of public shareholders in the case of such transactions.

with far reaching implications for global asset allocation.

We exploit staggered changes in the limit on aggregate FII shareholding by Indian companies to study the above research question. We begin by examining the firm characteristics that influence the decision by firms to raise their aggregate FII shareholding limit. An examination of corporate disclosures reveals a host of explanation offered including firm expansion, liquidity enhancement, improvement in governance and so on. [3] We find that relative to the overall sample of domestic Indian companies, firms that increase their FII limit are larger, more profitable and have higher capital expenditures. We further show that firms that facilitate greater FII ownership have strong growth opportunities as proxied by their market-to-book ratios. Analysis of the firms' shareholding pattern in the quarters prior to the limit increase reveals an increasing trend in greater foreign portfolio ownership. Thus, the promoters appear to time the increase in the FII limit to coincide with high market valuations, strong operating performance and significant buying interest among FIIs.

Next, we examine the short-term reaction to the increase in the FII limit. The anticipation of greater shareholding by foreign institutional investors (FIIs) is associated with strong positive stock price appreciation for firms in our sample. An event study analysis reveals average market-adjusted price appreciation of up to 1.5%. Using a set of event windows, we find cumulative abnormal returns (CAR) in the range of 1.14%-1.38%. The stock market appears to strongly approve of the increase in the FII limit. To rule out the possibility that the positive market reaction is driven by demand pressures on the announcement date, we also analyze the stock price reaction on the board approval dates. [4] The CAR results for board approvals also reveal strong stock price gains. Consistent with the market's expectations, mean FII shareholding for firms that raise the limit increases by up to 6 percentage

[3]For instance, the board of Kajaria Ceramics, an Indian manufacturing firm specializing in ceramics, while calling for an increase in the FII limit declared, "It is proposed to facilitate greater FII investment in the Company, which would not only provide depth and liquidity to the Company's shares but will also reflect the Companys commitment to the highest standards of disclosures, transparency, corporate governance, its operational efficiencies, global competitiveness and proven management track record."

[4]Board approval is an interim step that does not result in stock purchases by FIIs. See section 2 for detailed description of the regulatory process.

point relative to firms that don't. The greater FII shareholding is accompanied by a 3.5 percentage point reduction in the promoter ownership.

If the increase in limit is truly value-enhancing, then we should observe a similar outcome in the long term. On the other hand, if the positive short-term reaction is caused by investor's irrational exuberance, we should observe a correction as new information is revealed. Therefore, we conduct a buy-and-hold return (BHAR) analysis to see if the positive reaction in the short-run is justified. In other words, do foreign portfolio investors receive a good return on their investments or do they simply end up acquiring overvalued equity? From the BHAR analysis, we conclude that it is the latter. Firms that raise their FII limit strongly under-perform the aggregate market index by about 39% over the next 3 years. This is in stark contrast to strong stock price gains of over 200% previous to raising the FII limit. Similarly, when we compare the long-run returns against the corresponding industry returns, the under-performance is even worse. We find average, industry adjusted long-run returns of -221% over a period of 3 years after the limit is raised. Thus, promoters of these firms appear to time the increase in the FII limit when the firm is trading at excessive valuations. Also, unlike their supposed reputation for picking good quality companies (Ferreira and Matos (2008)), FIIs appear to be overly optimistic and extrapolate into the future based on past performance. In contrast, domestic institutional investors seem to come out better because their ownership in these firms stays roughly the same.

We supplement the BHAR analysis by comparing long run operating performance of these firms with those from the rest of the sample. Specifically, we compare industry adjusted EBITDA, ROA and sales growth of the two groups during a period of 2 years before the limit increase to 2 years after. Firms which increase their FII holding have higher industry adjusted EBITDA, ROA and sales growth prior to the limit increase. The difference, however, vanishes one-year post the limit increase[5]. In fact, the trend actually reverses for ROA – in the 2 years after the event, firms that increase the FII limit have significantly lower ROA

[5]Firms that increase the limit have significantly higher sales growth even after two years post the limit increase. However, in unreported results, we find that the difference disappears for future years.

than that of the remaining firms. Furthermore, examining board structure of such firms, we fail to find any evidence of corporate governance improvements as a consequence of greater FII shareholding. Thus, the increase in the FII limit does not appear to add value in the long run. Instead, it results in wealth transfer from foreign investors to the controlling shareholders.

Finally, we investigate acquisition related activity by firms that raise their FII limit. Previous studies have found that firm managers use overvalued stock prices as a currency to acquire real assets through M&A activity (Rhodes-Kropf, Robinson and Viswanathan (2005), Dong, Hirshleifer, Richardson and Teoh (2006), Ang and Cheng (2006)). We observe a similar pattern here too. Firms that raise their FII limit are 6%-13% more likely to engage in asset or company acquisition in the subsequent year relative to firms that don't. This again indicates that promoters of such firms clearly believe that valuations are inflated and take advantage of their stock's temporary mispricing to acquire real assets. The stock price reaction to these acquisition announcements is negative indicating that the market doubts that such investments are value-enhancing.

Our paper is broadly related to existing studies that have highlighted the role of international capital flows in lowering cost of capital and exporting good governance practices. Bekaert and Harvey (2000) exploits cross-sectional variation in capital market liberalization at the country level and documents reduction in cost of capital of up to 75 basis points. Using a panel of firms in OECD countries, Aggarwal et al. (2011) finds that institutional investors from the United States are linked to improvements in corporate governance and higher Tobin's Q. Similarly, Ferreira and Matos (2008) use a panel of firms again from mostly OECD countries to show that foreign institutions are associated with higher Tobin's Q, better operating performance and lower capital expenditures.

This paper complements their research by presenting evidence contrary to the claim that foreign portfolio investment is smart money by focusing on a major emerging market country, India. The literature on FIIs has for the most part focused on firms in OECD countries

where institutions are closer to the Anglo-Saxon model and capital markets are well developed. Our paper extends the scope of their research into emerging markets characterized by family firms, significant risk of expropriation for minority shareholders, weak legal institutions and less liquid financial markets. This provides a more ideal setting to test Stulz (2005) theory according to which benefits of financial globalization have their limits in markets characterized by the "twin agency problems". In this particular context, expropriation of foreign investors by the controlling shareholders is facilitated by information barriers to the value of the firm's growth options and future prospects.

We make several contributions to the literature in this paper. Firstly, our study complements the extant research on the role of institutional shareholders in instituting corporate governance and analyzing firm-specific information (see Appel, Gormley and Keim (2015), Boone and White (2015), Gillan and Starks (2000), Gompers and Metrick (2001), Gompers et al. (2003), Bhojraj and Sengupta (2003) and Smith (1996)). Our focus here is on institutional shareholders from developed countries operating in emerging markets. We provide evidence on the propensity of supposedly sophisticated FIIs to overpay for foreign assets, their failure to strengthen corporate governance and overcome information asymmetry. Thus, we add to the literature on the impact of financial globalization (see Lane and Milesi-Ferretti (2008)) as well as to the broader research on international corporate governance (see Denis and McConnell (2003), Stulz (2005), Aggarwal et al. (2011)), with a particular focus on developing countries. Secondly, we contribute to the literature on corporate insider trading which looks at the ability of informed investors to profit using private information (Wu (2015)). Our paper adds to this literature by analyzing the timing of equity sales of promoters of growth firms in India. We also contribute to the burgeoning literature on behavioral corporate finance as well as to the research on the financial policies of family owned Indian business groups. Our research sheds light on a possible mechanism through which underdiversified promoters reduce their holdings and their ability to time such diversification related sales. Finally, our study reveal new facts about event study analysis and cautions against overly relying on short-term market reaction as a measure of value creation.

The rest of the paper proceeds as follows. In Section 2, we discuss the legal and institutional environment that regulates the shareholding of foreign institutional investors (FIIs) in Indian companies. Section 3 describes the methodology for data collection and presents descriptive statistics. Section 4 examines firm characteristics that influence the decision to raise the FII limit. It also shows variation in shareholding pattern around the said event. In Section 5, we conduct short-run and long-run event studies to test changes in equity value following FII limit increases. Section 6 investigates the real effects of FII limit increase on firm performance and investment activities. Section 7 concludes.

2. Institutional Background

As a result of the market liberalization measures introduced in the early 1990s by the Indian government and the gradual reduction in bureaucratic red tape, the Indian economy has seen high rates of economic growth in the last two decades. Economic growth, which had bottomed out in the early 1990s, revived in the wake of the rollback of the state from the economy. The Indian government embarked upon a major privatization initiative that saw the divestment of under-performing state owned assets to private enterprises along with sale of equity in major state owned corporations. Far reaching economic reforms by the government, strengthening of corporate governance,[6] and dismantling of barriers to foreign capital investments saw a proliferation of new firms enter the market as economic growth reached a peak of 10% in 2010. (See World Bank figures)

A major thrust of those reforms was towards liberalizing the capital markets, thereby allowing market forces to determine securities pricing[7], followed by opening of the financial

[6] A major piece of reform was introduced and implemented in the form of Clause 49 requirements in the early 2000s. Clause 49 mandated greater board independence, independent audit committees and improved financial disclosures. Using an event study methodology, Black and Khanna (2007) find a significant announcement effect for large firms, ranging from 4% to 10%. Taking advantage of the sequential implementation of the reforms, Dharmapala and Khanna (2012) conduct a difference-in-difference estimation and report an average improvement of 6% in firm values. As a result, foreign capital flows to India have grown steadily in the last two decades.

[7] For instance, controls on IPO pricing was abolished in 1991 and new issue pricing was allowed to be set by an auction mechanism.

markets to foreign portfolio investments. Foreign Institutional Investors (FIIs) have been allowed to participate in the Indian debt and equity market through the so called Portfolio Investment Scheme (PIS) since 1992. Panel A of Table 1 presents the list of investment vehicles that are permitted to register themselves as FIIs and trade in debt and equity securities of Indian companies in the primary as well as the secondary markets. These include mutual funds, pension funds, endowments, sovereign wealth funds and even global central banks. For example, one such FII is the California Public Employee Retirement System (CALPERS), an institutional investor with a track record of actively monitoring companies in the United States (see: Barber (2007)). Panel B of Table 1 shows a partial list of India related FIIs which are sponsored by or affiliated to CALPERS.

The flow of foreign capital to India has been steadily increasing since the financial liberalization of the 1990s as foreign investors flocked to take advantage of investment opportunities in the second fastest growing economy in the world. As shown in Figure 1, the number of FIIs participating in the Indian financial markets has been on an steady, upward trend. Figure 2 shows net inflows of foreign investments for both the debt and equity markets from 2000 onward. For most of the period, investments in the equity markets constituted the vast majority of the capital inflows. Foreign equity investments peaked, at roughly $17 billion, in 2007 just as the stock market in India reached its highest levels before reversing course as a result of the global financial crisis, attesting to the at times volatile nature of global financial capital. FII activity picked up again after the crisis subsided reaching pre-crisis levels in 2009. Interestingly, for the first time in 2014, net foreign purchase of debt securities exceeded that of equities. At the end of 2014, the total net inflow of FII investments in India stood at $40 billion, the highest levels since the country opened its markets to foreign investments.

The entry of foreign portfolio investors into the Indian equity markets has been regulated in the form of a statutory limits on the fraction of shares of a given firm that can be held by such investors. At present, the initial limit on aggregate FII shareholding is set at 24% of the firm's paid up capital while the percentage of shares held by an individual FII cannot

exceed 10%. The initial FII ceiling in state owned banks is set at 20%. Companies can raise the initial limit of 24% to a higher percentage if the board approves the proposal, the shareholders pass a resolution to the same effect and the RBI consents to it. The top panel in Figure 3 depicts the time-line and steps involved in raising the FII limit. Once the new limit is approved by the Reserve Bank of India (RBI), it notifies the new limit through a public announcement. The public notification of FII limit increases enable us to conduct event studies to measure the short-term and long run effect of increase in the FII limit.

The RBI also monitors the aggregate FII shareholding for each company and issues notifications *cautioning* against further purchases, if those holdings get to within 2% of the current limit. The bottom panel in Figure 3 illustrates the monitoring of aggregate FII ownership by the RBI. For example, if a firm has not raised the default limit of 24% on aggregate FII shareholding and if those holdings reach 22%, the RBI will *restrict* further purchases of shares in the company without its prior approval. Usually such notifications are accompanied by the announcement that the "trigger point" has been reached thereby necessitating prior approval for further share purchases ("Trigger") by FIIs. In the case of the aggregate FII holdings in a firm hitting the limit, the RBI will *prohibit* further purchases of the firms' shares and indicate the same in a public notification ("Ban"). The restrictions on buying of shares by FIIs are lifted only when the aggregate foreign portfolio holdings in the firm fall below the trigger limit or if the company increases the limit to a higher percentage amount.

3. Sample selection and Descriptive Statistics

In this section, we provide further details on the collection of the sample of event dates for our analysis. Detailed description of shareholding patterns and construction of firm characteristics from the relevant databases is also provided here.

