

NBER WORKING PAPER SERIES

CORPORATE ACQUISITIONS, DIVERSIFICATION, AND THE FIRM'S LIFECYCLE

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Working Paper 17463  
<http://www.nber.org/papers/w17463>

NATIONAL BUREAU OF ECONOMIC RESEARCH  
1050 Massachusetts Avenue  
Cambridge, MA 02138  
September 2011

We thank Yeejin Jang and Robert Prilmeier for research assistance. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 17463  
September 2011  
JEL No. G3

### **ABSTRACT**

Lifecycle theories of mergers and diversification predict that firms make acquisitions and diversify when their internal growth opportunities become exhausted. Free cash flow theories make similar predictions. In contrast to these theories, we find that the acquisition rate of firms (defined as the number of acquisitions in an IPO cohort-year divided by the number of firms in that cohort-year) follows a u-shape through their lifecycle as public firms, with young and mature firms being equally acquisitive but more so than middle-aged firms. Firms that go public during the merger/IPO wave of the 1990s are significantly more acquisitive early in their public life than firms that go public at other times. Young public firms have a lower acquisition rate of public firms than mature firms, but the opposite is true for acquisitions of private firms and subsidiaries. Strikingly, firms diversify early in their life and there is a 41% chance that a firm's first acquisition is a diversifying acquisition. The stock market reacts more favorably to acquisitions by young firms than to acquisitions by mature firms except for acquisitions of public firms paid for with stock. There is no evidence that the market reacts more adversely to diversifying acquisitions by young firms than to other acquisitions.

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## 1. Introduction

Existing theories of firms going public and of acquisitions offer a rich set of hypotheses concerning the role of acquisitions during a firm's lifecycle. The first hypothesis is that firms go public when they have good internal investment opportunities, so that we would expect young firms to focus on organic growth rather than growth through acquisitions. With this hypothesis, the acquisition rate should increase over time. The second hypothesis is that firms make acquisitions, especially diversifying acquisitions, when they have exhausted their internal growth opportunities, so that we expect mature firms to be more active in acquisitions than young firms and this effect should be stronger for diversifying acquisitions. The third hypothesis is that corporate acquisitions are just another form of investment, so that firms that invest a lot make a lot of acquisitions. With this hypothesis, firms should make more acquisitions early in their life because young firms grow faster.<sup>1</sup> Fourth, to the extent that public firms can make acquisitions on better terms, perhaps because they can finance them more cheaply or because they can use their stock as a currency, we would observe a spike in acquisitions early in the life of firms because they would have postponed making acquisitions until they went public. Finally, if firms go public because the market overvalues them, this would lead them to make more stock acquisitions. In this paper, we examine key predictions of these different theories of the role of corporate acquisitions in the lifecycle of firms.

After excluding the firms that do not meet our data requirements, we have a sample of 6,548 firms that IPO from 1975 to 2002. We then follow these firms through time as long as they are listed, so that we can estimate the extent to which corporations make acquisitions at various stages of their lifecycle as public firms. The predictions of the theories we consider are predictions for the lifecycle of firms and, therefore, they should hold irrespective of the market conditions when firms go public. If we were to focus mostly on firm-year data, we would be giving most weight to IPOs in the years when the market is the most active, so that our results might just reflect the acquisition activity of firms that go public in the hottest markets. To avoid this problem, most of our analysis focuses on event years, where we define an event year as the year from the IPO, and average event-years across IPO cohorts.

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<sup>1</sup> See Clementi (2002) for a review of the evidence.

When we measure acquisition activity by the conditional acquisition rate for an event year, which we define as the ratio of the number of acquisitions for the firms in a cohort's event year divided by the number of firms from that cohort alive at the beginning of the event year averaged across IPO cohorts, we find that firms are most active in the corporate acquisition market in the year following their IPO. From the IPO onward, the conditional acquisition rate follows a u-shape, so that it is higher when firms are young (first three years after IPO) and when they are mature (more than ten years since IPO). While the conditional acquisition rate of young firms does not differ from the conditional acquisition rate of mature firms, young firms acquire fewer public firms than mature firms. However, irrespective of a firm's age, acquisitions of public firms represent a small minority of the acquisitions. Our evidence is consistent with the hypothesis that acquisitions and internal investment are complementary for young public firms. It is not supportive of the hypothesis that firms are most active in the market for acquisitions when their internal growth opportunities have shrunk. Further, there is no difference between young and mature firms in the extent to which they engage in diversifying acquisitions. There is therefore no support for theories that predict that firms diversify in their maturity when they have exhausted their internal growth opportunities.

