



Going Public to Acquire: The Acquisition Motive for IPOs

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Abstract

This paper demonstrates that the desire for making acquisitions is a primary consideration underlying the decision of companies to go public. Using a sample of IPOs from 1994-2004, we show that newly public firms make acquisitions at a torrid pace. This acquisition activity is fueled both through the initial proceeds from the IPO but also through the use of an acquisition currency that is used to raise capital for both cash and stock financed acquisitions. Acquisitions play a more significant role in the growth of newly public firms than internal investment through R&D and CAPEX.

1. Introduction

Why do firms choose to go public? An IPO is probably one of the most consequential events in the life of a company, but our understanding of this decision remains incomplete. Existing theories of IPOs offer several motivations for why firms choose to go public. In theory, an IPO creates liquidity for the firm's shares, provides an infusion of capital to fund growth, allows insiders to cash out, provides cheaper and ongoing access to capital, facilitates the sale of the company, gives founders the ability to diversify their risk, allows venture capitalists and early stage investors to exit their investment, and increases the transparency of the firm by subjecting it to potential capital market discipline in the future.

Despite the abundance of the theoretical considerations, the empirical evidence on these factors is limited, largely due to the lack of widespread data availability on private companies. Existing studies on the topic usually focus on selected samples where data availability issues can be surmounted or adopt empirical strategies designed to avoid direct comparisons of public companies to their pre-IPO status. The empirical evidence to date has identified some important determinants of the IPO decision. Pagano, Panetta and Zingales (1998) show that Italian firms went public not to finance future investments and growth, but rather to rebalance their capital structure and to exploit sectoral misvaluation. More recently, Kim and Weisbach (2006) show that investment financing and the desire to benefit from potential overvaluation are important motivations for public equity offers and IPOs.

We provide new evidence on the IPO decision by studying a relatively unexplored motive for IPOs – the desire to make acquisitions. Surveys of corporate executives suggest that acquisitions are a very important motive for an IPO. Brau and Fawcett (2006) survey CFOs from companies that conducted IPOs and find that they rank the desire to create an acquisition currency as the most important reason for an IPO. In fact, survey participants ranked the importance of acquisition currency ahead of other commonly considered motives such as cost of capital considerations and need for VCs and founders to exit or diversify their holdings. However, Brau et. al are limited to a three year period between 2000 and 2002 in their survey. Since this period coincides with the technology bubble, with many internet firms going public during this period, whether this motive holds importance over a longer time period is unknown. In particular the overvaluation during the internet boom could have increased managers' appetite to acquire, thereby fueling many IPOs during this period. In this paper, we examine the acquisition motive for IPOs in more depth using a broader sample of IPOs over a longer period that spans from 1994 to 2004.

We analyze post-IPO acquisition activity of IPO firms and find that there is a high incidence of newly public companies participating in mergers and acquisitions. We document substantial acquisition activity for IPO firms starting as early as their first year after the IPO. Our most striking result is that over the first five years following the IPO, newly public firms spend more money on acquisitions of other companies or assets than they do on research and development or capital expenditures, or the two combined. This suggests that newly public firms grow more through M&A than through internal investment in R&D and CAPEX.

We study how the IPO fits into subsequent M&A activity by studying three hypotheses, which we term the cash infusion hypothesis, the acquisition currency hypothesis and the uncertainty resolution hypothesis. Under the cash infusion hypothesis, firms go public to raise funds to conduct future acquisitions. Under the acquisition currency hypothesis, the ability to issue stock in a public company to shareholders of a target company allows new public companies to finance M&A activity. Under the uncertainty resolution hypothesis, an IPO reduces uncertainty about the true value of the firm and allows the firm to pursue acquisitions. This hypothesis predicts that firms with greater amount of asymmetric information and uncertainty will undertake more cash and stock-financed acquisitions and invest more in R&D and CAPEX after their IPO because these firms will gain the most from going public by achieving the greatest reduction in their valuation uncertainty. In testing this hypothesis, we will use the level of underpricing as a proxy for valuation uncertainty. Using data on the form of financing for subsequent M&A actions, we shed light on the relative importance of these three non-mutually exclusive hypotheses.

Our first finding is that the magnitude of capital raised from the sale of primary shares at the IPO is significantly correlated with the amount of cash-financed acquisitions at the IPO year and the first year after the IPO. This finding supports the capital infusion hypothesis that raising acquisition capital at the IPO is an important motivation for going public. We also find that the amount of capital raised through the sale of primary shares is positively related to the amount of investment in R&D and CAPEX in the first three years after the IPO year. In addition to primary capital raised at the IPO, capital raised through subsequent SEOs is also positively related to the amount of cash financed

acquisitions made in the first four years after the IPO, suggesting that the ability to access equity capital markets for financing cash financed acquisitions is an important driver of the IPO decision. It is interesting to note that in addition to the equity capital raised in subsequent offerings, debt capital raised after the IPO is also significantly and positively related to the amount of cash financed acquisitions. This finding suggests that an IPO enhances a firm's ability to borrow and conduct debt financed acquisitions.

Our analysis of stock financed acquisitions by IPO firms shows that the level of underpricing is significantly and positively related to the amount of stock financed acquisitions in the first two years after the IPO, including the IPO year itself. This finding provides support for the acquisition currency hypothesis which predicts that IPO firms with greater underpricing are more likely to conduct stock-financed acquisitions. Krigman, Shaw and Womack (1997) find that the degree of underpricing predicts subsequent long-term excess returns and firms with substantial underpricing continue to outperform in the next year after their IPO. This evidence is consistent with our finding that firms with greater amount of underpricing engage in more stock financed acquisitions after their IPO to take advantage of their overvalued stock.

It is interesting to note that the level of underpricing is significantly related only to the amount of stock financed acquisitions, not to cash financed acquisitions. In addition, it is negatively related to the level of investment in R&D and CAPEX in the IPO year and the first year after the IPO. This result is in contrast with the prediction of the uncertainty resolution hypothesis that firms with greater amount of asymmetric information and uncertainty will undertake more cash and stock financed acquisitions and invest more in R&D and CAPEX after their IPO.

One of our interesting findings is that the amount of acquisition activity ongoing in an industry is significantly and positively related to the amount of both cash and stock-financed acquisitions pursued by IPO firms, even after controlling for industry book-to-market ratio. This finding suggests that industry merger waves play a role in explaining clustering of IPOs both in time and in industries and IPOs may be seen as a response to industry specific consolidation waves. Furthermore, the amount of acquisition activity ongoing in an industry is significantly and negatively related to investment in R&D and CAPEX. Firms going public in industries experiencing a greater volume of M&A activity invest lower amounts in R&D and CAPEX.