3.1. Sample Construction

To identify the sample of firms that increased their FII limit (hereafter referred to as FIILimit firms), we hand collect data from various sources. As described in section 2,

the process has three key milestones - board's approval, shareholders resolution and RBI's approval. The RBI publishes notifications of FII limit increases on its website as well notices related to monitoring of aggregate FII shareholding via press releases. Figure 4 provides an example of a situation where aggregate FII shareholding in a firm reached to within 2% of the existing FII limit ("Trigger") whereby further buying of shares by foreign portfolio investors was restricted by the RBI. The existing limit on aggregate FII shareholding for Kaveri Seed Company Ltd. was 24%. Following the "Trigger" event, the board and the shareholders of the firm subsequently approved a resolution raising the limit to 49%. The RBI then issued a press release as shown in Figure 4, notifying the new limit. In the same resolution, the central bank also lifted restrictions on purchase of shares by FIIs as a result of existing aggregate foreign portfolio ownership falling below the new limit of 49%.

Panel A of Table 2 presents statistics on the frequency of FII limit increases from 1998-2014. There are a total of 385 such events during this period. Our sample begins in 1998 because the RBI notifications for the limit increases are not available before it. The number of such limit increases picked up significantly in the second half of the last decade, peaking in 2006 and then slowing down subsequently. For example, of the 385 shareholder resolutions, 121 or roughly 30% of them took place in the years 2006 and 2007. Panel B of Table 2 shows the distribution of the above mentioned shareholder resolutions which enhances FII limits for firms. FII limit increases are well distributed across industries ranging from Agriculture to Manufacturing. Given the prominent role that software and other related industries have played in the growth of the Indian economy, it is not surprising that the Business Services sector has the most number of such resolutions at 15%. Other industries that are well represented in the sample are Food, Chemicals, Primary Metal and Communications.

We begin by excluding financial companies and state owned enterprises (SOEs) from our sample. Most banks in India are state owned and thus highly susceptible to political interference. Kumar (2016) shows that Indian banks engage in unproductive lending to farmers during election cycles as a consequence of undue political pressures. Similarly, SOEs with significant government ownership may be forced to fulfill political objectives rather

than focus on shareholder value maximization. Accordingly, greater FII shareholding may not result in visible improvements in operating performance or corporate governance in such firms. The number of FII limit increases drops to 229 after excluding banks, state owned enterprises and firms with missing returns from the sample. We then use Factiva and Google search to collect date of board approvals. We are able to find 75 event dates for board approvals.

3.2. Stock return information and Firm characteristics

We use the security returns file from the Compustat Global database to calculate daily stock returns for the event study analysis. As a robustness check, we also use stock return data from Bloomberg and Datastream. The market index returns for estimating betas and computing the abnormal daily returns are obtained from MSCI India index. Data on firm fundamentals comes primarily from the annual file of the Compustat Global database. We augment the Compustat Global file with firm-specific information from the DataStream/Worldscope annual files and the Prowess database. Prowess database is an India specific database which offers financial information for over 5000 Indian companies.

We construct several firm specific variables which may be related to FII shareholdings: *Capex ratio* is defined as capital expenditures (CAPX) divided by book value of assets (AT) while *R&D ratio* is research and development expenses (XRD) divided by books assets (AT). *Firm age* is calculated by subtracting the year of incorporation available in the Prowess database from the current fiscal year. *Leverage* is book value of leverage calculated as long-term debt (DLTT) plus current liabilities (DLC) divided by firm's assets (AT). *Cash ratio* is cash and short-term investment (CHE) divided by divided by books assets (AT) while *Cash flow* is defined as operating income before depreciation (OIBDP) divided by lagged total assets (LAT). *EBITDA Ratio* is earnings before interest, tax and depreciation (EBITDA) scaled by book assets (AT). *Tobin's Q*, a measure of the firm's growth opportunities is computed as market value of assets plus market value of equity divided by book value of assets. Alternatively, we construct a market to book ratio (MB) as market value of equity divided by book value of equity (BE). The dividend declaration file from the Prowess

database provides information on the dividend rate for each firm in a given year. We classify firms as Dividend Payers for a year if they have a positive average dividend rate for that year. Detailed description on the data construction methodology can be found in the appendix A. All the variables in the form of ratios are winsorized at the 1% and 99% to mitigate the influence of outliers.

3.3. Shareholding pattern

Firms domiciled in India are required to report their detailed shareholding pattern to the stock exchange. We take advantage of this regulatory provision to collect ownership data from India's oldest stock exchange, the Bombay Stock Exchange (BSE). The historical ownership coverage on the BSE website begins in 2001. This enables us to construct a much richer and longer shareholding series for Indian firms, including foreign institutional ownership in contrast to the FactSet/LionShares database whose coverage for emerging markets is relatively sparse. The detailed quarterly shareholding report of Indian firms allows us to focus on ownership broadly for the following categories of shareholders: promoters or controlling shareholders who in most cases are the firm's founders, domestic mutual funds, financial institutions such as banks, insurance companies and finally foreign institution investors (FIIs). The quarterly filings also provides information on the exact number of individual investors in each investor class. Finally, we augment our hand collected data on shareholding pattern with similar information in the *Equity major investors* and *Equity ownership pattern* files in the Prowess database.

3.4. Summary of firm characteristics

Panel A of Table 3 reports summary statistics on firm characteristics for firms which increased their aggregate FII limit (FIILimit firms) between 1998 and 2014. Panel B presents the same for the cross-section of all Indian firms in the Compustat Global database during the same period. *FIILimit* firms in our sample are 2.5 years younger than the average Indian firm. Comparing market equity and total assets, we find that they are also significantly larger in size (3-5 times). Furthermore, *FIILimit* firms tend to be more profitable as evidenced by

their higher earnings ratio and return on assets. About 59% of these firms are constituents of the BSE-500 Index compared to only 12% for the typical Indian firm in Panel B. A more significant difference exists in the fraction of dividend payers across the two groups of firms. While half of Indian firms pay cash dividends, almost 78% of Indian firms that increase their FII limit do so.

The two groups of firms also differ significantly in terms of their cash holdings and leverage. *FIILimit* firms have higher cash reserves and lower leverage. The cash holdings (14% of assets) may seem unusually large but it should be considered in the context of financial markets characterized by significant financial constraints. In the United States with its highly developed capital markets and low transaction costs of raising funds, high cash holdings is seen as opening the possibility to managerial waste and empire building (Jensen (1986)). However, the literature has taken a mixed view of the same when it comes to developing countries. In a cross-country analysis, Pinkowitz, Stultz and Williamson (2012) find that the link between cash holdings and firm value is relatively much weaker in countries with weak investor protection compared to that in other countries. The greater reliance on internal cash over external financing can be explained by less developed capital markets, particularly the market for debt based financing. In fact, Allen et al. (2012) report that large Indian firms meet 46.6% of their financing needs through internal cash followed by equity sales and bank borrowing. In contrast to developed markets, they find that corporate bonds make up a small fraction of external financing. Huang, Elkinawy and Jain (2013) examine the cash holdings of firms that cross-list through ADRs and find that they actually hold more cash than their corresponding non-ADR match.

FIILimit firms have lower promoter ownership and significantly greater foreign stockholding compared to the average domestic firm. Thus, firms that increase their FII limit are those that already have substantial foreign shareholding which can explain the willingness of foreign investors to purchase additional equity from the controlling shareholders. Nevertheless, promoter ownership for such firms is still substantial at 42%. In the context of developing countries, this is unsurprising as family run businesses are the most prominent

form of corporate organizations there. In fact, outside of the Anglo-Saxon world, family run companies continue to dominate as evidenced by the fact that they constitute 40% of firms, with annual revenues of over $1 billion, even in highly developed countries such as France and Germany (Economist (2015)).

Thus, firms that increase their FII limit tend to be more profitable as evidenced by their higher earnings and return on equity. The above differences indicate that FIILimit firms are well placed to attract foreign portfolio investments given their size, visibility, strong past performance, high growth options, and a surge in interest by FIIs. Given this, we start our analysis by first investigating firm characteristics which are associated with an increase in the FII limit. We then test how the financial market reacts to the event and then analyze the long term performance of the FIILimit firms

4. Increase in FII limit and firm characteristics

4.1. Probability of increasing FII limit and firm characteristics

We begin by examining firm characteristics which may be related to the decision to increase the FII limit. To do so, we estimate a linear probability model where the dependent variable is a dummy that takes the value 1 in a year where a firm's shareholders increase the FII limit. In column 1 of Table 4, we present coefficient estimates for a pooled OLS regression with year fixed effects. Column 2 shows estimates with year and industry fixed effects while in column 3 we include year and firm fixed effects. For industry fixed effects, we use SIC 2 digits classification but the results are robust to using Fama-French 48 industry classifications(unreported). All firm-specific covariates are lagged by one fiscal year.

We find that firm size is not positively related to the decision to increase the limit on FII ownership while younger firms are statistically more likely to do so, although the coefficient on firm age is approximately 0. The coefficient for cash ratio and dividend payers is significant. It is likely that large cash balances and consistent dividend payments attracts foreign investors. Grinstein and Michaely (2005) find that institutional investors tend to

prefer firms that pay regular dividends or repurchase shares. The increase in the FII limit thus could be an attempt by the firm's promoters to take advantage of their strong balance sheet to raise additional financing for further investments. Alternatively, large cash balances may be a sign of the firm reaching a plateau in terms of its growth opportunities.

Continuing with the analysis, we find that the coefficients for sales growth (unreported) and market-to-book ratio are both positive and statistically significant. The neoclassical investment literature tends to view these variables as proxies for growth or investment opportunities. Alternatively, market-to-book ratio can represent stock price misvaluation. Thus, a higher market to book ratio then signals irrational investor sentiment that leads to market prices diverging from firm fundamentals. Finally, lagged FII ownership is positively related to the decision to increase the FII limit. Thus, the increase in the FII limit is more likely to happen in firms that have elicited strong interest from foreign investors previously.

The FII limit increase could be attributed to signaling motives or financing needs. In other words, owner-managers of firms with strong growth options take advantage of FII interest to signal the quality of their investments and raise capital at a lower cost. However, the analysis above allows for the possibility that the increase in the FII limit could be an attempt by the firm's promoters to exploit their insider information, robust past operating performance, abnormally high valuations and FII interest to engage in opportunistic market timing behavior. That is, the promoters of *FIILimit* firms take advantage of market mispricing to engage in opportunistic equity sale. We explore these competing hypotheses along with other plausible explanations in sections 5 and 6.

4.2. Shareholding pattern following FII limit increase

Does the increase in the FII limit lead to meaningful changes in firms' ownership structure? We investigate this by first looking at within firm variation in shareholding pattern for companies that increase the FII limit followed by cross-sectional comparisons. Panel A in Table 5 shows quarterly changes in the mean ownership for firms that raise the limit for three main groups of investors - Promoters, Foreign and Domestic Institutional Investors.

This enables us to compare shareholding pattern before and after the limit increase goes into effect.

We find that aggregate FII holdings increase from a mean of 20.3%, prior to the FII limit increase, to 23.23% in the quarter immediately after it. This represents an increase of approximately 14% in average FII shareholding for such firms. At the same time, the promoter's stake drops from an average of 41.82% in the quarter prior to the FII limit increase to 40.60% post limit increase, a decline of 1.23 percentage point. However, we don't observe any changes in the level of domestic institutional ownership. Thus, the FII limit increase primarily results in an equity transaction between the promoters and foreign portfolio investors.

If we expand the window to 1 year (4 quarters), the change in FII ownership is even greater, increasing from a mean of 13.81% to about 23%. On the other hand, there is no such variation in the level of domestic institutional shareholding for the same group of firms. We also look at time series variation in the total number of FII investors and document substantial increase in their numbers. In unreported results, the number of FIIs increases from an average of 84 in the pre-shareholder resolution quarter to 97 in the quarter after it, an increase of 16%.

Next, we do a cross-sectional comparison of changes in shareholding pattern by estimating a panel regression with the change in ownership stake of the three class of investors as the dependent variable. Specifically, we define the dependent variable as the difference between the ownership stake in the year after the limit was raised and that in the year previous to it. The variable of interest is *Treated*, a dummy variable that takes the value 1 for a firm in the fiscal year in which it raised the FII limit. The coefficient on the *FIILimit* variable compares the average change in ownership pattern between firms that increase the FII limit and those that leave it unchanged. The estimation results are shown in Panel B of 5. For the univariate case, FII shareholding in firms that raised the limit increases by 6 percentage point relative to other firms while the promoter's stake comes down by 3.6

percentage point. There is no statistically and economically meaningful change in domestic institutional shareholding. In the next set of regressions, we add a set of control variables which may be associated with change in shareholding pattern. We also include firm fixed effects to account for firm unobservables. The estimated coefficient for the key independent variable, *FIILimit*, remains highly significant and is similar in magnitude to the univariate case. Other firm specific variables associated with changes in the shareholding pattern are capital investments, cash holdings, dividends and sales growth.