There is a considerable literature that emphasizes the role of market conditions on a firm's decision to go public (for a review, see Ritter and Welch (2002)). According to that literature, firms are more likely to go public when valuations are high. As a result, there is clustering in going public decisions. We find that whether a firm goes public in a hot or a cold IPO market has no implications for how its propensity to make acquisitions changes as it ages. However, young firms acquire more relative to mature firms during the hot merger market of the 1990s. It is therefore not surprising that firms that IPOed in the 1980s typically have their highest acquisition rate later in life in contrast to firms that IPOed in the 1990s that have their highest acquisition rate in the first full calendar year of their life.

We examine more directly the spike in acquisitions that takes place in the first year after the IPO. We find that it is a spike in acquisitions of private firms, not public firms. Further, the spike in acquisitions is driven by cash acquisitions rather than stock acquisitions. There is no significant spike in equity-financed

acquisitions, so that the hypothesis that firms go public because of overvaluation and use their overvalued equity to make acquisitions is not supported. The acquisition spike is not concentrated in acquisitions within the acquirer's industry as there is a similar spike across diversifying and non-diversifying acquisitions.

With our approach, we focus on the conditional acquisition rate of firms of a given age as public firms. We examine, however, whether our results also hold if we use a different measure of the conditional acquisition rate, namely the total value of deals by firms of a given age divided by the assets held by firms of that age. This measure, which we call the conditional dollar acquisition rate, suffers from the problem that the value of the deal is unavailable for a large fraction of the deals. We find that firms spend more on acquisitions early in life, but this result is driven by the merger wave of the 1990s. If we exclude firms that are young during that merger wave, there is no difference between the spending on acquisitions for young and mature firms. When we compare the conditional dollar acquisition rate for young and mature firms, we find that young firms make more acquisitions of private firms and more related acquisitions than mature firms. Strikingly, the conditional dollar acquisition rate for diversifying acquisitions is not significantly different from the conditional dollar acquisition rate of related acquisitions for young or for mature firms. Finally, we also find that IPO firms with poor first-day returns experience more of a drop in acquisitions later in life than other IPO firms.

Throughout the paper we focus on the lifecycle of firms as public firms. An obvious issue with this approach is that our results might be due to firms that are young relative to their incorporation and young firms make more acquisitions. With this view, it would not make sense to start our analysis at the IPO and the role of the IPO in our analysis would be spurious. We examine this possibility by dividing firms at the IPO into age quintiles relative to incorporation. The spike at year one we document holds irrespective of the age relative to incorporation at the IPO. Similarly, we also find that young and mature firms have similar acquisition rates irrespective of the age since incorporation of firms when they go public. While the IPO firms that belong to the lowest quintile of age since incorporation acquire more when young than when mature, this result is completely driven by the IPO cohorts from 1995 to 2000.

Our evidence seems inconsistent with the view that firms make acquisitions when they have exhausted internal growth opportunities. However, it could still be the case that mature firms make acquisitions for that motive while young firms do not. To the extent that an acquisition announcement conveys information about a firm's growth opportunities when the firm is older but not when it is younger, we would expect a more adverse reaction to acquisitions by older firms. The literature has used this argument to explain the adverse stock-price reaction for the announcement of acquisitions of public firms paid for with equity (e.g., Moeller, Schlingemann, and Stulz (2004)). We find that, except for acquisitions of public firms paid for with equity, the stock-price reaction is more positive for younger firms. Lastly, the worst stock-price reaction occurs for acquisitions of public firms in the same industry paid for with stock. There is no difference in the stock-price reaction between such acquisitions made by young firms and made by mature firms.

The existing evidence shows that it is plausible that a reason for firms to go public is that it gives them an advantage in making corporate acquisitions as suggested by Lyandres, Zhdanov, and Hsieh (2008). However, the precise nature of this advantage is unclear. While the literature has focused on the acquisition rate, the post-IPO spike exists only for acquisitions of private firms and subsidiaries. The absence of a post-IPO spike for acquisitions of public firms requires a theory of the post-IPO acquisition spike that explains why young public firms have an advantage in acquiring private firms but not public firms. Further, as already discussed, IPO firms use cash to pay for acquisitions more than they use equity.