2. Motivations for IPOs and Empirical Design

2.1. Motivations for IPOs

The theoretical literature addresses several reasons why companies choose to go public. Chemmanur and Fulghieri (1999) argue that information production costs explain IPO decisions. In their model, an IPO creates a traded security in the company, whose value reflects all public information, thereby reducing the need for all investors to engage in costly and duplicative information production. Zingales (1995) and Mello and Parsons (2000) postulate that liquidity considerations are important in driving the IPO decision. Since stocks trade actively after the IPO, the increased liquidity lowers the cost of capital for companies that choose to go public. Note that going public to create a liquid stock is directly related to the acquisition motive of IPOs as well. A more liquid stock enhances firms' ability to conduct both cash and stock financed acquisitions. A firm with a more liquid stock will find it less costly to raise acquisition financing in SEOs. Furthermore, a

more liquid stock will be more appealing as an acquisition currency in stock financed acquisitions and will make it easier for firms to do stock financed acquisitions. In addition, a more liquid stock may help reduce the amount of information asymmetry about the value of the firm and hence increase the firm's ability to undertake debt financed acquisitions by lowering the cost of debt and improving firms' access to debt capital markets.

Zingales (2005) argues that firms go public to be acquired at an attractive price because their IPO establishes a market price for the public shares of the company and increases the price the owners of the firm can extract from selling their company. Note that in our paper we focus on the desire to do acquisitions, rather than the desire to be acquired, as the primary driver of the IPO decision.

2.2. *The Acquisition Motive for IPOs*

In theory, an IPO can allow newly public companies to pursue acquisitions in several ways. We develop three hypotheses and outline some of their key implications.

The most obvious channel through which an IPO allows companies to pursue acquisitions is by providing an infusion of capital. We term this the *capital infusion hypothesis*. If firms go public to establish a war chest of cash to pursue subsequent acquisitions, we expect this motivation to be the most important when firms expect to pursue a high volume of cash-funded acquisitions. More generally, if financing events are driven largely by funding needs for investment and acquisitions, we expect two additional predictions from this hypothesis. First, capital infusion needs are expected to also motivate firms to go public to fund new investments in R&D and capital expenditures. Second, subsequent financing events such as seasoned equity offerings (SEOs) should

also be linked to future M&A activity. In other words, the capital infusion hypothesis also predicts that cash-funded M&A activity will be higher after SEOs. Note that the capital infusion hypothesis offers no predictions regarding the amount of equity-financed M&A activity.

An IPO creates an acquisition currency – i.e. a liquid stock that can be used to pay for acquisitions in wholly or partially stock financed transactions. According to the *acquisition currency hypothesis*, IPOs are motivated by a desire to issue stock as a form of payment for acquisitions. In the absence of market imperfections and when both bidders and targets are equally informed, the ability to issue stock that can be publicly traded would not be relevant consideration in an acquisition. However, with information asymmetry between managers, public markets, and targets, the ability to issue overvalued stock to pay for an acquisition may provide a motive to conduct an IPO. Shleifer and Vishny (2003) argue that overvalued equity drives many firms to conduct acquisitions, providing a motivation for why managers desire stock as an acquisition currency.

A related motivation for IPOs is advanced by Hsieh, Lyandres, and Zhdanov (2006) who provide a real-options based model linking the IPO decision to subsequent takeover activity. In their model, private firms face uncertainty regarding their true valuation. In addition, the value of the private firm is related to the potential gain from a takeover. By going public, managers learn the true value of their firm and the value of the takeover gain. In their model, going public also allows the potential bidder to credibly communicate its value, and hence the value of a stock-financed offer, to the target firm. Thus, by resolving uncertainty about the true value of the bidder, an IPO allows a bidder to pursue the optimal acquisition strategy. We label this the *uncertainty resolution hypothesis*.

The uncertainty resolution hypothesis predicts that bidders with greater uncertainty over true valuation gain the most from an IPO, allowing them to pursue acquisitions because the IPO lowers the target's risk of accepting overvalued bidder stock. Thus, according to this hypothesis, we expect both cash and stock-financed M&A activity to be higher for IPOs associated with greater valuation uncertainty. In our subsequent tests, we use IPO underpricing as a proxy for valuation uncertainty to test this prediction. Additionally, the uncertainty resolution hypothesis predicts that a similar relation should be present for internal investments such as R&D and capital expenditures after an IPO because uncertainty resolution allows firms to exercise their internal growth options optimally as well.

Hsieh et. al.'s (2006) model yields an additional prediction. In their analysis, an IPO is beneficial due to its ability to reduce the valuation uncertainty, but an SEO implies no such benefit. Therefore, the uncertainty resolution hypothesis yields no predictions regarding M&A activity following SEOs.

3. Data

3.1. Sample

Our IPO data comes from Securities Data Company and covers all US IPOs from January 1994 to December 2004 with total proceeds equal or greater than \$100 million. We impose this size cutoff to ensure that we have IPOs of a certain minimum size so that reliable data on their M&A activity is available. This probably biases us slightly against finding a significant role for acquisitions since Brau and Fawcett (2006) report that the desire to create an acquisition currency in IPOs is greater for smaller firms. It is important to note that the amount of IPO proceeds raised by our sample of IPO firms accounts for

63.90% of all IPO proceeds reported in SDC from 1994 to 2004. We also restrict our sample to those firms for which COMPUSTAT data is available for the IPO year. Firms are retained in the sample until the first year in which they exit COMPUSTAT. Our data on subsequent capital raising and acquisition transactions come from the SDC New Issues and Mergers and Acquisitions databases.

Table I reports descriptive statistics for the sample. We have a total of 793 IPOs that meet the sample selection criteria. As expected, the number of IPOs displays clear variation over time, with a sharp rise in 1999 and 2000, coincident with the internet boom. The average amount of the total proceeds (primary and secondary capital) raised in the IPO is \$388 million. On average, 15.77% of the total proceeds in IPOs come from the sale of existing “secondary” shares and 31.02% of our sample firms have sold secondary shares. We calculate the level of underpricing for each IPO by dividing the difference between the first day closing price and the offer price by the offer price. In our sample, the average level of underpricing is 34.25%, but this average is influenced heavily by the 1999-2000 period, where underpricing averaged 83.46%. Excluding these two years, the average underpricing in the sample drops to 11.82%. Our sample contains both initial listings of companies as well as equity carve-outs that represent listings of subsidiaries of public companies. Overall, carve-outs represent 18.92% of the IPOs in the sample.

3.2. Investment and M&A Patterns after IPO

We track all M&A activity for our sample firms for up to 5 years following the IPO date. We include mergers, acquisitions of public companies, private companies,

acquisitions of assets, acquisitions of major, partial and remaining interest. Mergers and acquisition of assets account for more than 95% of the total acquisition activity conducted by our IPO firms within the first five years after they go public.