5. Long-run and short-run effect of increases in FII shareholding

In this section, we examine the short-run and the long-run stock market effect of the increase in the FII limit using the event study methodology. To test the short-run announcement effect, we calculate cumulative abnormal returns (CAR) on the board approval dates as well as the dates on which the FII limit increase is notified by the RBI. If the market interprets the limit increase as subsequently leading to relaxing of financial constraint, mitigation of agency conflicts or a reduction in adverse selection costs, as indicated by some firms in their disclosures regarding this step, then we expect stock price to appreciate, both in the short and the long run. On the other hand, if investors interpret the announcement as opportunistic market-timing by the promoters, then we would expect a correction in the long run as new information is revealed.

The abnormal return for a firm is calculated using the market model. Specifically, abnormal return (AR) is defined as

$$AR_i = Ret_i - \hat{\alpha}_i - \hat{\beta}_i * MarketRet \tag{1}$$

The firm's market beta ($\hat{\beta}_i$) and alpha ($\hat{\alpha}_i$) are estimated from a time series regression of the daily stock return on the market index return using the [-250, -10] window.

5.1. Announcement effect of FII limit increase

Panel A of Table 6 presents the cumulative abnormal returns (CAR) for the trading days surrounding the dates when the notification of increase in the FII is made public by the RBI. We present CAR results for a range of windows - [-1,1], [-2,2], [0,1], [0,2] and [0,5] as is common in the event study literature. All the CAR estimates are statistically and economically significant with the mean CAR increasing from 1.20% to 1.38% as we adjust the event window from [-2,2] to [0,2]. Using the standard event window ([-1,1]), the abnormal CAR is 1.17% with a Patell's Z-statistics (Patell (1976)) of 3.16. Other unreported t-statistics measures such as the sign t-test, the cross-sectional t-statistics and the Boehmer's statistics (Boehmer et al. (1991)) are also strongly significant. Thus, the market reacts in a strongly positive manner in the short-run to the the increase in FII limit.

5.2. Announcement effect of board approvals

To alleviate concerns that the strong stock price gains surrounding the announcement of FII limit increase may be due to demand or liquidity pressures, we repeat the event study analysis for the board approval dates. Board approval is an intermediate step and does not result in changes to the aggregate FII limit as the firm still requires approval from the shareholders and the RBI. Therefore, an event study for board announcements is highly unlikely to be affected by demand or liquidity shocks.

We conduct an extensive search of press coverage of board meetings for Indian companies using Factiva and Google search engine. This yields 87 observations on board approvals for which we have enough stock price data to do an event study estimation. We further restrict the sample of board approvals to exclude financial firms and state-owned enterprises leaving us with a sample of 75 event dates. Despite the small sample size, the results from the previous analysis hold. In fact, the CAR for the board approval dates are greater than those around the RBI announcement dates for certain event windows. For example, for the [-1,1] window, we find that the average CAR of 1.65% for board approvals is significantly greater than that for the official FII limit increases (1.17%).

5.3. Long run stock performance

Is the positive short-run reaction to the announcement of the FII limit increase justified by value enhancement in the long-run or is the market displaying "irrational exuberance" and overestimating the gains from greater FII shareholding? To answer this question, we measure the long term stock performance of firms that raise their FII limit using a buy and hold abnormal return (BHAR) analysis. Accordingly, for each *FIILimit* firm, we calculate the abnormal returns in the subsequent months by subtracting the return of a benchmark portfolio from the firm's monthly return. We use both the market index (BSE500) and the returns on the Fama-French 12 industry to which the firm belongs as the benchmark. We also employ the monthly returns on a set of matched firms as the reference portfolio. Accordingly, for each *FIILimit*, we find a matching set of up to 3 control firms in the same Fama French 48 industry using size, market-to-book ratio and profitability as matching covariates. The monthly abnormal returns are compounded over a period of 6 to 36 months after the limit increase to calculate the BHAR. We also compute BHAR over a period of 12 to 24 months preceding the FII limit increase. Panel A of Table 7 presents the BHAR results using the MSCI market index for India as the benchmark while in Panel B we use the Fama-French 12 industry as the reference portfolio.

The BHAR analysis reveals a striking pattern of reversal in long term stock returns after the FII limit is raised. While these firms show strong share price increases prior to the limit increase, subsequently their stock significantly under-performs both the market index and the industry. Using the market index (FF12 industry) as the benchmark, stocks of such firms earn mean compounded abnormal returns of 172% (125%) during the 12 months prior to the FII limit increase. However, in the 12 months following the event, the BHAR returns relative to the FF12 industry returns is -45% (t-stat -7.05). The BHAR for 24 months is -112% (t-stat -10.67) and that for 36 months is -221% (t-stat -13.25). BHAR using the market index as the benchmark is less negative, -20% (t-stat -3.01) for 24 months and -39% for 36 months (t-stat -5.87). Long term stock performance using the matched set of firms as the benchmark reveals under-performance of similar magnitudes (unreported).

The reversal in the stock prices of firms that raise their FII limit strongly point towards a market-timing motive rather than signaling or governance one. Promoters of *FIILimit* firms appear to time the limit increase to coincide with stock price peaks. Thus, the subsequent sale of equity from promoters to FIIs reported in Table 5 represents a significant wealth transfer between the two groups of investors. It must be recalled that domestic institutional shareholding does not change after the limit increase. Thus, domestic institutional investors turn out to be better informed than their foreign counterparts about the intrinsic value of these firms.

The BHAR results also has implications for market efficiency. The disconnect between the short-run and long-run stock performance indicates that irrational investor optimism fails to anticipate opportunistic market-timing behavior by corporate insiders. The poor long term stock performance also raises question on the efficacy of foreign portfolio investors in identifying good investment opportunities in emerging markets. It also casts doubts on their supposedly superior information processing abilities, especially in more opaque financial markets. The systematic under-performance documented here shows that information asymmetry between the controlling shareholders and foreign investors, especially with regards to growth firms, can lead to inefficient allocation of foreign capital in emerging market countries. The presence of such information asymmetry may also partly explain the persistence of the "home bias" phenomenon despite the spread of financial liberalization to the developing world.

6. Real effects of raising the FII limit

In this section, we compare the trend in operating performance and other firm characteristics prior to and subsequent to raising the FII limit. Given that the vast majority of domestic Indian companies have substantial insider ownership, raising the FII limit is a major strategic decision for the firm. If the FII limit is raised to convey a positive signal about the firm's growth options or alleviate financial constraints, then going forward, we expect to find better operating performance compared to industry peers. On the other hand, if

the insiders use their private information to engage in opportunistic market-timing, then we should observe no such gains or even negative real outcomes vis-a-vis peer firms. Under this scenario, promoters time the equity sale right before they expect firm profitability and growth to flatten or start declining.

6.1. Operating performance and FII limit increase

To test these opposing hypothesis, we compare the fundamentals of firms that raise the FII limit with all other firms in the sample before and after the limit increase. We compare EBITDA ratio, ROA and sales growth of the two sets of firms over a period of 4 years around the FII limit increase. The three variables are industry-adjusted i.e. for each firm we calculate the financial metric by subtracting the industry average of all firms (excluding the firm itself) in the same industry and the same fiscal year.

Figure 7 compares industry adjusted EBITDA of *FIILimit* firms with other firms. We observe that EBITDA for the former is on a steep declining trend prior to the FII limit increase. In contrast, the EBITDA for the remaining firms is slightly increasing over the same time period. We find a similar pattern for industry adjusted ROA in Figure 8. Finally, in Figure 9 we compare the log of industry adjusted sales growth for the two sets of firms. Again, *FIILimit* firms exhibit steep decrease in their sales growth following the limit increase. It should be noted that for such firms, the level of these variables tends to be significantly greater than the others prior to the limit increase. However, after the limit increase, we observe a convergence in the levels as depicted in the figures.

The strong declining trends in ROA, EBITDA ratio and sales growth surrounding the FII limit increase appears to undermine the signaling or financial constraint hypothesis. Instead, it suggests that promoters exploit their information advantage about the firm's fundamentals and future growth prospects to time the sale of equity to FIIs. For example, the promoters can look at their firm's order books to better forecast future profitability and growth than outside investors, including FIIs, who don't have access to such material information. In fact, Figure 10 confirms this intuition. The increase in the FII limit occurs when the firm's

market capitalization is at its peak. Subsequent to the limit increase, there is a strong reversal in the same. Thus, in selling equity to FIIs, the promoters simply appear to be taking advantage of temporary mis-pricing.

We formally test for the difference in firm fundamentals for the two groups of firms in Table 8. We present mean and median estimates for industry adjusted EBITDA ratio, ROA and sales growth, for *FIILimit* firms and the remaining firms (Control) as well as for the differences in them from two years prior to the limit increase to two years post. We first examine the levels for years 1 and 2, prior to the limit increase. For all three variables, the estimates for the *FIILimit* group is greater than that for the Control group. At the end of the event year, the differences become weaker. For example, the difference in means for industry adjusted ROA is significant only at the 11% level while for adjusted log sales growth, the means of the two groups is not significant at conventional levels. Examining firm performance after the limit increase, we find that the levels start converging. For example, in the year immediately after the event, the mean differences in EBITDA, ROA and sales growth between the *FIILimit* and Control groups are all statistically insignificant. The median difference is also insignificant except for adjusted log sales growth (z-stat -3.06) . Two years after the event, the trend reversal becomes even stronger. In fact, median industry adjusted ROA for *FIILimit* firms is actually lower than for the Control group with a p-value of 0.06.

The results in Table 8 undermine the claim that FIIs can necessarily export their success to emerging markets. Rather, the opaque information environment of emerging market firms and the concentrated ownership structure makes them susceptible to trend extrapolation and opportunistic market-timing activity by insiders. Because of their information advantage, the promoters are able to identify trends in the firm and industry before outside investors do. Our findings also have important implications for market efficiency as stock prices appear to peak at a time when the reversal in fundamentals is already underway.

6.2. FII limit increase and acquisition activity

We next examine the acquisition activity of FIILimit firms after the limit increase. As has been documented in the M&A literature, deviations of market values from firm fundamental can lead to heightened merger activities (Rhodes-Kropf and Viswanathan (2004)). Given that promoters of firms that increase the FII limit appear to time the increase to coincide with valuation peaks and declining fundamentals, it is pertinent to ask whether they undertake acquisitions to increase the assets under their control? As shown before, these firms elicit strong interest from FIIs as a result of their past sales growth and profitability. Therefore, it is likely that promoters take advantage of the temporary over-valuations to engage in opportunistic divestiture of equity while simultaneously acquiring real assets.

We use the merger and acquisition file from Prowess database to identify acquisitions. Any acquisition labeled as "Sale of asset" is excluded. The acquisition variable takes the value for a firm-year when at least one such event occurs. For the group of FIILimit firms, the dummy takes a value of 1 only if the merger was announced at least 30 days and at most 365 days after the increase in limit (0 otherwise). Furthermore, we split the merger/acquisition sample into two - within and outside group. An acquisition is deemed within-group if the acquirer and target are owned by same parent company. Again, the key independent variable is *FIILimit* which takes the value 1 for a firm-year for which there is a FII limit increase.

Table 9 presents panel regression results for M&A activity and its relation to the increase in FII limit. The columns show estimates for a linear probability model where the dependent variable is an acquisition dummy as described before. Column 1 estimates the model for all acquisitions, column 2 for within-group acquisitions and column 3 for acquisitions where the target is a firm outside the group. We control for firm-specific determinants of acquisition activity and industry fixed effects. The coefficient estimate for *FIILimit* in all three regression specifications is economically and statistically significant. Firms that increase their FII limit are 13% more likely to make an acquisition, within group or otherwise, in the year after the limit increase. These firms are more likely to acquire another company outside the group (9.8%) than within the group (6.3%). As expected, market-to-book ratio is a strong predictor

of future acquisition activity. Higher equity valuations enable firms to pay for acquisitions using their stocks. [8] Finally, the coefficient for leverage is negative. Levered firms may find it difficult to raise financing for M&A or it could plausibly make them less attractive buyer's from the target's perspective.

Are these acquisition value enhancing? If the acquisitions are driven by opportunistic market-timing behavior, seeking to take advantage of temporary mis-valuations rather than synergies, then we expect the answer to be negative. Alternatively, if the M&A activity is a form of corporate investment, intended to increase firm value, then the markets should view it positively. To test the competing hypotheses, we first compute CARs for all M&A announcement dates in our sample. Then we regress the CARs on the *FIILimit* dummy. The coefficient for *FIILimit* then tells us the differential market reaction to the acquisitions for firms that increased their FII limit in contrast to those that left it unchanged. The results are shown in Table 10. For each acquisition type (All, Within-Group and Outside-Group), we present estimates for both univariate and multivariate regressions. While the announcement CAR for all M&A is positive (1%), that for the *FIILimit* group of firms is significantly lower and even negative. Such firms have 3.4 percentage point lower CAR (-2.4%) than that for all acquisitions. The result holds even when we control for a set of firm-specific variables that are related to M&A activity. Interestingly, *FIILimit* firms experience significantly negative CARs both for within group and outside group acquisitions.