The neo-classical view of acquisitions is that they reallocate corporate assets to more productive uses. In this vein, Jovanovic and Rousseau (2002) develop a  $q$ -theory of investment. In their theory, investment can take place through capital expenditures as well as through acquisitions. High  $q$  firms make acquisitions because they have greater productivity that they can transfer to the acquired firm. Younger firms have higher  $qs$  as they go public. With this theory, we would therefore expect IPO firms to be active in the acquisition market. This theory does not explain, however, why the acquisition rate does not appear to differ between young and mature firms on average, why there is an initial IPO spike, and why this spike is focused on acquisitions of private companies.

A different literature focuses on the role of misvaluation in acquisition decisions by firms. With this literature, firms with high  $qs$  are more likely to be overvalued. Firms could time their IPOs to when the market is likely to overvalue them and engage in acquisitions using their overvalued equity. In particular, Shleifer and Vishny (2003) provide a model of acquisitions made by overvalued firms and empirical papers find evidence for a role of overvaluation in acquisition decisions and outcomes (e.g., Dong, Hirshleifer, Richardson, and Teoh (2006), Rhodes-Kropf, Robinson, and Viswanathan (2005)). However, we find that, for the acquisitions where the method of payment is known, more acquisitions are paid for with cash than with stock for both young and mature firms.

There is a large literature on the benefits and costs of corporate diversification. In neo-classical models, firms diversify when they have unique resources that can be applied to projects in different industries and when their prospects in their industry are no better than in another industry that they diversify into (see, for instance, Gomes and Livdan (2004), Maksimovic and Phillips (2001), Matsusaka (2001)). Maksimovic and Phillips (2001) provide tests that are supportive of this perspective. In their model, more efficient firms acquire assets and conglomerates sell their less productive assets following demand shocks in the industry of these assets. Maksimovic and Phillips (2002) find support for these ideas in a study of the market for corporate assets. If firms that undergo an IPO are more efficient firms, the existence of a spike in acquisitions would be consistent with their model. Their data source includes both private and public firms. For their approach to explain our results, public firms should have a productivity advantage over private firms since we find that young public firms have a much higher acquisition rate for private firms than they do for public firms. The model of Clementi (2002) could explain such an outcome. In that model, firms are capital-constrained and go public following a favorable productivity shock to raise more capital. In Gomes and Livdan (2004), firms diversify to take advantage of economies of scope and because “diversification allows a mature, slow-growing firm to explore attractive new productive opportunities.” Their model predicts that firms whose activities have a lower rate of return diversify. Such firms are not generally viewed to be firms that just had an IPO.

Alternatively, agency models also suggest that firms make diversifying acquisitions to maximize managerial rents when they have poor prospects in their industry (see, for instance, Jensen (1993)), but for such firms, acquisitions are not efficient. With these types of explanations for diversification, we would expect firms to make diversifying acquisitions later in their life since we would expect firms that go public to have good prospects. The evidence we uncover that firms make diversifying acquisitions throughout their life and that the rate at which they make such acquisitions does not appear to change much through their life seems to create a challenge for such models.

Other papers examine the extent to which young firms make acquisitions and find that young firms are extremely active and, even though our focus and approaches differ, our paper builds on these earlier contributions. In an important contribution, Celikyurt, Sevilir, and Shivdasani (2010) show that firms are very active acquirers immediately after their IPO using a sample of IPOs from 1985 to 2004. They find young firms to be more active in acquisitions than firms that are more than 5 years from their IPO. In contrast to them, we focus on the whole lifecycle of firms and investigate theories that pertain more to mature firms. Consequently, our focus is on a comparison of young firms to firms that are more than 10 years from their IPO. This focus leads us to have a different sample from theirs. First, we have IPOs since 1975. Such a sample allows us to track acquisitions for firms that are more than ten years from their IPO for twenty-one years. Second, we include all IPOs while they use IPOs with proceeds greater than \$100 million in 2004 dollars. A sample restricted to IPOs with proceeds greater than \$100 million would be a much smaller sample, so that earlier cohorts would be too thin when the firms reach maturity. More fundamentally, our approach differs from theirs in that we focus on cohort evidence rather than firm-level evidence. This is because our focus is on lifecycle predictions and these predictions should hold irrespective of when a firm IPOs, so that they should hold across cohorts. We can then test separately whether IPO and merger market conditions at the time of a cohort goes public affect the behavior of firms in that cohort over their lifecycle. Lyandres, Zhdanov, and Hsieh (2008) use a much longer sample to show the rate of acquisition of IPOs and how it relates to merger waves. The fact that they find that high



IPO intensity precedes merger waves suggests that the high acquisition intensity of IPO firms may be related to the degree of activity in the M&A merger market. Our evidence shows that this is the case.