Table II reports statistics on the extent of acquisition activity undertaken by the IPO firms. Year 0 denotes the year of the IPO and we report the cumulative volume of M&A activity for windows extending out to 4 years post IPO. As a result of mergers, and delistings, our sample size drops to 379 by the end of year 4. Another reason why our sample size drops over time is that we do not have the first five year acquisition data of firms that went public after 2001. Hence, when we report the acquisition activity in the first five year window after the IPO, we lose data on the IPOs of year 2001. For the IPO-IPO+3 window, we lose the data on the IPOs of year 2002, for the IPO-IPO+2 window, we lose IPOs of 2003 and for the IPO-IPO+1 window, we lose IPOs of 2004.

It is important to note that SDC does not report transaction values for more than 40% of the M&A deals, especially for those transactions where the target firm is a private firm or a subsidiary of a public firm. We replace the missing transaction values with zero. This biases us against finding support for acquisition motive in IPOs by heavily underestimating actual acquisition expenditures of IPO firms.

38.2% of the IPO firms make at least one acquisition in their IPO year. This percentage rises each year so that when measured over the four-year period after the IPO, 84% of IPO firms have completed at least one acquisition. The average number of acquisitions made by an IPO firm in the IPO year is 0.94, which increases to almost 6 by the end of the four years after the IPO. There is clearly dispersion in the number of acquisitions made by the sample firms, with the median firm completing three transactions in the first four years. In aggregate, the sample firms complete a total of

2,247 acquisitions in the first four years after their IPO, indicating that newly public firms are active acquirers on average.

Panel B of Table II compares an average IPO firm's investment in R&D and CAPEX, and investment in acquisitions where R&D, CAPEX and acquisition expenditures are measured in million dollars. Panel C and D report investment in R&D and CAPEX and acquisitions as a percentage of IPO proceeds and market value of the firm at the time of the IPO, respectively. All three panels suggest that IPO firms invest more in acquisitions than in R&D and CAPEX and growth through acquisitions is at least as large as growth through internal investment in R&D and CAPEX for an average IPO firm.

To provide a benchmark against which to judge the M&A activity of IPO firms, we construct a measure of M&A activity of mature firms which have gone public at least five years ago. Specifically, for each year from 1994 to 2004, we sum up the five year post IPO acquisition activity of each IPO firm in each industry and take a value weighted average of this measure across 48 Fama-French industries. We repeat the same procedure for mature firms. For example, for year 1994, we take the sum of acquisition activity of each mature firm in each industry where a mature firm is defined as one which went public before 1989, and then take value weighted average of the industry M&A activity by mature firms over 48 Fama-French industries. Table III compares the acquisition activity by IPO firms and mature firms. Panel A shows that the amount of total (cash and stock financed) acquisitions made by IPO firms and mature firms are not statistically different from each other. However, Panel B shows that IPO firms undertake more cash financed acquisitions than mature firms and Panel C shows that mature firms undertake more stock financed acquisitions than IPO firms.

Table IV reports acquisition expenditures and expenditures in R&D and CAPEX as a function of the magnitude of the primary capital raised at the IPO. Panel A reports investment expenditures of those IPO firms for which the amount of primary capital is greater than the sample median and Panel B reports the statistics for those firms below the sample median.

Firms with primary capital above the sample median invest significantly more in R&D and CAPEX in the first two years after the IPO and significantly more in acquisitions in the first four years after the IPO. This result is not surprising since the sale of primary shares raises investment capital for the firm while the sale of secondary shares allows the insiders to cash out their holdings and brings no revenues to the firm. Kim and Weisbach (2006) document a similar result for IPO and SEO firms where investments in R&D, CAPEX and acquisitions increase more for firms issuing primary shares than those issuing secondary shares.

4. Analysis of post-IPO Activity

4.1. Determinants of the post-IPO acquisition activity

To analyze post-IPO acquisitions made by our sample of IPO firms, we first estimate the following model for cash-financed acquisitions:

$$Y_{0t} = c_0 + c_1 Prim_IPO_Proceeds + c_2 Prim_Equity_Capital_{0t} + c_3 Debt_Capital_{0t} + c_4 Underpricing + c_5 Ind_Acquisition_Activity_{0t} + c_6 Carveout + c_7 VC + c_8 BTM_Firm_{0t} + c_9 BTM_Industry_{0t} + c_{10} Average_Return_{0t} + \varepsilon$$

where year 0 is the IPO year, Y_{0t} is the total value of cash-financed acquisitions from year 0 to year t normalized by the market value of assets at the time of the IPO.

Prim_IPO_Proceeds is the capital raised at the IPO from the sale of primary shares normalized by the market value of assets at the time of the IPO, Prim_Equity_Capital_{0t} is the amount of total primary equity capital raised from year 0 to year t normalized by the market value of assets at the time of the IPO, Debt_Capital_{0t} is the amount of total debt capital raised from year 0 to year t normalized by the market value of assets at the time of the IPO, Underpricing is the price run-up in the first trading day after the IPO, Ind_Acquisition_Activity_{0t} is the total amount of industry acquisition activity normalized by the total market value of the firms in the industry, from year 0 to year t, Carveout is a dummy variable which takes the value of 1 when the IPO is a carve-out, VC is a dummy variable which takes the value of 1 if the IPO firm is VC-backed, BTM_Firm_{0t} is the average firm book to market ratio over the period from year 0 to year t, BTM_Industry_{0t} is the average industry book to market ratio over the period from year 0 to year t (value-weighted average of book to market ratios of the firms in the 48 Fama-French industries), and Average_Return_{0t} is the average annual stock return of the firm over the period from year 0 to year t.

Table V reports the results on the analysis of cash-financed acquisitions. The amount of primary proceeds raised at the IPO is positively and significantly related to the value of cash acquisitions made at the IPO year and one year after the IPO, confirming the prediction of the capital infusion hypothesis that raising acquisition capital at the IPO is an important motive for going public. The amount of equity capital raised subsequently is also significantly related to the amount of cash-financed acquisitions by newly public

firms over horizons ranging from one year to four years after the IPO. This result is again consistent with the prediction of the capital infusion hypothesis and suggests that the ability to raise acquisition capital in SEOs subsequent to the IPO is an important driver of the going public decision. In addition, the amount of debt capital raised after the IPO is also significantly and positively related to the amount of cash financed acquisitions. This result implies that going public enhances a firm's ability to undertake debt financed acquisitions by increasing the firm's access to debt capital markets. Note that this finding is consistent with the evidence in Pagano, Panetta and Zingales (1998) which documents that firms going public experience an improvement in their ability to borrow through a reduction in the cost of bank credit after the IPO. This may be due to the fact that having access to the stock market creates an alternative source of capital and strengthens the bargaining position of the newly public firm against its lenders, as elaborated in Rajan (1992).