6.3. FII limit increase and corporate boards

As shown earlier, the FII limit increase results in a significant transfer of equity from the promoters to the FIIs. Therefore, we also test whether the limit increase and the concomitant increase in FII shareholding lead to any meaningful changes in board structure. Promoters may facilitate greater FII ownership to increase monitoring and reduce agency costs. If this

[8] Although we do not have data on the mode of payment of these mergers, we check if the share outstanding of the firms that undertook an acquisition change from one quarter prior to the acquisition announcement to one or two quarters post the announcement. We find that share outstanding do change for XX% of these acquisitions. This quick test provides some evidence that firms use at least some stock to pay for their acquisitions.

is indeed the case, then we should expect to see more independent directors and less CEO-Chairman duality. Accordingly, in Table 11, we regress changes in board size ($\Delta TotalDir$), fraction of independent directors ($\Delta IndDir$) and CEO-Chairman duality ($\Delta Dual$) on the *FIILimit* dummy. We also include industry fixed effects to control for industry-specific heterogeneity as well as a set of control variables associated with board structure. The coefficient for the *FIILimit* dummy is statistically insignificant in all the regressions. Thus, the increase in the FII limit, does not lead to more independent boards or reduction in the power of existing CEOs.

7. Conclusion

This paper documents opportunistic market-timing behavior by controlling shareholders (promoters) in India, which results in distorted allocation of foreign investment capital. Promoters use their information advantage as insiders to time the increase in foreign shareholding limits to coincide with temporary stock misvaluations. This results in the sale of overvalued equity by promoters to foreign institutional investors (FIIs). At the same time, domestic institutional shareholding remains unchanged. Although the short-term market reaction to the increase in the FII limit is strongly positive, we find severe under-performance in the long-run. The FII limit increase also leads to increased acquisitions with poor announcement returns. Thus, despite their reputation as sophisticated investors, a subset of FIIs repeatedly engage in poor investment decisions by extrapolating from past firm performance. These findings bring into question the quality of information processing by FIIs in markets characterized by opaque information environment. Our study thus reevaluates the role of FIIs in emerging markets and provides a partial explanation for the well documented "home bias effect". Finally, we also contribute to the literature on market efficiency by highlighting the contrast between short-term and long-run stock performance.

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Appendix A: Variable Definitions

Assets	Log of total assets (Compustat Global Database item AT).
BSE500	Dummy that equals 1 if the firm is a constituent of the S&P BSE 500 Index.
Capital Expenditure Ratio	Capital expenditure (Compustat Global item CAPX) divided by total assets (AT).
Cash Ratio	Cash and short-term investments (Compustat Global item CHE) divided by total assets (AT).
Cashflow	Operating income before depreciation (Compustat Global item OIBDP) divided by total assets (AT).
Dividend Payer	Dummy that equals 1 if the cash dividend amount in a given fiscal year (Compustat Global item DVC) is positive.
EBITDA Ratio	Earnings before taxes, depreciation and amortization (Compustat Global item EBITDA) divided by total assets (AT).
Firm Age	Current fiscal year minus year of first appearance in the Compustat Global Database.
FII Ownership	Percentage of firm's total shares outstanding held by Institutional Investors domiciled outside of India.
Leverage	Sum of long term debt (Compustat Global item DLTT) and short term liabilities (DLC) divided by total assets (AT).
Market equity	Share price at fiscal year end date (Compustat Global Security Daily item PRCCD) times Shares Outstanding (Compustat Global Security Daily item CSHOC) times an adjustment factor (Compustat Global Security Daily item TRFD).
Market-to-Book	Market Value of equity dividend by book value of equity (Compustat Global item CEQ).
Promoter Ownership	Percentage of firm's total shares outstanding held by firm founders and their associates.

R&D Ratio	Research and Development expenditures (Compustat Global item XRD) divided by total assets (AT). If XRD is missing, we set it to 0.
ROA	Return on assets is calculated as Net income (Compustat Global item NICON) divided by lagged total assets (lagged AT).
Sales Growth	Percentage change in firm sales (Compustat Global item SALE) over previous fiscal year.
Tobin's Q	Market equity plus total debt plus value of redeemable preferred stock (Compustat Global item PSTKR), if not missing minus deferred taxes (TXDB) divided by total assets (AT).

Table 1: Foreign Institutional Investors (FII) in India

This table gives the list of foreign institutional investors (FII) who are permitted to buy/sell shares in Indian firms through the portfolio investment route. The Securities and Exchange Board of India (SEBI) has the authority to register FII and monitors investments by them along with the Reserve Bank of India (RBI). FIIs are permitted to trade securities issued by Indian firms, listed and unlisted, in the primary as well as secondary markets.

Panel A: Classification of Foreign institutional investors (FII)
Pension Funds
Mutual Funds
Investment Trusts
Banks
Insurance Companies / Reinsurance Company
Foreign Central Banks
Foreign Governmental Agencies
Sovereign Wealth Funds
International/ Multilateral organization/ agency
University Funds (Serving public interests)
Endowments (Serving public interests)
Foundations (Serving public interests)
Charitable Trusts / Charitable Societies (Serving public interests)

Panel B: FIIs funds sponsored by or affiliated to CALPERS
CALPERS
CALPERS, self managed 1-15
CALPERS, managed by TOBAM
CALPERS, managed by ARROWSTREET CAP L.P
CALPERS, managed by ASHMORE EQUITIES
CALPERS, managed by BAILLIE GIFFORD OVERSEAS
CALPERS, managed by GENESIS ASSET MANAGERS
CALPERS, managed by LAZARD ASSET MANAGEMENT
CALPERS, managed by NOMURA ASSET MANAGEMENT
CALPERS, managed by WASATCH ADVISORS, INC

Table 2: Distribution of FII Limit increases

This table shows the list of foreign institutional investors (FII) who are permitted to buy/sell shares of Indian companies through the portfolio investment route (Panel A). The Securities and Exchange Board of India (SEBI) has the authority to register FIIs and monitors investments by them along with the Reserve Bank of India (RBI). FIIs are permitted to trade securities issued by Indian firms, listed and unlisted, in the primary as well as secondary markets. Panel B provides a partial list of India related FIIs which are sponsored by or affiliated to CALPERS, the largest public pension fund in the United States.

Panel A: Sample distribution of FII limit increase		
Year	Frequency	Percent
1998	7	1.75
1999	7	1.75
2000	7	1.75
2001	7	1.75
2002	6	1.50
2004	28	6.98
2005	30	7.48
2006	66	16.46
2007	55	13.72
2008	33	8.23
2009	21	5.24
2010	18	4.49
2011	18	4.49
2012	18	4.49
2013	27	6.73
2014	37	9.23
2015	16	3.99
Total	401	100.00

Table 2 Panel B: Industry distribution of FII limit increase

Industry	2-Digit SIC	Frequency	Percent
Agricultural Production - Crops	1	3	1.40
Metal, Mining	10	2	0.93
Oil & Gas Extraction	13	2	0.93
General Building Contractors	15	2	0.93
Heavy Construction, Except Building	16	10	4.67
Food & Kindred Products	20	15	7.01
Textile Mill Products	22	4	1.87
Apparel & Other Textile Products	23	4	1.87
Paper & Allied Products	26	1	0.47
Chemical & Allied Products	28	20	9.35
Rubber & Miscellaneous Plastics Products	30	4	1.87
Leather & Leather Products	31	1	0.47
Stone, Clay, & Glass Products	32	3	1.40
Primary Metal Industries	33	15	7.01
Fabricated Metal Products	34	7	3.27
Industrial Machinery & Equipment	35	7	3.27
Electronic & Other Electric Equipment	36	8	3.74
Transportation Equipment	37	12	5.61
Instruments & Related Products	38	2	0.93
Miscellaneous Manufacturing Industries	39	6	2.80
Water Transportation	44	3	1.40
Transportation Services	47	4	1.87
Communications	48	10	4.67
Electric, Gas & Sanitary Services	49	7	3.27
Wholesale Trade - Durable Goods	50	3	1.40
Wholesale Trade - Nondurable Goods	51	1	0.47
General Merchandise Stores	53	1	0.47
Eating & Drinking Places	58	2	0.93
Miscellaneous Retail	59	1	0.47
Real Estate	65	1	0.47
Hotels & Other Lodging Places	70	1	0.47
Business Services	73	32	14.95
Motion Pictures	78	6	2.80
Health Services	80	1	0.47
Educational Services	82	5	2.34
Engineering & Management Services	87	4	1.87
Non-Classifiable Establishments	99	4	1.87

Table 3: Summary Statistics

This table presents summary statistics for Indian companies from 1998-2014, excluding financials and state owned enterprises. Panel A reports statistics on firm characteristics for the sample of firms which increase the limit on aggregate FII shareholding (FIILimit firms). Data on firm variables is constructed from the annual files of the Compustat Global database, Datastream, Worldscope and Prowess. *Market Equity* and *Assets* are in Billions of Indian Rupees (INR). Capital Expenditures (*Capex Ratio*), R&D Expenses (*R&D Ratio*), Cash and short term investments (*Cash Ratio*), Book Leverage (*Leverage*) and firm's Earnings before interest, tax and depreciation (*EBITDA Ratio*) are all scaled by total assets (*AT*). Information on firm's shareholding pattern, expressed in percentage of total shares outstanding, comes from the respective stock exchanges where the firms are listed. *Promoter ownership* is the total of the firm's promoters holdings, domestic and foreign. *FII ownership* and *DII ownership* are the percentage of shares held by foreign institutional investors (FIIs) and domestic institutional investors, respectively. *Inst. Ownership* comprises of FIIs, domestic mutual funds/UTI, banks, insurance companies and financial institutions. Panel B presents summary statistics for all Indian firms for the corresponding time period. The sample excludes any firm firm-year observation with missing total assets. All variables are winsorized at the 1 and 99 percentile.

Panel A: Summary statistics for firms increasing their aggregate FII limit between 1998-2014

Variable	Mean	Std. Dev.	Median	N
Firm Age	23.98	17.51	19	237
Market Equity	47.71	106.38	12.95	237
Assets	35.1	78.66	10.75	241
Capex Ratio	0.11	0.1	0.08	233
R&D Ratio	0	0.01	0	241
Cash Ratio	0.14	0.14	0.08	241
Leverage	0.27	0.19	0.27	240
EBITDA Ratio	0.14	0.09	0.13	241
ROA	0.17	0.63	0.1	227
MB	3.49	3.59	2.7	237
Tobin's Q	1.91	1.74	1.45	236
Dividend Payer (%)	78	42	100	241
BSE500 Member (%)	59	49	100	241
Promoter Ownership (%)	44.52	15.54	44.5	215
DII Ownership (%)	7.62	7.69	5.98	215
FII Ownership (%)	16.46	11.01	17.45	215
Inst. Ownership (%)	24.08	13.48	24.44	215
#FII	65.98	108.02	22	133
#DII	44.33	73.45	18	133

Panel B: Summary statistics for all Indian firms from 1998-2014

Variable	**Mean**	**Std. Dev.**	**Median**	**N**
Firm Age	26.58	19.17	21	31,055
Market Equity	10.85	51.49	0.51	27,826
Assets	11.69	53.39	1.38	32,660
Capex Ratio	0.07	0.08	0.04	30,234
R&D Ratio	0	0.01	0	32,660
Cash Ratio	0.07	0.1	0.03	32,660
Leverage	0.31	0.2	0.31	32,641
EBITDA Ratio	0.11	0.09	0.1	32,589
ROA	0.06	0.2	0.04	26,668
MB	1.6	2.71	0.79	27,826
Tobin's Q	0.98	1.14	0.68	27,739
Dividend Payer (%)	49	50	0	32,660
BSE500 Member (%)	13	34	0	32,660
Promoter Ownership (%)	52.08	18.17	52.94	23,130
DII Ownership (%)	4.42	7.13	0.85	22,176
FII Ownership (%)	3.15	6.82	0	22,102
Inst. Ownership (%)	7.59	10.87	2.34	22,240
#FII	17.77	68.55	1	15,355
#DII	18.9	53.17	4	15,355

Table 4: Cross-sectional determinants of FII limit increases

This table presents coefficient estimates from a linear probability model for increases in the aggregate FII limit at the firm level. The sample consists of Indian firms, excluding financials and state owned enterprises, from 1998-2014 in the Compustat Global database with non negative data on assets, book equity and sales . The dependent variable is a binary variable which takes the value 1 for firm-years in which an FII limit increase occurs. All firm-specific variables are from the fiscal year prior to the year in which the firm raises the FII limit. Promoter and FII ownership variables are from the previous quarter. Standard errors are clustered by firm and the t statistics are reported in parentheses. ***,**, or * indicates that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