Alimov and Mikkelson (2008) examine the investment behavior of firms that go public in favorable market conditions (defined as conditions where there is a high rate of firms going public and high valuations). They find that firms that IPO in these conditions tend to spend more on acquisitions. To the extent that high valuations are associated with an active merger market, our results would be consistent with theirs even though the conditions of the IPO market do not appear sufficient by themselves to predict the intensity of acquisition activity by IPO firms.

The paper proceeds as follows. In Section 2, we describe the construction of our sample of IPOs and of the acquisitions made by these firms. In Section 3, we show evidence on the rate of acquisition of firms as a function of their age. In Section 4, we examine in more detail the acquisition rate of young firms and contrast the acquisition behavior of firms immediately after their IPO to the acquisition behavior of more mature firms. In Section 5, we analyze the abnormal returns associated with acquisitions for young and mature firms. We conclude in Section 6.

## **2. Sample construction and description**

In this section, we describe how we construct our sample of IPOs and then how we obtain our sample of acquisitions made by the IPO firms. The population of firms and their deals are obtained using the SDC database maintained by Thompson Financial Database. The IPO sample includes 6,816 original US common stock offerings from 1975 to 2002, excluding unit issues, spinoffs, privatizations, reverse LBOs, rights issues, ADRs, closed funds and trusts, and REITs. 6,548 firms out of the 6,816 IPOs have unique PERM numbers, which allow us to get the data on stock prices from the CRSP database. By way of comparison, Celikyurt, Sevilir, and Shivdasani (2010) have 1,250 IPOs in their dataset from 1985 to 2004 that have proceeds greater than \$100 million in 2004 dollars. Our sample of IPOs is mostly the same as the sample made available by Professor Ritter on his website. The major exception is that we include all

industries in the sample used for the results reported in the tables, while he excludes regulated industries. We will also discuss results that exclude these industries.

Table 1 shows our sample of 6,548 IPO firms. It is not surprising in light of the existing evidence on IPOs that the number of IPOs varies substantially over time. As expected, we have a large number of IPOs in the second half of the 1990s. The period from January 1995 to December 2000 has 38.58% of our IPOs. Further, underpricing is highest in 1999 and 2000. There is a high attrition rate for the firms in our sample. Except for the IPOs since 1997, there is no IPO cohort that has a survival rate greater than 30% to the end of the sample period. For the IPO cohorts in the first ten years of the sample, all of them have a survival rate equal to or lower than 20%.

Through most of the paper, we focus on acquisition transactions where a firm attempts to acquire another firm, whether public or private, or a subsidiary of another firm, but we also discuss results for a sample of completed acquisitions.<sup>2</sup> The measure involving acquisition attempts may be a better measure of acquisitive activity by a firm since it measures actions under its control where it aims to acquire another firm. The measure involving completed acquisitions is a better measure of how a firm changes as a result of acquisitions. Acquisitions of private firms and subsidiaries are almost always completed. Consequently, a focus on acquisition attempts may bias the results towards a higher acquisition rate for mature firms since these firms focus more on acquiring public firms, which have a lower rate of completion. The sample of completed acquisitions is constructed as follows. We first eliminate all deals where we cannot ascertain that the acquirer owns less than 50% of the acquired firm before the acquisition announcement. Within this subset of acquisitions, we then keep only the acquisitions where we can ascertain that the acquirer owns 100% of the acquired firm after the acquisition. We call this sample the sample of completed acquisitions.

Acquisition transactions for these 6,548 firms are obtained from the SDC Mergers & Acquisitions database. Data on acquisitions is sparse before 1981. Therefore, we include only acquisitions announced from 1981 through 2006. We exclude repurchases, recapitalizations, and self-tenders. We include

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<sup>2</sup> In this paper, we use the term subsidiary acquisition to denote the acquisition of a subsidiary, division, or a branch.

acquisitions made by all IPO firms in our sample. Proceeding this way, we do not have data on acquisitions by IPOs before 1981 in the early years of these firms, but we have data on firms that are more than twenty-one years from their IPO that we would not have otherwise. A large number, 4,776, of 6,548 firms (73%) that had their IPO in the period from 1975 to 2002 engaged in at least one merger or acquisition transaction in 1981-2006.<sup>3</sup> These 4,776 firms had a total of 28,476 transactions with an average of 5.96 deals per firm, while 1,772 firms had no transaction recorded in this comprehensive database. SDC has information about acquisitions by the IPO firms that took place before these firms went public. We do not use that information in the following because it is not comprehensive. However, 1% of firms announced an acquisition on the same day as their IPO and we use that information.