One of the interesting results from Table V is that, after controlling for industry book-to-market ratio, the amount of industry acquisition activity is a significant and positive determinant of the amount of cash-financed acquisitions by IPO firms over all the periods ranging from one year to four years after the IPO. This result suggests that firms go public to take advantage of the acquisition opportunities in their industry, and industry specific merger waves may explain the emergence of industry specific IPO waves and the acquisitive behavior of IPO firms.

We estimate next the amount of stock-financed acquisitions using the same specification we use for cash acquisitions but replacing the dependent variable with the amount of stock-financed acquisitions normalized by the market value of the firm at the time of the IPO over different periods ranging from one year to four years after the IPO.

Table VI reports the results. The amount of proceeds from the sale of secondary shares is significantly and positively related to the amount of stock-financed acquisitions made within the 1st year after the IPO. Note that this is consistent with the prediction of the acquisition currency hypothesis. If insiders have the ability to time the market and choose to take their firms public when stock markets are overvalued, we will expect them to engage in more stock financed acquisitions and to sell their existing shares at the same time to take advantage of overvaluation. In addition, we will expect stock financed acquisitions to take place rather quickly before overvaluation in share price disappears. The level of underpricing is also a significant and positive determinant of stock-financed acquisitions over the first two years after the IPO. Note that this variable was insignificant in explaining cash-financed acquisitions. This result may reflect that newly public firms experiencing a large run-up in their stock prices are more likely to make acquisitions using their valuable acquisition currency. This finding provides support for the acquisition currency hypothesis which predicts that IPO firms with greater underpricing are more likely to conduct stock-financed acquisitions. Note that Krigman, Shaw and Womack (1997) finds that the degree of underpricing predicts subsequent long-term excess returns and firms with substantial underpricing continue to outperform in the next year after their IPO. This evidence is consistent with our finding that firms with greater amount of underpricing engage in more stock financed acquisitions after their IPO to take advantage of their overvalued stock.

The amount of industry acquisition activity is significantly and positively related to the amount of stock financed acquisitions as well, suggesting that an increase in the level of merger activity within an industry increases the willingness of firms to go public and to take advantage of M&A growth opportunities.

4.2. Determinants of the post-IPO investment in R&D and CAPEX

After analyzing acquisition activity of IPO firms, we next turn to IPO firms' investment in R&D and CAPEX. We estimate the amount of R&D and CAPEX investment, normalized by the firm value at the time of the IPO year, over different horizons ranging from one year to four years after the IPO. We use our earlier specification where now the dependent variable refers to investment in R&D and CAPEX. Table VII presents the results.

The amount of primary capital raised at the IPO and the total amount of equity and debt capital raised after the IPO are both significantly and positively related to IPO firms' investment in R&D and CAPEX, suggesting that in addition to the desire to grow externally through acquisitions, the desire for organic growth is a motivating factor for going public as well. This result is consistent with the capital infusion hypothesis which predicts that in addition to acquisitions, R&D and CAPEX expenditures also are positively related to the amount of capital raised at and after the IPO.

The amount of industry acquisition activity has a significant and negative effect on R&D and CAPEX, suggesting that investment in R&D and CAPEX and acquisitions are substitutes rather than complements in the growth of IPO firms. Finally, the level of underpricing is negatively and significantly related to the subsequent investment in R&D and CAPEX. This result may suggest that firms experiencing a large run-up in their first day trading are those that go public to take advantage of high market valuations, and hence for such firms raising investment capital and investing R&D and CAPEX are not important drivers of the going public decision. Their decision to go public is rather due to the desire to take advantage of misvaluation by selling overvalued currency and using

their overvalued currency for conducting stock financed acquisitions. This result is in contrast with the predictions of the uncertainty resolution hypothesis. If firms go public to reduce uncertainty about their valuation, we should expect to see that not only acquisitions but also R&D and CAPEX expenditures are positively related to the level of underpricing since firms with a greater amount of underpricing benefit the most from going public and we should see those firms undertaking more internal investment as a result of more precise valuation of their firm which improves their ability to raise investment financing.

4.3 *Acquisitions and Ownership Dilution*

In a recent paper, Helwege, Pirinsky and Stulz (2006) show that insider ownership of US firms drops progressively after they go public. The paper finds that firms with better stock market performance and more liquid stocks experience larger decreases in insider ownership and become more widely held. There are two different channels through which insider ownership falls. The first is sales of shares by insiders and the second is the issuance of new shares. Helwege, Pirinsky and Stulz (2006) document that the sales of shares by insiders are as important as the issuance of new shares in explaining the reduction in insider ownership. In addition, shares issued in primary SEOs and acquisitions represent only a fraction of the increase in the number of shares for their sample firms.

In this section of our paper, we explicitly investigate whether acquisitions play an important role in explaining ownership dynamics of our sample of IPO firms. Panel A of Table VIII reports the mean and the median of the percentage of shares owned by

insiders for our sample firms surviving at least two years after their IPO. The mean (median) level of insider ownership drops from 24.81% (16.70%) to 18.76% (6.31%) in the first four years after the IPO. Panel B and C of Table VIII reports the change in insider ownership for high acquisition and low acquisition activity firms respectively. For high acquisition activity firms, the reductions in both mean and median insider ownership levels are statistically different from zero at the 1% statistical significance level.

However, for low acquisition activity firms, insider ownership levels do not fall significantly during the first four years after the IPO. This result suggests that IPO firms undertaking more acquisitions experience a greater reduction in insider ownership. Both cash and stock financed acquisitions can explain this result since the number of shares outstanding will increase both after SEOs raising capital for cash acquisitions and after stock financed acquisitions.

Table IX reports the results of the probit model estimated for the probability of a given drop in the percentage of shares owned by insiders. As Helwege, Pirinsky and Stulz (2006) find, we also find that firms with greater returns and more liquid stock experience a greater reduction in the insider ownership. Different from Helwege, Pirinsky and Stulz (2006), our results show that stock financed acquisitions are statistically significant in explaining the reduction in insider ownership. Helwege, Pirinsky and Stulz (2006) note that the sales of shares by insiders contribute to the drop in the percentage of shares owned by insiders by reducing the number of shares held by insiders rather than by increasing the total number of shares outstanding. Our regression results, however, show that the sale of secondary shares owned by insiders is not statistically significant in explaining the reduction in insider ownership.

5. Conclusions

This paper explores acquisition motives for going public. We examine subsequent acquisition activity for our sample of IPO firms and find that IPO firms frequently acquire other firms by using their access to capital markets to raise acquisition capital and by using the acquisition currency created at the IPO. In addition to internal investment in R&D and CAPEX, acquisitions play a substantial role in the growth of newly public firms. Indeed, our findings suggest that firms go public to finance acquisitions, a motive that appears more important than internal investment or capital structure rebalancing. We also find that subsequent equity issuance is closely linked to M&A activity. Our findings illustrate that the IPO decision, subsequent equity offerings, and M&A activity are all closely linked and suggest several avenues for future research.