	(1)	(2)	(3)
Firm Age	-0.000***	-0.000***	-0.001
	(-4.39)	(-3.92)	(-0.87)
Log Assets	-0.001	-0.001	-0.009***
	(-1.45)	(-1.39)	(-3.28)
Dividend Payer	0.003**	0.003**	0.005**
	(2.12)	(2.13)	(1.97)
Capex Ratio	0.020*	0.020	0.007
	(1.69)	(1.64)	(0.56)
Cash Ratio	0.021*	0.018*	0.033*
	(1.91)	(1.65)	(1.73)
Leverage	0.005	0.006	0.000
	(1.08)	(1.27)	(0.01)
Log MB	0.002***	0.002***	0.005***
	(2.65)	(2.59)	(3.84)
ROA	0.001	0.001	-0.002
	(0.26)	(0.40)	(-0.85)
FII ownership	0.003***	0.003***	0.001***
	(9.91)	(9.53)	(2.58)
Promoter Ownership	-0.000***	-0.000**	0.000
	(-2.73)	(-2.45)	(0.75)
Constant	0.007*	0.006	0.039
	(1.85)	(1.56)	(0.96)
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	No	Yes	No
Firm Fixed Effects	No	No	Yes
N	17,626	17,565	17,626

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 5: Trends in shareholding pattern around FII limit increases

This table shows time-series and cross-sectional variation in firm ownership structure surrounding an FII limit increase. Figures are reported for the three major class of investors - Controlling Shareholders (*Promoters*), Foreign Institutional Investors (*FII*) and Domestic Institutional Investors (*DII*). Panel A shows mean ownership (as % of total shares outstanding) for the event quarter, *Current*, while *Pre* and *Post* show the same for quarter(s) prior and post event respectively. *Difference* shows the changes in the ownership for each of the investor groups. Panel B presents a multivariate regression analysis of changes in shareholding pattern for firms that raise their FII limit (FIILimit firms) with respect to those that don't. The dependent variable is the changes in the percentage of shares owned by each class of investor - Promoters, FIIs and DIIs. The key independent variable is a dummy variable, *FIILimit*, which takes the value 1 for a firm-year when a FII limit increase occurs. For each class of investors, the first column presents coefficient estimates for univariate regressions while in the second column, firm specific controls are added. Standard errors are clustered by firm and the t statistics are reported in parentheses. ***,**, or * indicates that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

Panel A: Time series variation in shareholding pattern					
	N	**Pre**	**Current**	**Post**	**Difference**
Shareholding pattern pre and post FII increase: 1 quarter					
Promoters	316	41.82	40.77	40.60	-1.22(-4.28)
FII	316	20.30	22.59	23.23	2.93(6.94)
DII	316	6.96	6.80	6.94	-0.02(-0.09)
Shareholding pattern pre and post FII increase: 2 quarter					
Promoters	297	42.79	40.47	40.06	-2.73(-6.07)
FII	296	17.48	22.61	23.39	5.90(10.37)
DII	296	7.23	6.92	7.19	-0.04(-0.17)
Shareholding pattern pre and post FII increase: 4 quarter					
Promoters	269	44.84	40.73	40.05	-4.79(-8.05)
FII	267	13.81	22.40	22.75	8.94(12.48)
DII	267	7.45	6.83	7.23	-0.22(-0.62)

	(1) Δ FII	(2) Δ FII	(3) Δ Promoter	(4) Δ Promoter	(5) Δ DII	(6) Δ DII
Treated	6.104***	4.848***	-3.687***	-2.683***	-0.176	-0.423
	(7.01)	(5.49)	(-5.49)	(-3.95)	(-0.35)	(-0.80)
Firm Age		0.030		0.004		-0.059
		(0.27)		(0.01)		(-0.57)
Log Assets		-1.200***		-0.206		-0.193*
		(-7.64)		(-0.75)		(-1.70)
Capex Ratio		1.202*		0.740		0.882
		(1.68)		(0.51)		(1.44)
Cash Ratio		2.029**		-0.412		-1.142
		(2.29)		(-0.36)		(-1.64)
Leverage		0.312		-1.627		-0.392
		(0.58)		(-1.62)		(-0.89)
ROA		0.874***		0.484		-0.084
		(3.94)		(1.53)		(-0.49)
Log MB		0.757***		-0.841***		0.306***
		(8.10)		(-4.80)		(4.04)
Promoter Ownership		0.015**		-0.032**		0.015*
		(2.19)		(-2.37)		(1.79)
Dividend Payer		0.334**		0.267		0.062
		(2.06)		(0.92)		(0.51)
Constant	0.294***	-0.735	0.395***	2.433	-0.521***	0.780
	(9.89)	(-0.22)	(5.13)	(0.25)	(-15.72)	(0.25)
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	No	Yes	No	Yes	No
Firm Fixed Effects	No	Yes	No	Yes	No	Yes
N	19,895	17,036	20,038	17,128	19,962	17,071

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 6: Announcement effect for FII limit increases

This table reports short-run cumulative abnormal returns (CARs), using the market model, for FII limit increases across several event windows, ranging from [-2,2] to [0,5]. The estimation window for calculating firm's market beta is [-250,-10]. The CARs for the event dates are calculated by first subtracting beta times the market index returns from the firm's daily returns and then summing up the market adjusted returns (AR). To test if the mean CAR is statistically different from 0, we report the Patell's z test. For robustness, we also calculate several other statistics (unreported), including the cross-sectional t-stats and the Boehmer's statistics. Panel A shows CAR results for the event windows centered around the Central Bank's (RBI) approval of firm level FII limit increases. The event dates are obtained from press releases published on the RBI website. Panel B reports mean CAR results for the board approvals of FII limit increases. The event dates for these are collected from searches for corporate press releases for the same on the Factiva database.

Panel A: Announcement effect of RBI approval of FII limit increase

Win	N	CAR	T-test for mean=0
$[-2, 2]$	229	1.20	2.58
$[-1, 1]$	229	1.17	3.16
$[0, 1]$	229	1.34	4.54
$[0, 2]$	229	1.38	3.81
$[0, 5]$	229	1.14	2.29

Panel B: Announcement effect of board approval of FII limit increase

Win	N	CAR	T-test for mean=0
$[-2, 2]$	75	1.47	1.95
$[-1, 1]$	75	1.65	2.57
$[0, 1]$	75	1.00	2.04
$[0, 2]$	75	0.73	1.12
$[0, 5]$	75	0.73	1.12

Table 7: Buy and hold abnormal returns (BHAR) for FII limit increases

The table presents results for long run buy and hold returns (BHARs) for the group of companies that increase their aggregate FII limit. The event windows range from 24 months before the event to up to 36 months after it. Panel A shows long run returns adjusted by the market index returns while in Panel B we use Fama-French 12 industry adjusted returns. The corresponding cross-sectional t-statistics are also shown below.

Panel A: Buy and hold returns (BHAR) adjusting for market returns			
Win	N	BHAR	T-test for mean=0
$[-24, 0]$	195	468.50	2.87
$[-12, 0]$	195	171.70	1.64
$[0, 6]$	205	4.23	1.32
$[0, 12]$	205	-3.90	-0.75
$[0, 24]$	209	-20.13	-3.01
$[0, 36]$	213	-39.43	-5.87

Panel B: Buy and hold returns (BHAR) adjusting for industry returns			
Win	N	CAR	T-test for mean=0
$[-24, 0]$	195	335.10	2.07
$[-12, 0]$	195	124.60	1.19
$[0, 6]$	205	-15.39	-4.13
$[0, 12]$	205	-45.18	-7.05
$[0, 24]$	209	-112.10	-10.67
$[0, 36]$	213	-221.10	-13.25

Table 8: Trends in real firm outcomes around FII limit increases

This table compares operating performance for firms that raised their FII limit (*FIILimit*) and those that don't (*Others*). Panels A-E compares annual mean and median values for a set of firm characteristics from two years prior to the event to 2 years post. *Adj EBITDA Ratio* is the ratio of EBITDA over assets which is adjusted by the mean EBITDA ratio for all companies (excluding the firm itself) in the same Fama-French 48 industry and the same fiscal year. Similarly, *Adj ROA* is the ratio of net income over lagged assets and *Adj Log sales growth* is the log of sales growth, both adjusted accordingly. The panels report the mean and median values along with with the p-values for a test of whether the means and medians are statistically different than zero (in parentheses). The last column presents the Satterthwaite t-statistics and Wilcoxon z-statistics (with p-values in parentheses) for the difference in mean and median tests respectively.

Panel A: Operating Performance two years prior

Financial Metric	**Control**	**Treated**	**Difference**
Adj. EBITDA Ratio			
Mean	-0.001 (0.446)	0.011 (0.000)	-4.12 (0.000)
Median	-0.000 (0.000)	0.000 (0.936)	-4.89 (0.000)
Adj. ROA			
Mean	-0.002 (0.048)	0.036 (0.012)	-2.68 (0.008)
Median	-0.010 (0.000)	-0.010 (0.009)	-4.79 (0.000)
Adj. Log Sales Growth			
Mean	-0.002 (0.394)	0.041 (0.000)	-4.28 (0.000)
Median	-0.020 (0.000)	0.030 (0.000)	-7.02 (0.000)

Panel B: Operating Performance one year prior

Financial Metric	**Control**	**Treated**	**Difference**
Adj. EBITDA Ratio			
Mean	-0.000 (0.495)	0.010 (0.000)	-3.88 (0.000)
Median	-0.000 (0.000)	-0.000 (0.670)	-4.33 (0.000)
Adj. ROA			
Mean	-0.001 (0.323)	0.021 (0.023)	-2.39 (.0171)
Median	-0.010 (0.000)	-0.010 (0.001)	-3.56 (0.000)
Adj. Log Sales Growth			
Mean	-0.002 (0.515)	0.032 (0.001)	-3.28 (0.002)
Median	-0.010 (0.000)	0.040 (0.000)	-5.98 (0.000)

Panel C: Operating Performance in the treatment year

Financial Metric	**Control**	**Treated**	**Difference**
Adj. EBITDA Ratio			
Mean	-0.000 (0.566)	0.008 (0.001)	-3.35 (0.001)
Median	-0.000 (0.000)	-0.000 (0.673)	-3.69 (0.000)
Adj. ROA			
Mean	-0.001 (0.512)	0.014 (0.126)	-1.60 (0.109)
Median	-0.010 (0.000)	-0.010 (0.000)	-2.03 (0.0426)
Adj. Log Sales Growth			
Mean	-0.001 (0.808)	0.013 (0.207)	-1.28 (0.200)
Median	-0.000 (0.406)	0.030 (0.000)	-4.27 (0.000)

Panel D: Operating Performance one year post

Financial Metric	**Control**	**Treated**	**Difference**
Adj. EBITDA Ratio			
Mean	-0.000 (0.869)	0.003 (0.280)	-1.09 (0.278)
Median	-0.000 (0.000)	-0.010 (0.018)	-1.14 (0.255)
Adj. ROA			
Mean	-0.000 (0.942)	0.001 (0.829)	-0.22 (0.823)
Median	-0.010 (0.000)	-0.010 (0.000)	0.22 (0.825)
Adj. Log Sales Growth			
Mean	-0.000 (0.956)	0.003 (0.756)	-0.32 (0.753)
Median	0.010 (0.000)	0.040 (0.000)	-3.06 (0.002)

Panel E: Operating Performance two years post

Financial Metric	**Control**	**Treated**	**Difference**
Adj. EBITDA Ratio			
Mean	0.000 (0.992)	0.000 (0.944)	0.07 (0.944)
Median	-0.000 (0.000)	-0.010 (0.004)	0.03 (0.973)
Adj. ROA			
Mean	0.000 (0.929)	-0.002 (0.758)	0.32 (0.751)
Median	-0.010 (0.000)	-0.010 (0.000)	1.87 (0.0612)
Adj. Log Sales Growth			
Mean	-0.000 (0.964)	0.003 (0.800)	-0.26 (0.800)
Median	0.010 (0.000)	0.030 (0.000)	-2.08 (0.036)

Table 9: FII Limit increase and Acquisitions

This table presents panel regression estimates of the association between mergers and acquisitions activity (M&A) and increases in aggregate FII limit. The dependent variable is a binary variable that takes the value 1 for a firm-year if the firm makes an acquisition in the given fiscal year. Column 1 reports estimates for all M&As, column 2 for M&As where the target and acquirer belong to the same parent group and column 3 for outside group acquisitions. The key independent variable is a dummy variable, *FIILimit*. It takes the value 1 for the year in which a firm raised its FII limit one year prior to making an acquisition i.e. the acquisition was announced at least 30 days before the increase in FII limit and at most 365 days after. Firm-specific control variables which may affect the decision to undertake acquisitions are also included and are lagged by a fiscal year. Year and firm fixed effects are included in all regression specifications. Standard errors are clustered by firm and the t statistics are reported in parentheses. ***,**, or * indicates that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