### **3. The acquisition rate through the firm's lifecycle**

In this section, we investigate the conditional acquisition rate of firms through their lifecycle. Table 2 reports the conditional acquisition rate for each IPO cohort in event years, where the IPO is year 0. The conditional acquisition rate is defined as the number of acquisitions by firms from a cohort in an event year divided by the number of firms in that cohort that have survived until the beginning of that event year. It is therefore the average number of acquisitions per firm in a cohort in a fiscal year. We call this statistic the conditional acquisition rate in the remainder of the paper. In the table, year 0 is a partial year.

Table 2 shows the mean and median conditional acquisition rates for each year in the lifetime of a firm from year 0 to year 25. We cut off the early cohorts at year 25 because there are too few firms in each cohort after that year. Firms make acquisitions steadily through their life. No cohort with an IPO after 1978 has a year without acquisitions. The peak mean conditional acquisition rate is in year 1, the first full calendar year that a firm is public. The two highest median conditional acquisition rates are 0.58 in year 1 and 0.59 in year 22. The highest year 1 conditional acquisition rate is 1.87 for the 1997 cohort. Five cohorts have an average conditional acquisition rate that exceeds one in year 1. All these cohorts are in the second half of the 1990s when the M&A market was extremely active.

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<sup>3</sup> The SDC database for M&A transactions starts in 1979.

In Table 2, we show the year for each cohort when it has its highest conditional acquisition rate. The table shows a striking change in the peak year of the conditional acquisition rate. The cohorts in the 1970s and the 1980s have a peak acquisition rate in later years of their life. Until 1990, all peak year conditional acquisition rates are after year 5. All but two are in year 10 or later. After 1991, all cohorts have a peak conditional acquisition year before year 4 and almost all (9 out of 11) have a peak conditional acquisition rate year in year 1. The phenomenon of unusually high acquisitive activity by new firms is therefore one that holds for the 1990s but not earlier. It is well-known, however, that characteristics of IPO firms changed in the 1990s, in that new public firms were less well-established than they were earlier (see Fama and French (2004)). In particular, firms that went public before the 1990s were more likely to be profitable when they went public. Another important consideration is that the firms that went public in the 1990s faced a hot M&A market in their youth. We investigate the relevance of this last consideration in the next sub-section.

Looking at the evolution of the mean conditional acquisition rate after year 1, we see that it falls after year 1, reaching a minimum of 0.34 in year 5, and then increases again, so that the conditional acquisition rate of firms after year ten is more like the conditional acquisition rate of young firms than the conditional acquisition rate of firms in years 5 to 10. This pattern holds as well when we consider the median conditional acquisition rate. It follows from these observations that the conditional acquisition rate of firms through their lifecycle follows a u-shape pattern. It is high in a firm's youth, lower in its middle age, and high again when it reaches maturity. Our regression analysis in the next section finds that the conditional acquisition rate is significantly lower during these event years. Figure 1 shows the conditional acquisition rates in each event year for each IPO cohort. Though we do not reproduce the results in a table, we reach similar conclusions when we consider the sample of completed acquisitions.

So far, we have focused on the number of acquisitions made by IPO firms. The same number of acquisitions at different stages of a firm's life could have very different implications if in one event year the acquisitions are small and in the other they are large. Ideally, therefore, we would also examine the amounts spent on acquisitions by firms during their lifecycle. As already explained, however, SDC does

not report the consideration paid for a large fraction of acquisitions. For the acquisitions used in Table 2, the acquisition consideration is not available for 48.32% of the acquisitions. Nevertheless, we report results for the amount spent on acquisitions as a fraction of the assets owned by firms in a cohort at the beginning of the year in Table 3. To account for deals with no information, we construct the ratio using only the firms for which information on acquisition consideration is available for each acquisition they make and for which total assets is available at the beginning of the year. We call this statistic the conditional dollar acquisition rate. The rate is unbiased if the rate for the firms with incomplete or no information is the same as the rate for the firms with full information. Because we exclude firms that make acquisitions for which we do not have deal size information, some cohort years drop out in Table 3, so that the average for some event years involves fewer cohorts than in Table 2.