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Table I
Descriptive Statistics of IPO Firms

This table presents the descriptive statistics of IPO firms having gone public between 1994 and 2004. The sample includes all IPO firms with IPO proceeds greater than \$100 million for which Compustat data is available. Secondary shares correspond to the secondary shares offered at the IPO in addition to primary shares. The last row shows the averages for the overall sample of IPO firms.

IPO Year	Number of IPOs	Average IPO Proceeds (\$mil)	Average Percentage Underpricing	Average Percentage of Secondary Shares	Percentage of IPOs Issuing Any Secondary Shares	Percentage of Carveouts
1994	60	243.30	2.21	13.92	21.67	31.67
1995	56	341.20	9.11	30.95	46.43	28.57
1996	78	304.99	18.86	21.05	43.59	17.95
1997	83	294.07	13.26	19.77	38.55	13.25
1998	56	476.45	9.96	16.53	32.14	19.64
1999	118	400.71	92.66	8.67	20.34	16.95
2000	130	411.53	75.10	4.37	11.54	14.62
2001	44	787.22	13.78	7.73	15.91	29.55
2002	38	485.51	10.56	23.05	47.37	31.58
2003	37	290.82	10.10	28.31	54.05	13.51
2004	93	367.62	13.87	20.15	41.94	10.75
1994-2004	793	387.64	34.25	15.77	31.02	18.92

Table II
Post-IPO Acquisition Activity and Investment in R&D and CAPEX

Panel A presents some summary statistics about the post-IPO acquisition activity of our sample of IPO firms. Missing acquisition deal values reported here are replaced by zero. Panel B reports the mean and the median of the total acquisition amount and the total investment in R&D and CAPEX of these IPO firms in million dollars over the period from year t (the IPO year) to year t with $t = 0, 1, 2, 3, 4$ denoting the number of years after the IPO. The t-statistics for comparison of means between the acquisition amount and the investment in R&D and CAPEX and the p-values for Wilcoxon signed-rank tests are provided as well. Panels C and D report the same values as in Panel B normalized by the size of the IPO proceeds and by the market value of assets of the firm as of the IPO date respectively. ***, **, and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Acquisition Activity of IPO Firms Over Time					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
Total number of IPO firms	793	663	563	466	379
Number of IPO firms making at least one acquisition	303	416	405	372	317
Percent of IPO firms making at least one acquisition	38.2	62.7	71.9	79.8	83.6
Total number of acquisitions by IPO firms	743	1626	2034	2267	2247
Mean number of acquisitions per IPO firm	0.94	2.45	3.61	4.86	5.93
Median number of acquisitions per IPO firm	0	1	2	3	3
Percentage of acquisitions with missing deal value	40.9	37.8	42.0	40.8	39.4

Panel B: Values in Million Dollars					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
ACQ mean	90.77	279.65	610.21	780.46	1174.43
R&D+CAPEX mean	111.43	268.80	473.68	678.97	812.25
t-statistics	-1.00	0.28	0.84	0.65	1.62
ACQ median	0.00	7.13	41.59	76.51	144.06
R&D+CAPEX median	23.30	65.25	112.32	151.25	192.45
p-value for signed rank test	0.0001	0.0001	0.0010	0.0771	0.5935

Panel C: Values as Percentage of IPO Proceeds					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
ACQ mean	26.94	84.68	181.09	225.91	327.88
R&D+CAPEX mean	27.50	67.55	118.42	168.00	216.35
t-statistics	-0.13	1.79*	1.46	1.32	1.97**
ACQ median	0.00	3.66	17.16	37.07	57.36
R&D+CAPEX median	12.51	33.27	57.03	76.63	99.22
p-value for signed rank test	0.0001	0.0002	0.0037	0.1264	0.7276

Panel D: Values as Percentage of Market Value of Assets as of IPO Date					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
ACQ mean	3.55	11.62	18.61	28.82	42.45
R&D+CAPEX mean	4.51	9.81	15.94	21.82	27.80
t-statistics	-1.89*	1.45	1.16	1.89*	2.72***
ACQ median	0.00	0.33	2.72	6.12	9.22
R&D+CAPEX median	1.85	4.96	8.13	11.63	15.56
p-value for signed rank test	0.0001	0.0001	0.0027	0.1301	0.9466

Table III
Comparison of the M&A Activity of Our Sample of IPO Firms with That of Mature Firms

This table shows the industry value-weighted averages of the total acquisition amount in five years normalized by the market value of assets at the beginning of that five-year period for IPO and mature firms. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: All Acquisitions									
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
IPO firms	18.49	19.92	18.78	17.58	23.89	10.31	10.61	7.43	3.76
Mature Firms	17.97	22.08	22.75	17.56	15.27	10.61	10.46	7.96	6.31
t-statistics for test of mean	0.25								
p-value for test of mean	0.81								
p-value for signed rank test	0.70								

Panel B: Cash Acquisitions									
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
IPO firms	7.41	13.81	11.64	8.00	15.75	2.27	2.09	5.51	2.98
Mature Firms	5.80	8.11	6.14	5.33	5.14	3.96	4.48	3.66	3.06
t-statistics for test of mean	2.21**								
p-value for test of mean	0.05								
p-value for signed rank test	0.08								

Panel C: Stock Acquisitions									
Year	1994	1995	1996	1997	1998	1999	2000	2001	2002
IPO firms	11.08	6.11	7.14	9.58	8.14	8.04	8.53	1.92	0.78
Mature Firms	13.43	14.80	18.26	13.70	11.26	7.14	6.64	4.73	3.45
t-statistics for test of mean	-2.59**								
p-value for test of mean	0.03								
p-value for signed rank test	0.02								

Table IV
Post-IPO Acquisition Activity and Investment in R&D and CAPEX as a Function of Primary Capital Raised at the IPO

This table presents post-IPO acquisition activity and investment in R&D and CAPEX normalized by the market value of assets at the time of the IPO for two groups of IPO firms. Panel A reports the means for IPO firms having IPO primary proceeds above the sample median, and Panel B reports the means for IPO firms having IPO primary proceeds below the sample median. Panel C reports the t-statistics for comparison of means between the above-median group and the below-median group and the z-statistics of Wilcoxon signed-rank tests for both the acquisition amounts and the investments in R&D and CAPEX over the period from year 0 (the IPO year) to year t with $t = 0, 1, 2, 3, 4$ denoting the number of years after the IPO. ***, **, and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: Primary Proceeds \geq Median of Primary Proceeds					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
Number of Firms	397	332	282	233	190
ACQ	4.49	15.13	23.22	39.76	59.51
R&D+CAPEX	5.73	11.31	17.27	22.91	27.83