	(1) All	(2) Within Group	(3) Outside Group
Treated	0.134***	0.063**	0.098***
	(4.21)	(2.53)	(3.38)
Firm Age	-0.000	0.000	-0.000**
	(-0.51)	(0.90)	(-2.14)
Log Assets	0.028***	0.020***	0.014***
	(15.91)	(14.87)	(10.03)
Leverage	-0.025**	-0.028***	-0.000
	(-1.97)	(-3.26)	(-0.01)
Capex Ratio	0.020	-0.038**	0.033
	(0.72)	(-1.99)	(1.51)
Cash Ratio	-0.009	-0.042**	0.027
	(-0.34)	(-2.57)	(1.21)
ROA	0.038*	0.024	0.032*
	(1.94)	(1.64)	(1.92)
Log MB	0.017***	0.009***	0.011***
	(7.21)	(5.74)	(5.83)
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
N	19,476	19,476	19,476

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 10: Announcement returns for acquisitions

This table presents univariate and multivariate analysis of M&A announcement day returns for firms that increase their FII limit and subsequently engage in acquisitions. Columns 1 and 2 report results for all M&As, columns 3 and 4 for M&As where target and acquirer both belonged to the same parent company and columns 5 and 6 for outside group acquisitions. The key independent variable is a dummy variable, *FIILimit*. It takes the value 1 for the year in which a firm raised its FII limit one year prior to making an acquisition i.e. the acquisition was announced at least 30 days before the increase in FII limit and at most 365 days after. Firm level control variables are included in multivariate analysis and are lagged by a fiscal year. Standard errors are robust and the t statistics are reported in parentheses. ***,**, or * indicates that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

	(1) All	(2) All	(3) Within Group	(4) Within Group	(5) Outside Group	(6) Outside Group
Treated	-0.034***	-0.040***	-0.024***	-0.027***	-0.033*	-0.035*
	(-2.78)	(-2.99)	(-2.61)	(-2.71)	(-1.91)	(-1.89)
Log Assets		-0.000		-0.000		-0.000**
		(-0.81)		(-0.35)		(-2.34)
Log MB		-0.001		-0.000		-0.002
		(-1.48)		(-0.29)		(-1.21)
Leverage		-0.038**		-0.022		-0.063**
		(-2.10)		(-1.50)		(-2.29)
Cash Ratio		-0.027		-0.065**		-0.022
		(-1.36)		(-2.20)		(-0.90)
Capex Ratio		0.105***		0.005		0.149***
		(2.67)		(0.14)		(2.70)
FII Holding		0.001**		0.000		0.001**
		(2.09)		(0.33)		(2.40)
R&D Ratio		-0.250		0.187		-0.375*
		(-1.56)		(1.06)		(-1.88)
Promoter Holding		0.000**		-0.000		0.001***
		(2.13)		(-0.55)		(3.20)
Constant	0.010***	-0.005	0.008***	0.026	0.012***	-0.027**
	(4.52)	(-0.50)	(3.19)	(1.50)	(3.51)	(-2.23)
Observations	1,233	1,096	620	554	727	643
R^2	0.007	0.031	0.006	0.022	0.006	0.059

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

Table 11: FII Limit increase and Board Structure

This table reports multivariate panel analysis of changes in board structure following increases in the FII limit. The dependent variable in the column 1 is the change in board size (Δ *Total Dir.*), in column 2 is the change in the fraction of independent directors (Δ *Ind. Dir.*) and in the last column is change in CEO-Chairman duality (Δ *Dual*). The key independent variable is a dummy variable, *FIILimit*. It takes the value 1 for a firm-year in which an FII limit increase occurred. Firm specific variables which may be related to board structure and composition are included as controls and are lagged by a fiscal year. Year and Industry fixed effects are included in all the regressions. Standard errors are clustered by firm and the t statistics are in parentheses. ***,**, or * indicates that the coefficient estimate is significant at the 1%, 5%, or 10% level, respectively.

	(1)	(2)	(3)
	Δ Total Dir.	Δ Ind. Dir.	Δ Dual
Treated	-0.003	0.020	0.020
	(-0.24)	(1.58)	(1.21)
Firm Age	0.000	0.000	0.000
	(0.07)	(0.22)	(0.35)
Log Assets	-0.002	-0.001	-0.001
	(-1.50)	(-1.54)	(-0.88)
Leverage	-0.012	-0.003	0.019**
	(-1.56)	(-0.60)	(2.33)
Capex Ratio	0.046**	-0.024*	0.004
	(2.52)	(-1.67)	(0.19)
Log MB	0.001	-0.002	-0.001
	(0.31)	(-1.34)	(-0.53)
FII ownership	0.000	0.000	-0.000
	(0.73)	(1.05)	(-0.45)
Insider Ownership	0.000	0.000***	0.000
	(1.38)	(3.00)	(0.03)
Constant	0.010	0.015***	-0.003
	(1.44)	(3.66)	(-0.48)
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
N	16,041	16,041	16,041

t statistics in parentheses

* $p < .10$, ** $p < .05$, *** $p < .01$

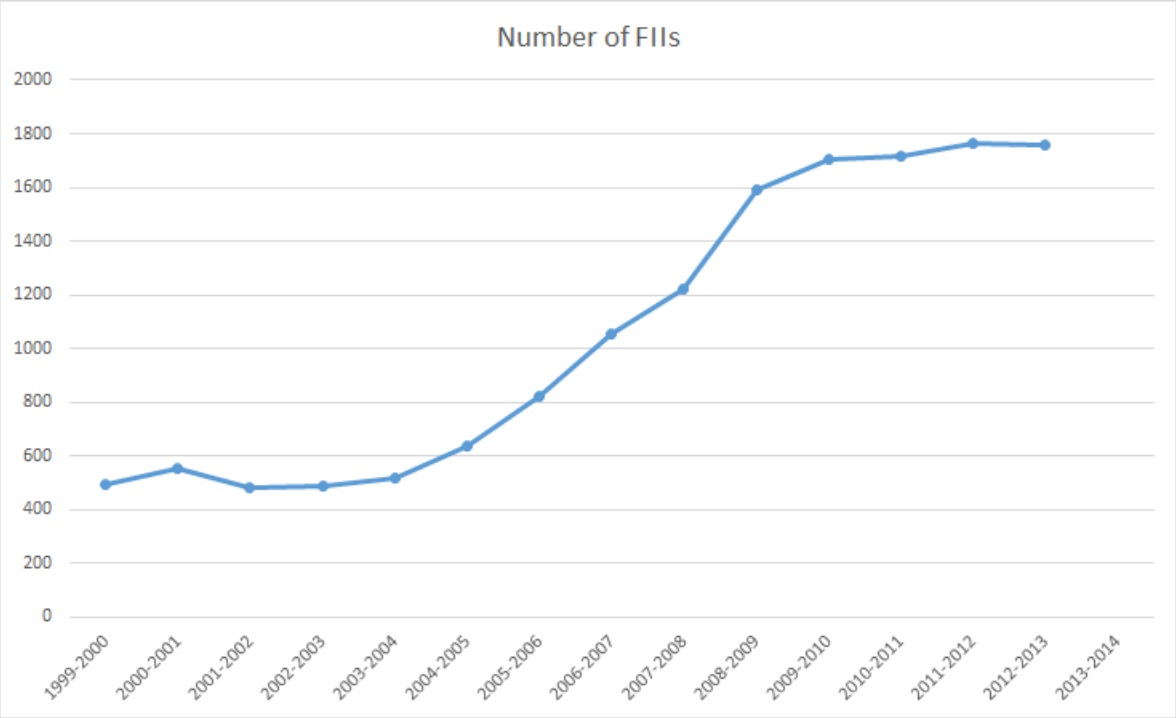

Figure 1: FII participation in the Indian capital market

The figure shows the number of foreign institutional investors (FII) participating in the Indian financial markets from 2000-2014. *Source: Securities Exchange Board of India (SEBI) website.*

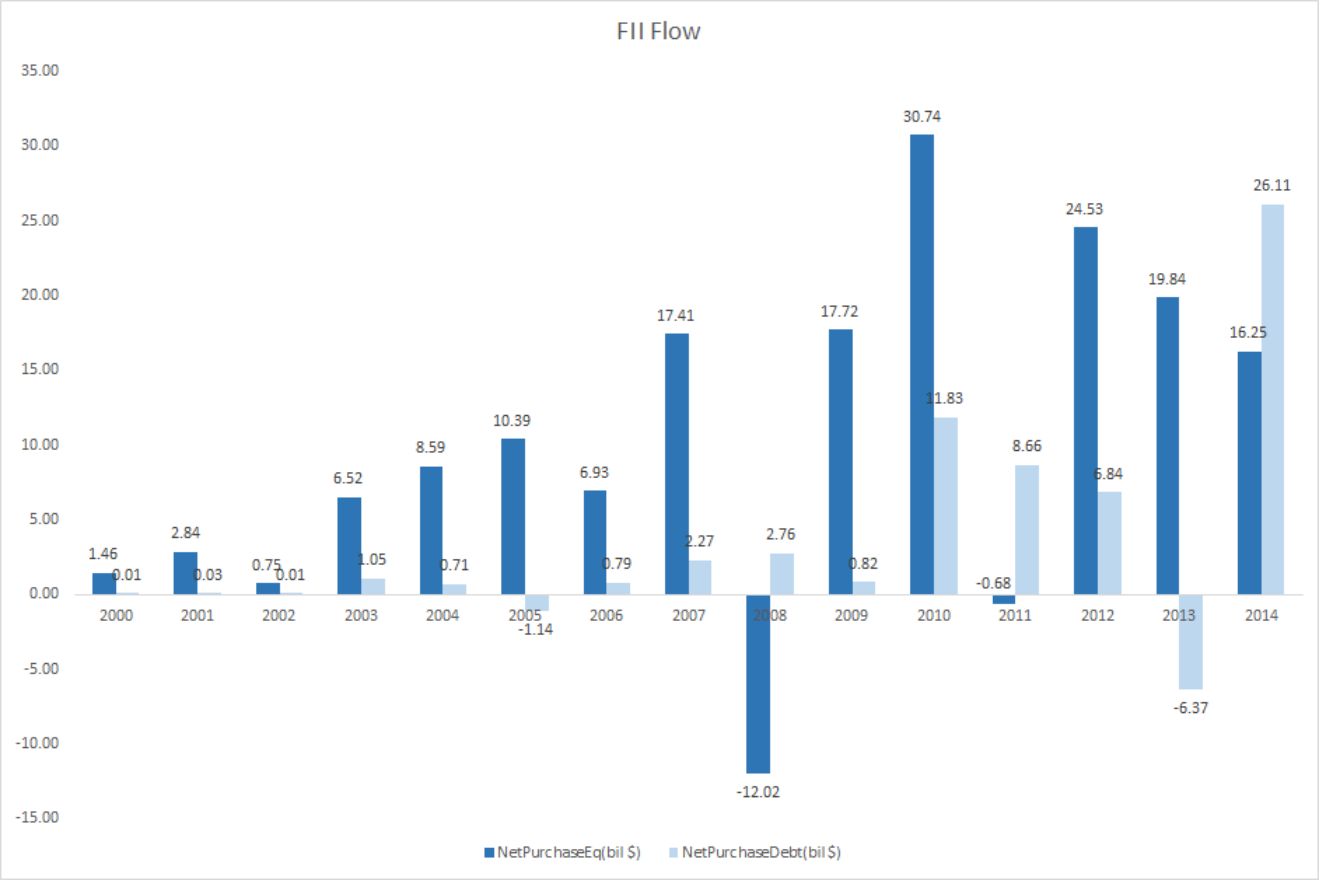

Figure 2: Net foreign investment flow to India

The figure reports the net foreign investment flows into the Indian debt and equity markets from 2000-2014 in billion USD. *Source: Securities Exchange Board of India (SEBI) website.*