In Table 3, the mean conditional dollar acquisition rate is highest in year 2. The median conditional dollar acquisition rate is highest in year 1 and never reaches again a rate half as high as that rate after year 8. The mean conditional dollar acquisition rate is higher for young firms, but there are some years where older firms have a conditional dollar acquisition rate that is close to the mean of year 1. It is useful to note, however, that the high values of the dollar acquisition rate in years 1 and 2 are driven by extremely high conditional dollar acquisition rates in the second half of the 1990s. For instance, when we consider year 1, the peak conditional dollar acquisition rate is in 1999 and is more than three times the average. Similar results hold when we analyze the sample of completed acquisitions.

Though we do not report the results in a table, we also investigate the dollar amount spent by firms in a cohort at the firm level. Given that a firm makes acquisitions for which the consideration is known, the lifecycle pattern is similar for the median to the pattern for the cohort results of Table 3. The mean of the cohort medians exhibits more volatility, but it has more a u-shape pattern than the monotone declining pattern of the median.

Tables 2 and 3 show that no case can be made that mature firms are more acquisitive than young firms. Both tables show that firms on average have peak conditional acquisition rates early in life, but the exact timing of the peak is slightly different between the two tables. However, while there is a clear u-

shape pattern for the acquisition rate, the dollar acquisition rate is more variable, but is more consistent with a monotone decreasing rate through the firm's lifecycle. Though we do not reproduce the results in a table, all the conclusions we reach from the data in Tables 2 and 3 hold up if we restrict the sample to exclude financial firms and utilities.

Another way to investigate the acquisitive behavior of new firms is to look at the time that they make their first acquisition. We compute (but do not report in a table) the fraction of firms in a cohort that have their first acquisition in a given event year. We call this ratio the first-deal acquisition ratio. We find that the peak year of the first-deal acquisition ratio has changed over time. In the earlier years of our sample, the peak year of first deal acquisitions is later in the life of firms. After 1988, for all years but one, the peak year is year 1. On average, 27% of IPO firms have their first acquisition in year 1 and 58% of IPO firms have made an acquisition by the end of year 2. Surprisingly, 42% of first acquisitions are diversifying acquisitions.

#### **4. An examination of the acquisition rate of young and mature firms**

In this section, we first compare the acquisition behavior of young and mature firms. Throughout the paper we call young firms those firms that are in the first three complete calendar years after their IPO, and mature firms those that are in years 10 to 20 from their IPO. We also estimate multiple regression models that investigate the determinants of the conditional acquisition rate of young, middle-aged, and mature firms. In the second part of this section, we explore in greater detail the nature of the acquisition spike in year one. Finally, we investigate whether the results are explained by differences in the age since incorporation of firms that go public. Though we primarily focus on the conditional acquisition rate, we also report results for the conditional dollar acquisition rate as well. Throughout the section, we discuss results for the whole sample as well as for the completed acquisitions sample.

#### **4.1. Comparing the conditional acquisition rate of young and mature firms**

We now compare in Table 4 the conditional acquisition rate of young firms and mature firms. We construct the average conditional acquisition rate for young and mature firms by averaging across cohorts for an event year and then averaging across event years. Table 4 has results for the whole sample as well as for the sample of completed acquisitions.

There is no significant difference in the average conditional acquisition rate of young firms and the average conditional acquisition rate of mature firms. It is common in the IPO literature to distinguish between hot and cold IPO markets. The literature has a number of different ways to make that distinction. We use the approach of Helwege and Liang (2004). To define hot and cold IPO markets, they use the three-month moving average of the number of IPOs scaled by new business formations for each month. They define the top quartile of that measure to correspond to hot IPO months and the bottom tercile to correspond to cold IPO months. There is no difference in the acquisition activity between firms that go public in hot IPO markets versus firms that go public in cold IPO markets.