Panel B: Primary Proceeds $<$ Median of Primary Proceeds					
	Year 0	Years 0-1	Years 0-2	Years 0-3	Years 0-4
Number of Firms	396	331	281	233	189
ACQ	2.61	8.10	13.98	17.88	25.30
R&D+CAPEX	3.29	8.30	14.61	20.73	27.76

Panel C: Firms with High Primary Proceeds versus Firms with Low Primary Proceeds					
ACQ					
t-statistic	2.36**	3.34***	2.30**	3.43***	3.56***
z-statistic	0.37	1.65*	2.07**	3.03***	3.36***

R&D+CAPEX					
t-statistic	3.97***	2.39**	1.21	0.61	0.01
z-statistic	2.24**	1.63	0.68	0.21	-0.99

Table V
Cash-Financed Acquisitions by IPO firms

This table shows the results of the following OLS regression model

$$Y_{0t} = c_0 + c_1 \text{Prim_IPO_Proceeds} + c_2 \text{Prim_Equity_Capital}_{0t} + c_3 \text{Debt_Capital}_{0t} + c_4 \text{Underpricing} \\ + c_5 \text{Ind_Acquisition_Activity}_{0t} + c_6 \text{Carveout} + c_7 \text{VC} + c_8 \text{BTM_Firm}_{0t} + c_9 \text{BTM_Industry}_{0t} \\ + c_{10} \text{Average_Return}_{0t} + \varepsilon$$

where the dependent variable Y_{0t} is the total value of cash-financed acquisitions from the IPO year to year t normalized by the market value of assets at the time of the IPO (MVA_{IPO}) with $t = 0, 1, 2, 3, 4$ denoting the number of years after the IPO. Prim_IPO_Proceeds is the capital raised at the IPO from the sale of primary shares normalized by MVA_{IPO} , $\text{Prim_Equity_Capital}_{0t}$ is the amount of total equity capital raised from year 0 to year t normalized by MVA_{IPO} , Debt_Capital_{0t} is the amount of total debt capital raised from year 0 to year t normalized by MVA_{IPO} , Underpricing is the price run-up in the first trading day after the IPO, $\text{Ind_Acquisition_Activity}_{0t}$ is the total amount of industry acquisition activity from year 0 to year t normalized by the total market value of the firms in the industry, Carveout is a dummy variable which takes the value of 1 when the IPO is a carve-out, VC is a dummy variable which takes the value of 1 if the IPO firm is VC-backed, BTM_Firm_{0t} is the average firm book to market ratio over the period from year 0 to year t , BTM_Industry_{0t} is the average industry book to market ratio over the period from year 0 to year t , and $\text{Average_Return}_{0t}$ is the average annual stock return of the firm over the period from year 0 to year t . The regression includes a constant term and year dummies which are not reported. For each independent variable, the first row reports its estimated coefficient and the second row the corresponding t-statistic. The t-statistics showing statistical significance at less than 5% are in bold.

	Cash_Acq00	Cash_Acq01	Cash_Acq02	Cash_Acq03	Cash_Acq04
Prim IPO Proceeds	0.0255	0.0567	0.0480	0.0477	0.1259
	2.4273	1.9485	1.0414	0.8200	1.1204
Prim Equity Capital	0.1442	0.7878	0.4575	0.4140	0.3669
	1.2517	11.1820	7.7271	8.1953	6.1361
Debt Capital	-0.0048	0.0080	0.3846	0.8030	0.8309
	-0.1405	0.1525	5.9176	10.3496	9.3315
Underpricing	-0.0036	-0.0038	0.0006	0.0097	0.0105
	-0.8828	-0.3419	0.0355	0.4717	0.3754
Ind Acq Activity	0.0131	0.0085	0.0205	0.0109	0.0066
	2.8645	1.5620	3.6229	2.3433	1.3823
Carveout	-0.0102	-0.0120	-0.0195	0.0206	0.0467
	-1.5216	-0.6583	-0.6671	0.5593	0.8891
VC	-0.0129	-0.0302	-0.0269	-0.0137	-0.0274
	-2.1980	-1.7992	-0.9668	-0.3755	-0.5160
BTM_F	0.0000	-0.0002	0.0001	0.0002	0.0002
	-0.3864	-0.2543	0.2254	0.1985	0.0838
BTM_I	0.0131	0.0677	0.0821	0.1707	0.1824
	0.9551	1.8434	1.3450	2.1841	1.6339
Avg_Ret	0.0000	0.0000	0.0000	0.0000	0.0000
	-0.1324	-0.0006	-0.0414	-0.0207	0.0172
Adjusted R ²	0.0561	0.2230	0.2605	0.4423	0.4587
N	789	649	545	444	355

Table VI
Stock-Financed Acquisitions by IPO firms

This table shows the results of the following OLS regression model

$$Y_{0t} = c_0 + c_1 \text{Prim_IPO_Proceeds} + c_2 \text{Secon_IPO_Proceeds} + c_3 \text{Prim_Equity_Capital}_{0t} \\ + c_4 \text{Secon_Equity_Capital}_{0t} + c_5 \text{Debt_Capital}_{0t} + c_6 \text{Underpricing} + c_7 \text{Ind_Acquisition_Activity}_{0t} \\ + c_8 \text{Carveout} + c_9 \text{VC} + c_{10} \text{BTM_Firm}_{0t} + c_{11} \text{BTM_Industry}_{0t} + c_{12} \text{Average_Return}_{0t} + \varepsilon$$

where the dependent variable Y_{0t} is the total value of stock-financed acquisitions from the IPO year to year t normalized by the market value of assets at the time of the IPO (MVA_{IPO}) with $t = 0, 1, 2, 3, 4$ denoting the number of years after the IPO. Prim_IPO_Proceeds (Secon_IPO_Proceeds) is the capital raised at the IPO from the sale of primary (secondary) shares normalized by MVA_{IPO} . Prim_Equity_Capital_{0t} (Secon_Equity_Capital_{0t}) is the amount of total primary (secondary) equity capital raised from year 0 to year t normalized by MVA_{IPO} . Debt_Capital_{0t} is the amount of total debt capital raised from year 0 to year t normalized by MVA_{IPO} . Underpricing is the price run-up in the first trading day after the IPO, Ind_Acquisition_Activity_{0t} is the total amount of industry acquisition activity from year 0 to year t normalized by the total market value of the firms in the industry, Carveout is a dummy variable which takes the value of 1 when the IPO is a carve-out, VC is a dummy variable which takes the value of 1 if the IPO firm is VC-backed, BTM_Firm_{0t} is the average firm book to market ratio over the period from year 0 to year t , BTM_Industry_{0t} is the average industry book to market ratio over the period from year 0 to year t , and Average_Return_{0t} is the average annual stock return of the firm over the period from year 0 to year t . The regression includes a constant term and year dummies which are not reported. For each independent variable, the first row reports its estimated coefficient and the second row the corresponding t-statistic. The t-statistics showing statistical significance at less than 5% are in bold.