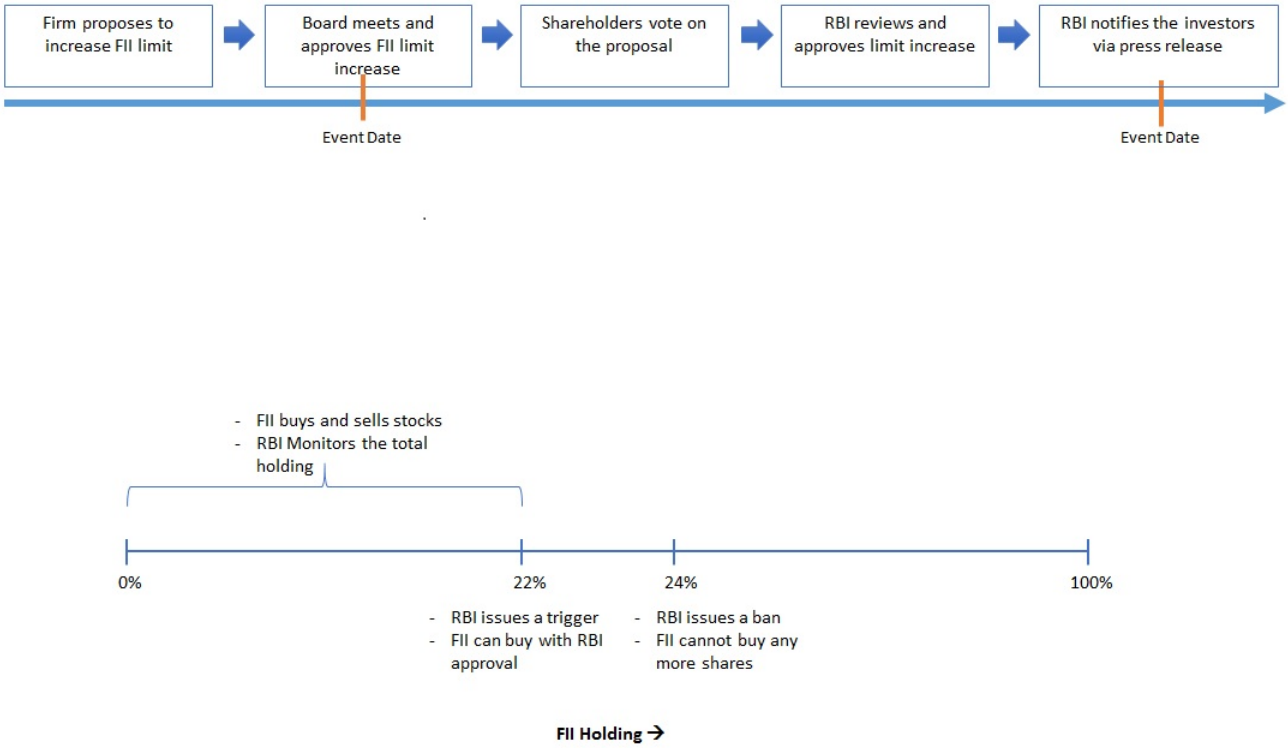

Figure 3: Time-line of FII limit increase

The top panel of the figure shows the key steps involved in the raising of a firm's aggregate FII limit. By default, each firm has a FII limit of 24% (20% for banks). The bottom panel explains how the RBI regulates the FII limit for individual firms. When aggregate FII shareholding in a firm get within 2% of the existing limit, the RBI requires prior approval before further purchases of shares by FIIs("Trigger"). If the limit is exceeded, then a prohibition on any further buying of shares is imposed ("Ban").

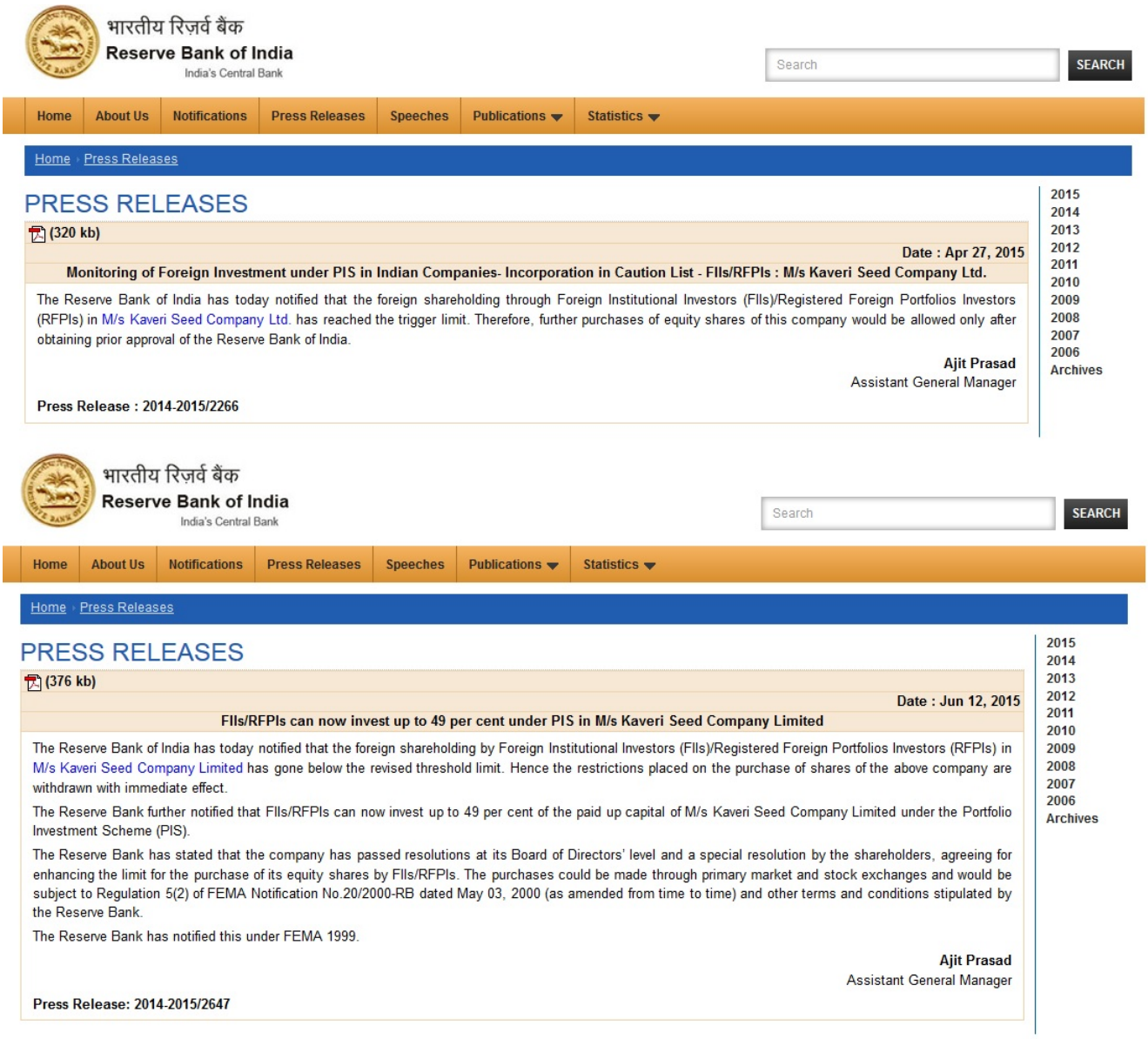

Figure 4: Snapshot of a press release issued by the RBI regarding FII investments

The top panel in the figure provides an example of a restriction imposed ("Trigger") imposed as a result of aggregate FII shareholding in a firm reaching within 2% of the existing limit. The bottom panel then shows the press notification lifting the restriction after the FII limit in the firm was increased.

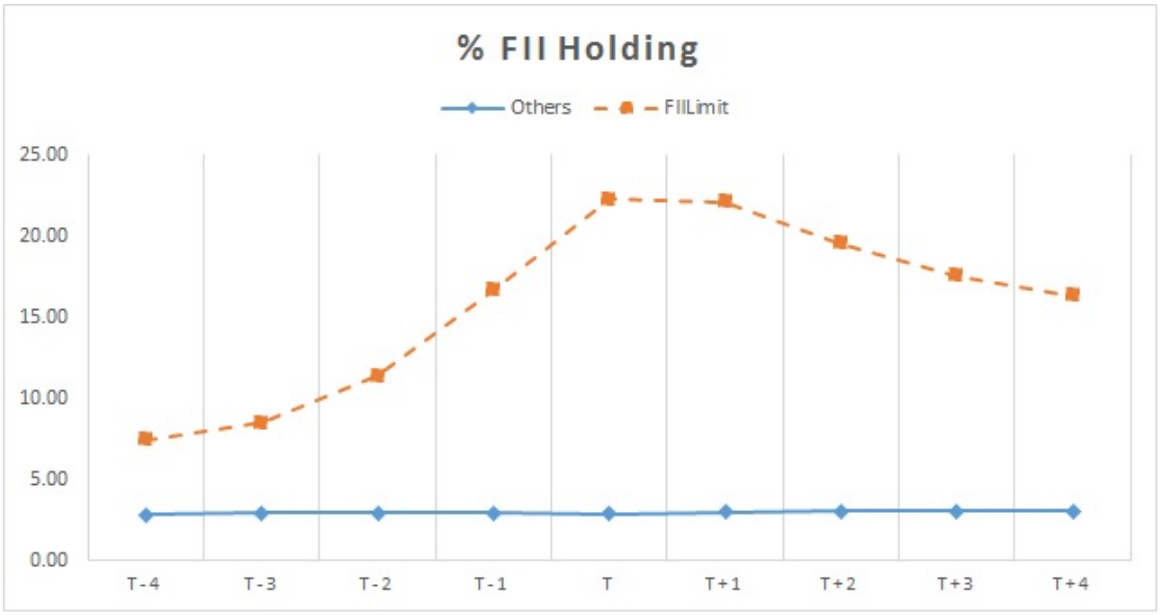

Figure 5: Trend in aggregate FII Shareholding: Pre and post FII limit increase

The graph depicts the trend in mean FII shareholding for publicly listed Indian companies with respect to the event (time T) that results in an increase in the aggregate FII limit at the firm level. Mean aggregate FII ownership for each firm is plotted from 4 years prior to the limit increase (T-4) to up to 4 year after (T+4). FIILimit represents the subset of firms that raised their FII limit (orange) in a given fiscal year while Others represents the remaining firms (blue).

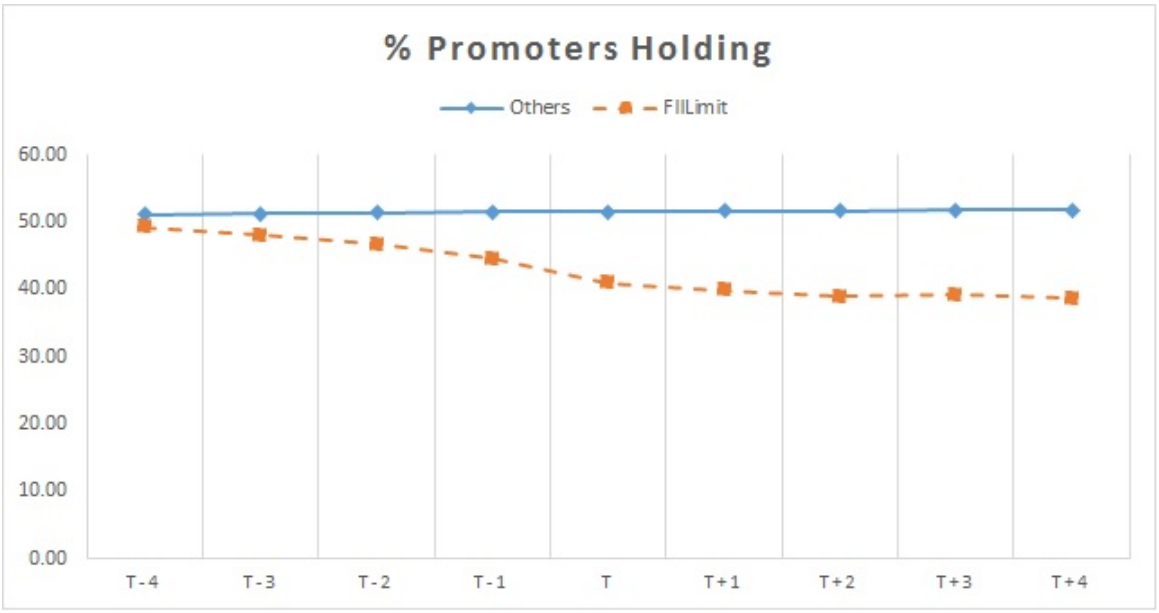

Figure 6: Trend in Promoter Shareholding: Pre and post FII limit increase

The graph depicts the trend in mean Promoter shareholding for publicly listed Indian companies with respect to the event (time T) that results in an increase in the aggregate FII limit at the firm level. Mean aggregate Promoter ownership for each firm is plotted from 4 years prior to the limit increase (T-4) to up to 4 year after (T+4). FIILimit represents the subset of firms that raised their FII limit (orange) in a given fiscal year while Others represents the remaining firms (blue).