We consider next the relation between underpricing and the acquisition rate. If greater underpricing means that firms are more favored by the market, firms with more underpricing should command more resources and hence be able to carry out more acquisitions. Alternatively, if greater underpricing means that a firm received too little cash for its IPO, then we should see the opposite result. We show results for the conditional acquisition rate for quintiles of first-day returns, where the quintiles are computed within cohorts. We see that for both samples there is no difference in the acquisition rate between the various quintiles of first-day returns for young firms. However, there is some evidence that firms that have the lowest IPO first-day returns are less acquisitive when they become mature. Further, the conditional acquisition rate falls significantly for the firms in the lowest quintile of first-day returns, but not for the firms in the other quintiles. We also re-calculated the quintiles without dividing the sample into IPO cohorts and the results are qualitatively the same. To evaluate the relation between the level of mergers and acquisitions activity in the economy and the conditional acquisition rate of the IPO cohorts, we consider separately the merger/IPO wave years of the 1990s and the other years. We date the merger/IPO

wave from 1995, the year of the Netscape IPO, to 2000, the year of the collapse of the internet boom. We see that the difference between the conditional acquisition rate of young firms and mature firms is dramatic for the 1990s merger/IPO wave years. However, there is no difference between these conditional acquisition rates when these years are excluded. Further, the rate of acquisition activity of young firms is much higher during the 1990s merger/IPO wave years than in other years. There is no difference in these results between the sample of all acquisitions and the sample of completed acquisitions.

Figures 2 and 3 provide further importance on the importance of merger activity for the acquisitive behavior of IPO firms. In Figure 2, we plot the mean conditional acquisition rate per event year for the whole sample, for the event years during the merger/IPO wave of the 1990s, for the other years, as well as for whether a firm goes public in a hot or cold IPO market. Figure 3 shows the medians instead. It is extremely clear from these plots that there is a sharp difference in the acquisitive behavior of firms early in their public life if the market for acquisitions is very active or not.

Turning to the characteristics of the acquisitions, we first estimate a conditional acquisition rate for acquisitions in the firm's two-digit SIC code industry, which we call related acquisitions, as well as a conditional acquisition rate for other acquisitions, which we call diversifying acquisitions. We find that there is no difference in the extent to which mature firms make diversifying acquisitions compared to young firms. However, there is a significant difference in the extent to which mature firms make public acquisitions as mature firms make more public acquisitions than young firms. The fraction of acquisitions that are private firm acquisitions is lower for mature firms than for young firms. In contrast, mature firms acquire more subsidiaries than young firms. It is clear from the data presented about the organizational form of the target that acquisitions of public firms are a small minority of all acquisitions. Lastly, we consider how the acquisition is paid for. Young firms have a higher rate of acquisitions paid for with stock than mature firms. Not surprisingly, therefore, the fraction of acquisitions that are in cash is significantly higher for mature firms. It is important, however, not to forget that data on how acquisitions are paid for is missing for a majority of acquisitions. We investigate, but do not report in the table, whether the results for how acquisitions are paid for differ depending on whether a firm goes public in a



hot IPO market or a cold IPO market. We find that the proportion of acquisitions that are paid for with stock is significantly higher for firms that go public in a hot IPO market than for firms that go public in a cold IPO market.

We turn next to a comparison of the conditional dollar acquisition rate. We show the results in Table 5. The sample used for this table excludes all deals of firms with at least one missing transaction value. As for Table 4, we show results for all acquisitions and then for completed acquisitions only. There is no significant difference in the conditional dollar acquisition rate between young and mature firms for the whole sample, but there is a significant difference for the sample of completed acquisitions. Using the sample of completed acquisitions, mature firms spend less on acquisitions than young firms. However, young firms that go public in a hot market have a higher conditional acquisition rate than young firms that go public in a cold market. Further, the greater expenditure on acquisitions of young firms occurs only for young firms that go public in a hot market for the sample of completed acquisitions. We consider next the conditional dollar acquisition rate for the quintiles of first-day returns. As with the results for the conditional acquisition rate, we see that firms that have the lowest first-day return experience a stark drop in their conditional dollar acquisition rate when they mature. Finally, we again split the sample into the merger/IPO wave of the 1990s and the other years. Outside of the merger wave of the 1990s, there is no evidence that young firms acquire at a higher rate than mature firms.

Looking at the extent to which firms undertake diversifying acquisitions, we find that young firms spend more than old firms on related acquisitions, but not on diversifying acquisitions. Young firms spend much more on acquisitions of private firms than mature firms. There is no difference in the spending on acquisitions of public firms between young and mature firms. The conditional dollar acquisition rate is not significantly different for young and mature firms for different means of payments; however, the fraction of acquisitions financed with cash is significantly higher for mature firms than for young firms.

We investigate whether the results discussed so far in this section differ if we restrict the sample to exclude financial firms and utilities. There are no meaningful differences between the results.