	Stock_Acq00	Stock_Acq01	Stock_Acq02	Stock_Acq03	Stock_Acq04
Prim IPO Proceeds	-0.0083	0.0242	0.0256	-0.0370	-0.1579
	-0.5360	0.8005	0.3766	-0.4319	-0.8773
Secon IPO Proceeds	0.0800	0.0676	-0.0887	0.2004	-0.1696
	2.2870	0.9628	-0.5759	1.0473	-0.6311
Prim Equity Capital	0.1993	0.2602	0.1274	0.9620	0.8224
	1.1651	3.5950	1.4938	12.8952	8.5537
Secon Equity Capital	-0.1728	-0.1172	0.4830	0.4103	0.2181
	-1.1253	-0.8753	2.0638	1.5450	0.6185
Debt Capital	-0.0669	0.0297	-0.0592	-0.3000	0.2237
	-1.2145	0.4467	-0.5574	-2.2786	1.4018
Underpricing	0.0264	0.0357	0.0491	0.0558	0.0467
	4.4809	3.1671	1.9979	1.8570	1.0461
Ind Acq Activity	0.0166	0.0177	0.0157	-0.0071	0.0072
	2.4780	3.1462	1.9217	-1.0309	0.9429
Carveout	-0.0126	-0.0269	0.0054	-0.0233	-0.0493
	-1.2685	-1.4197	0.1277	-0.4297	-0.5895
VC	0.0026	-0.0113	0.0322	-0.0570	-0.0179
	0.3002	-0.6543	0.7991	-1.0537	-0.2097
BTM_F	0.0000	-0.0003	-0.0001	-0.0004	0.0002
	0.0709	-0.3905	-0.0663	-0.3080	0.0394
BTM_I	-0.0004	-0.0209	0.0158	-0.0933	-0.1668
	-0.0211	-0.5516	0.1794	-0.8142	-0.9428
Avg_Ret	0.0000	0.0000	0.0000	0.0000	0.0000
	-0.1822	0.2493	-0.0036	0.1244	0.0101
Adjusted R ²	0.0437	0.0811	0.0204	0.3387	0.3434
N	717	595	504	409	325

Table VII
Investment in R&D and CAPEX

This table shows the results of the following OLS regression model

$$Y_{0t} = c_0 + c_1 \text{Prim_IPO_Proceeds} + c_2 \text{Prim_Equity_Capital}_{0t} + c_3 \text{Debt_Capital}_{0t} + c_4 \text{Underpricing} \\ + c_5 \text{Ind_Acquisition_Activity}_{0t} + c_6 \text{Carveout} + c_7 \text{VC} + c_8 \text{BTM_Firm}_{0t} + c_9 \text{BTM_Industry}_{0t} \\ + c_{10} \text{Average_Return}_{0t} + \varepsilon$$

where the dependent variable Y_{0t} is the total expenditures in R&D and CAPEX from the IPO year to year t normalized by the market value of assets at the time of the IPO (MVA_{IPO}) with $t = 0, 1, 2, 3, 4$ denoting the number of years after the IPO. Prim_IPO_Proceeds is the capital raised at the IPO from the sale of primary shares normalized by MVA_{IPO} , Prim_Equity_Capital $_{0t}$ is the amount of total equity capital raised from year 0 to year t normalized by MVA_{IPO} , Debt_Capital $_{0t}$ is the amount of total debt capital raised from year 0 to year t normalized by MVA_{IPO} , Underpricing is the price run-up in the first trading day after the IPO, Ind_Acquisition_Activity $_{0t}$ is the total amount of industry acquisition activity from year 0 to year t normalized by the total market value of the firms in the industry, Carveout is a dummy variable which takes the value of 1 when the IPO is a carve-out, VC is a dummy variable which takes the value of 1 if the IPO firm is VC-backed, BTM_Firm $_{0t}$ is the average firm book to market ratio over the period from year 0 to year t , BTM_Industry $_{0t}$ is the average industry book to market ratio over the period from year 0 to year t , and Average_Return $_{0t}$ is the average annual stock return of the firm over the period from year 0 to year t . The regression includes a constant term and year dummies which are not reported. For each independent variable, the first row reports its estimated coefficient and the second row the corresponding t-statistic. The t-statistics showing statistical significance at less than 5% are in bold.

	R&D+CAPEX00	R&D+CAPEX01	R&D+CAPEX02	R&D+CAPEX03	R&D+CAPEX04
Prim IPO Proceeds	0.0935	0.1348	0.1701	0.1806	0.0772
	8.0149	5.6228	4.3587	2.6635	0.6605
Prim Equity Capital	0.0168	0.1967	0.1565	0.1172	0.0398
	0.1312	3.3901	3.1257	1.9891	0.6401
Debt Capital	0.0252	0.1149	0.2846	0.3559	0.5888
	0.6609	2.6613	5.1763	3.9338	6.3602
Underpricing	-0.0094	-0.0197	-0.0244	-0.0303	-0.0371
	-2.0989	-2.1742	-1.6856	-1.2688	-1.2694
Ind Acq Activity	-0.0264	-0.0295	-0.0313	-0.0318	-0.0289
	-5.1672	-6.5634	-6.5429	-5.8453	-5.7962
Carveout	0.0211	0.0456	0.0529	0.0880	0.0358
	2.8284	3.0385	2.1440	2.0496	0.6566
VC	0.0111	0.0245	0.0578	0.0942	0.1110
	1.7043	1.7763	2.4546	2.2178	2.0120
BTM_F	0.0000	0.0003	-0.0002	-0.0002	-0.0002
	0.5625	0.5840	-0.3347	-0.2001	-0.0761
BTM_I	0.0192	0.0434	0.1110	0.1750	0.2748
	1.2632	1.4348	2.1498	1.9210	2.3674
Avg_Ret	0.0000	0.0000	0.0000	0.0000	0.0000
	-0.3258	-0.4227	-0.4818	-0.4780	-0.5757
Adjusted R ²	0.1792	0.1587	0.1891	0.1335	0.2098
N	717	595	504	409	325

Table VIII
Change in Ownership of IPO Firms over Time

This table reports the mean and median of the percentage of shares owned by insiders over time. Year t with $t=1,2,3,4$ corresponds to the number of years after the IPO. Panel A gives the statistics for all IPO firms whereas Panel B (Panel C) gives them for IPO firms which have their total acquisition value above (below) the sample median of IPO firms. The t-statistics for comparison of means of the percentage of shares owned by insiders in year 1 and the percentage of shares owned by insiders in year 4 and the corresponding z-statistics of Wilcoxon signed-rank tests are reported for four groups of firms which are constructed according to whether firms have high or low acquisition activity and whether they survive at least two years. ***, ** and * indicate statistical significance at the 1%, 5% and 10% level, respectively.