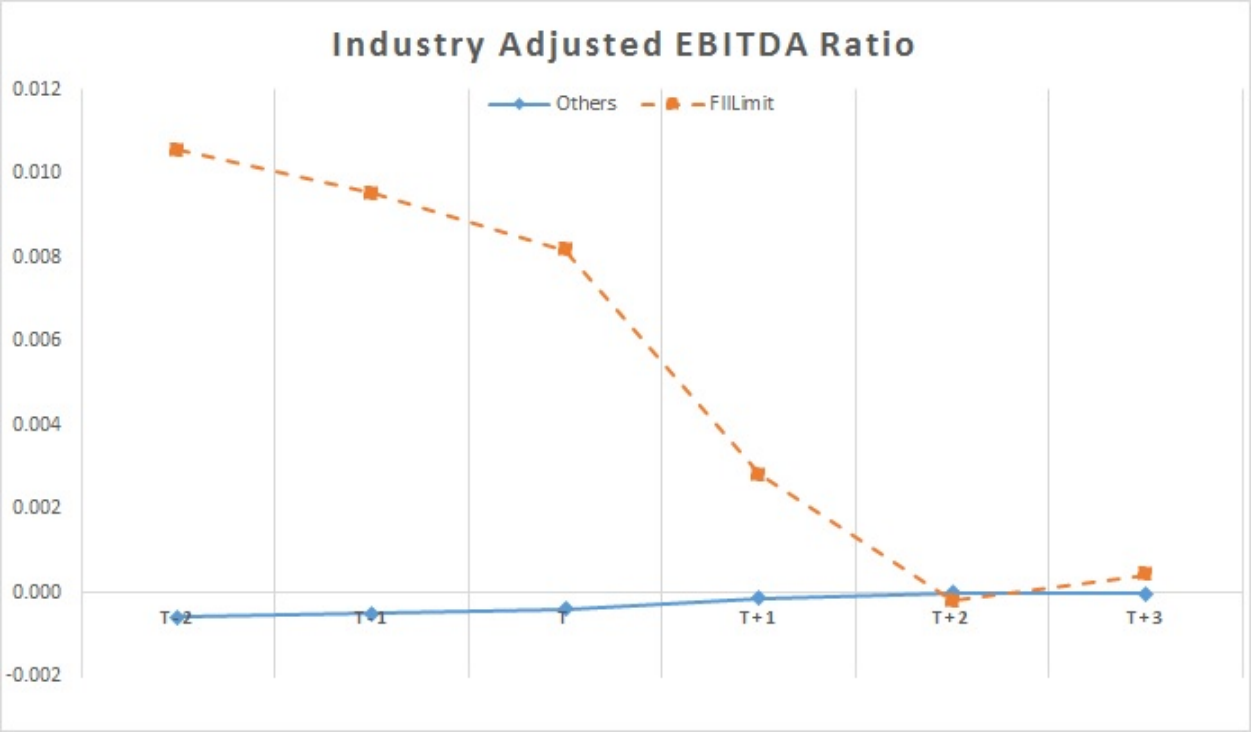

Figure 7: Industry Adjusted EBITDA Ratio

The graph depicts industry-adjusted EBITDA for companies that raised their FII limit (FIILimit) with respect to firms that didn't (Others). Adj EBITDA Ratio is the ratio of EBITDA over assets that is adjusted by the average EBITDA ratio of all firms (excluding the firm itself) in the same Fama-French 48 industry during the same fiscal year. The trend in industry-adjusted EBITDA is plotted from 2 years prior to the limit increase (T-2) to up to 4 year after (T+2). The plot for FIILimit firms is shown in orange while that for Other firms is shown in blue.

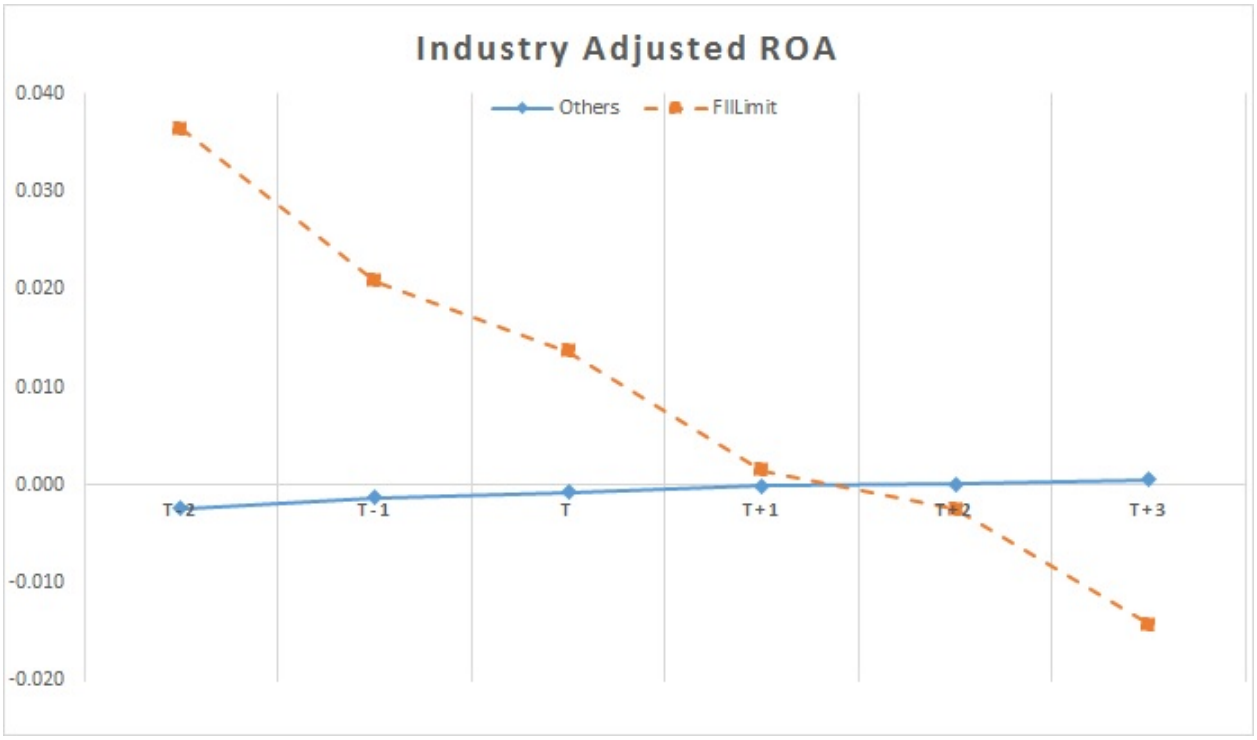

Figure 8: Industry Adjusted ROA

The graph depicts industry-adjusted ROA for companies that raised their FII limit (FIILimit) with respect to firms that didn't (Others). Adj ROA is the ratio of net income over lagged assets that is adjusted by the average ROA of all firms (excluding the firm itself) in the same Fama-French 48 industry during the same fiscal year. The trend in industry-adjusted ROA is plotted from 2 years prior to the limit increase (T-2) to up to 4 year after (T+2). The plot for FIILimit firms is shown in orange while that for Other firms is shown in blue.

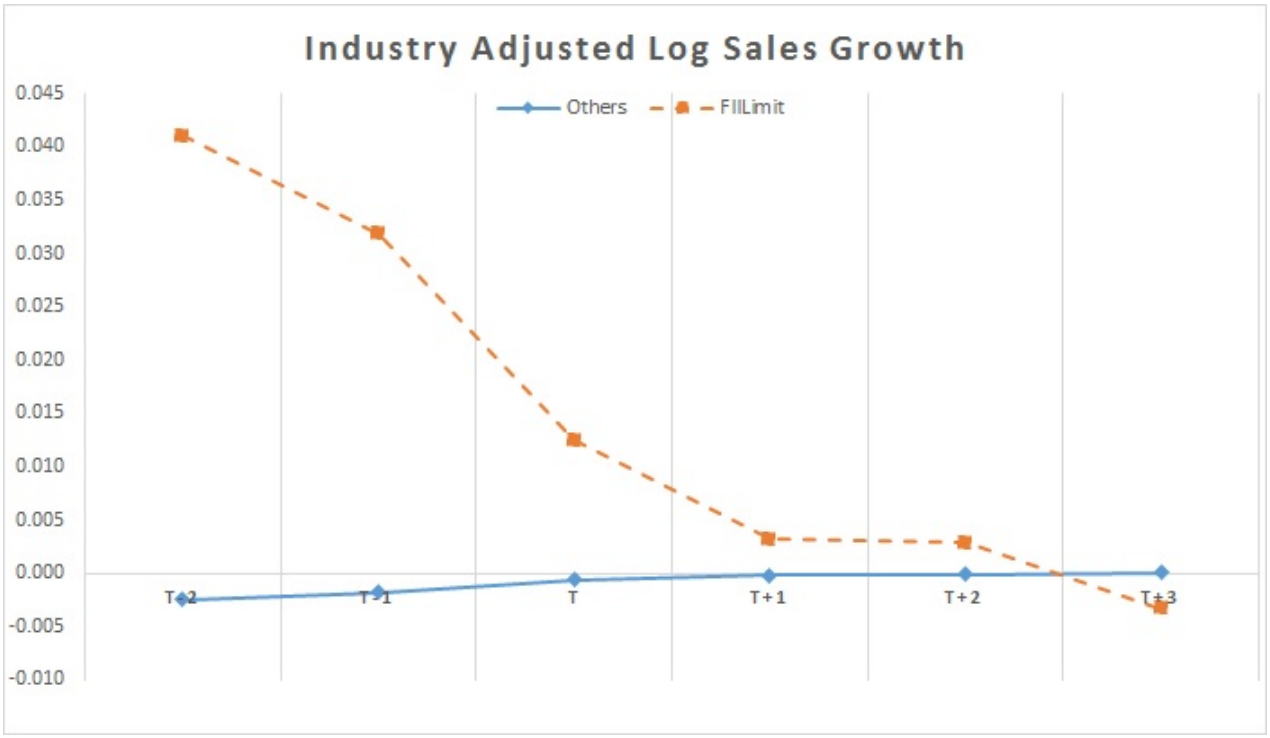

Figure 9: Industry Adjusted Log Sales Growth

The graph depicts industry-adjusted log sales growth for companies that raised their FII limit (FIILimit) with respect to firms that didn't (Others). Adj log sales growth is the log of sales growth of a firm over the previous year's values, adjusted by the average log sales growth of all companies (excluding the firm itself) in the same Fama-French 48 industry during the same fiscal year. The trend in industry-adjusted log sales growth is plotted from 2 years prior to the limit increase (T-2) to up to 4 year after (T+2). The plot for FIILimit firm is shown in orange while that for Other firms is shown in blue.

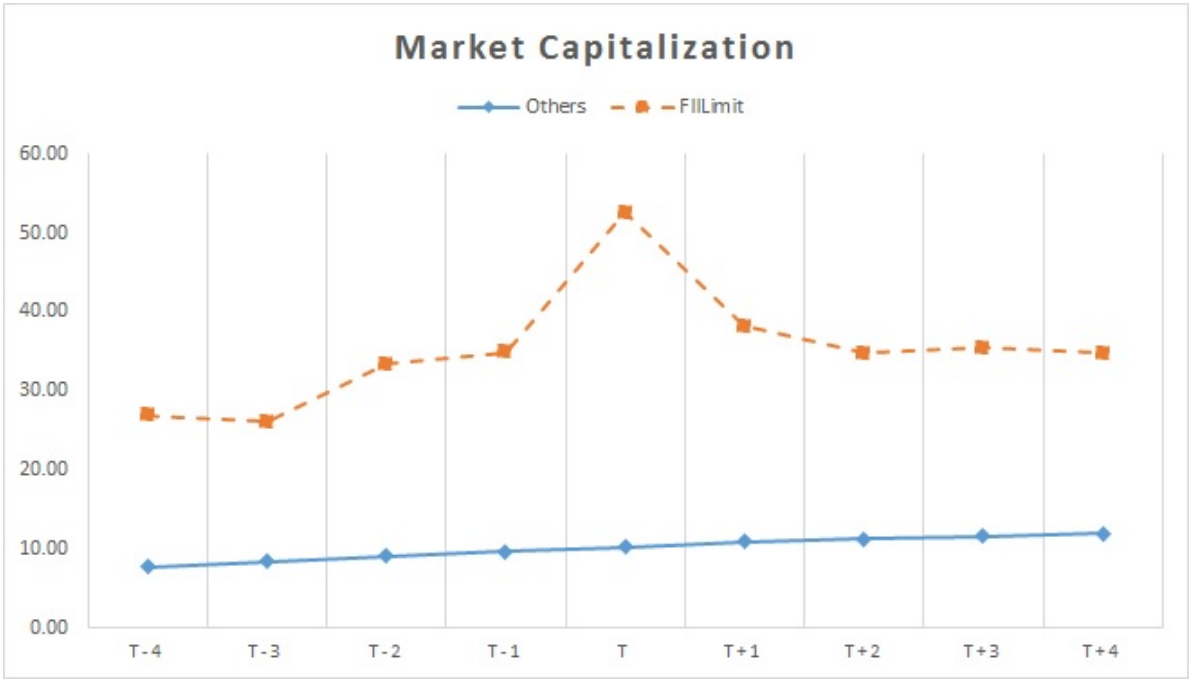

Figure 10: Market Capitalization

The graph depicts market capitalization (market cap) for companies that raised their FII limit (FIILimit) with respect to firms that didn't (Others). The trend in market cap is plotted from 4 years prior to the limit increase (T-4) to up to 4 year after (T+4). The plot for FIILimit firm is shown in orange while that for Other firms is shown in blue.