Panel A: All Firms			
Year t	Number of Firms	Mean	Median
1	349	24.81	16.7
2	222	21.92	11.11
3	131	18.59	7.34
4	90	18.76	6.31
Panel B: Firms with High Acquisition Activity			
Year t	Number of Firms	Mean	Median
1	191	26.39	22.4
2	118	22.15	13.39
3	72	16.82	9.29
4	50	14.05	4.57
t-statistic	-3.30***		
z-statistic	-3.24***		
Panel C: Firms with Low Acquisition Activity			
Year t	Number of Firms	Mean	Median
1	158	22.89	13.55
2	104	21.65	6.13
3	59	20.74	3.95
4	40	24.64	10.22
t-statistic	0.38		
z-statistic	0.97		

Table IX
Factors Affecting the Change in Ownership of IPO Firms

The following probit model is estimated for the probability of a certain decrease in the percentage of shares owned by insiders

$$\begin{aligned} \Pr(\Delta Ownership_t = 1) = & \Phi(c_0 + c_1 Ownership_{t-1} + c_2 Cash_Acquisition_{t-1} + c_3 Stock_Acquisition_{t-1} + c_4 Secon_Equity_Capital_{t-1} \\ & + c_5 Underpricing + c_6 BTM_Firm_{t-1} + c_7 Return_Firm_{t-1} + c_8 Return_Market_{t-1} + c_9 Return_Industry_{t-1} \\ & + c_{10} TO_Float_{t-1} + c_{11} Carveout + c_{12} VC) \end{aligned}$$

where the dependent variable $\Delta Ownership_t$ takes a value of 1 if there is a drop in the percentage of shares owned by insiders of 1% (or 5% or 10%) or more in year t and takes a value of 0 otherwise, where $t = 1, 2, 3, 4$ denotes the number of years after the IPO and Φ denotes the standard normal distribution. $Ownership_{t-1}$ is the percentage of shares owned by insiders at the beginning of year t , $Cash_Acquisition_{t-1}$ ($Stock_Acquisition_{t-1}$) is the total value of cash-financed (stock-financed) acquisitions in year $t-1$ normalized by the market value of assets at the time of the IPO, $Secon_Equity_Capital_{t-1}$ is the amount of total secondary equity capital raised in year $t-1$ normalized by the market value of assets at the time of the IPO, $Underpricing$ is the price run-up in the first trading day after the IPO, BTM_Firm_{t-1} is the firm book to market ratio in year $t-1$, $Return_Firm_{t-1}$ is the annual stock return of the firm in year $t-1$, $Return_Market_{t-1}$ is the annual value-weighted market return in year $t-1$, $Return_Industry_{t-1}$ is the annual value-weighted industry return in year $t-1$, TO_Float_{t-1} is the average turnover of the firm's stocks in year $t-1$ computed by dividing the average volume by the float (number of shares outstanding minus number of shares held by insiders), $Carveout$ is a dummy variable which takes the value of 1 when the IPO is a carve-out, and VC is a dummy variable which takes the value of 1 if the IPO firm is VC-backed. In the OLS regressions the dependent variable is the change in the percentage of shares owned by insiders in year t with $t = 1, 2, 3, 4$ denoting the number of years after the IPO while the independent variables stay the same as in the probit regressions. $Change12$ and $Change23$ denote the change in ownership of insiders from the first year to the second year after the IPO and from the second year to the third year after the IPO, respectively. Pooled regressions use all firm-years which include changes in year $t=1, 2, 3, 4$ after the IPO. The regressions include a constant term which is not reported. For each independent variable, the first row reports its estimated coefficient and the second row the corresponding p-value. The p-values showing statistical significance at less than 5% are in bold.

Probit Regression									
	Drop in Ownership > 1%			Drop in Ownership > 5%			Drop in Ownership > 10%		
	Change12	Change23	Pooled	Change12	Change23	Pooled	Change12	Change23	Pooled
Ownership	2.2419 0.0001	1.4736 0.0178	2.0918 0.0001	2.6799 0.0001	2.1285 0.002	2.5812 0.0001	2.5806 0.0002	1.958 0.0223	2.5527 0.0001
Cash Acq	0.9654 0.388	7.0335 0.1558	0.7512 0.3297	1.9946 0.1067	-3.1148 0.5928	0.6158 0.4607	1.3689 0.2792	-18.5589 0.4737	0.2735 0.79
Stock Acq	3.7215 0.0186	2.1831 0.0337	1.0091 0.0238	4.6547 0.0059	1.5063 0.0328	0.9832 0.0328	2.8394 0.0703	1.6573 0.2034	0.3692 0.4727
Secun Equity	1.8445 0.3676	1.1417 0.4137	2.3912 0.0653	3.6764 0.1084	2.138 0.2555	3.98 0.0042	4.4722 0.0561	4.2469 0.4017	3.7701 0.0084
UP	0.1674 0.4038	1.0066 0.1084	0.2264 0.0598	0.0708 0.717	0.1245 0.8482	0.1532 0.1936	0.1878 0.3448	0.533 0.4745	0.2155 0.067
BTM_F	0.0322 0.8206	-0.1956 0.2118	-0.1037 0.1531	0.1667 0.3736	-0.1687 0.2835	-0.0493 0.5191	0.1652 0.3973	-0.1677 0.3428	-0.0389 0.6194
Ret_F	0.5108 0.011	0.253 0.3651	0.179 0.0037	0.9099 0.0001	0.0648 0.8319	0.1797 0.0039	0.5836 0.0169	0.1742 0.657	0.0073 0.4016
Ret_Mkt	-1.0512 0.1986	-2.5496 0.021	-1.5986 0.0008	-2.03 0.0334	-2.277 0.0843	-1.4723 0.0048	-0.3969 0.7021	-0.9092 0.5985	-0.9399 0.1137
Ret_Ind	0.3426 0.4492	0.1598 0.816	0.695 0.0036	0.234 0.6485	0.2987 0.709	0.4223 0.0947	0.4242 0.4599	-0.807 0.4485	0.5222 0.0614
TO_Float	1.3538 0.0268	0.8466 0.2227	0.0513 0.8139	2.1395 0.002	0.9365 0.1802	0.216 0.3384	1.6539 0.0119	1.3318 0.1041	0.3698 0.1038
Carveout	-0.0118 0.9703	-0.8174 0.0592	-0.3733 0.0485	0.4676 0.2511	-0.7373 0.2071	-0.0347 0.8793	0.8486 0.0663	-8.5249 0.9997	0.1708 0.5106
VC	0.4699 0.0767	0.1962 0.569	0.3705 0.0129	0.7605 0.0135	0.1592 0.672	0.5922 0.0003	1.2688 0.0004	-0.2677 0.5865	0.5462 0.0036
NOBS=1	70	35	181	51	21	124	33	12	79
NOBS=0	119	80	315	138	94	372	156	103	417