We now use multiple regressions to understand how market characteristics as well as cohort characteristics affect cohort event-year conditional acquisition rates and dollar acquisition rates. The advantage of the regression framework is that we can evaluate the relation between conditional acquisition rates accounting for the correlations among explanatory variables of interest and that we can use continuous explanatory variables.

Table 6 shows regression estimates using cohort-event-year conditional acquisition rates as the dependent variable. We report results for the whole sample. Results for the completed acquisitions subsample are similar. We eliminate all cohort years with less than 20 firms. The first regression has a constant and two indicator variables. The indicator variables are one variable for whether the firms in the cohort are in the period of 4-9 years (middle-aged firms) after the IPO and one variable for whether the firms are more than ten years from their IPO. We use robust standard errors with clustering on IPO cohorts. We confirm that the conditional acquisition rate in event time follows a u-shape pattern. The intercept, corresponding to the conditional acquisition rate of young firms, is 0.5. The coefficient for mature firms is an insignificant -0.04, so that mature firms and young firms have the same conditional acquisition rate. However, the coefficient on middle-aged firms is -0.13 and is significant at the 5% level. Middle-aged firms are therefore less acquisitive than young and mature firms. We test explicitly for the u-shape pattern by comparing the acquisition rate of young versus middle-aged firms and middle-aged firms versus mature firms. We find significant differences at the 5% consistent with a u-shape.

The next regression adds an indicator for the hot merger/IPO market of 1995-2000 to regression (1). We find that the indicator variable is significant and positive in regression (2), but it does not change the inferences from regression (1). Instead of using the indicator variable for the hot merger/IPO market, we construct an index of M&A activity. The index is constructed by dividing the total number of acquisitions in SDC by the number of active firms in Compustat. That variable, in regression (3), is significant as well. However, adding that variable has no impact on the other coefficient estimates. In regression (4), we add indicator variables for whether the firm went public in a hot or cold IPO market to regression (2). These indicator variables are not significant. In regression (5), we add to regression (2) the lagged M&A index

and the mean first-day IPO return for the cohort. Neither of these variables is significant. However, these variables affect the coefficients of the first two indicator variables as their absolute value increases and the coefficient on mature firms becomes negative and significant. In regression (6), we add to regression (2) the variables we introduced in regressions (4) and (5). None of these variables are significant. For regression (7), we create an indicator variable for whether the index of M&A activity is above its sample average. In the regression, we add that index and interact it with the index for the age of the firm. While the index is not significant, there is now evidence that the higher conditional acquisition rate of young firms is due to the periods of intense M&A activity. In periods where M&A activity is below average, mature firms acquire more. Regression (7) has marginal evidence that multicollinearity might be a problem using the VIF index. Regression (8) is similar to regression (7) except we use an indicator variable for the merger/IPO boom of the second half of the 1990s instead of an indicator variable for the M&A index being above average. With this specification, multicollinearity is not a problem, but the inferences are the same as for regression (7).

We also estimated regressions like those of Table 6 for the dollar acquisition rate. These results are reproduced in Table 7. We find that middle-aged firms and mature firms spend less on acquisitions than young firms in regression (1). Not surprisingly, spending on acquisitions is much higher during the merger wave of the 1990s. Outside of high merger activity periods, young firms do not spend more on mergers than more mature firms.

#### **4.2. The conditional acquisition rate of firms up to year 4**

As discussed in Section 3, firms that go public in the 1990s have a spike in the conditional acquisition rate in the first year after the IPO. We examine the conditional acquisition rate by year for young firms. The intent is to understand how the conditional acquisition rate evolves for young firms as their IPO becomes more distant and whether this evolution differs depending on the state of the IPO market and of the M&A market.

Table 8 reports estimates of the conditional acquisition rate for years 0 to 4 for various subsamples. As in Tables 4 and 5, we report results for the whole sample as well as for the sample of completed acquisitions. The conditional acquisition rate in year 4 is 56.52% of the year 1 rate. A similar result holds for the completed acquisition sample. There is no significant difference in conditional acquisition rates between firms that go public in hot and cold markets in any of the first four years of their public life. The conditional acquisition rate in year 4 is 51.29% of the year 1 rate for hot market IPOs and 55.95% for cold market IPOs. However, the conditional acquisition rate falls significantly from year 1 to year 4 for acquisitions by firms that had their IPO in a hot market, but not by firms that had an IPO in a cold market.

The spike in year 1 holds for all quintiles of underpricing for the whole sample, but it is not significant for the first quintile. However, there is no significant difference in acquisition rates between the first and fifth quintile. Though we do not report the results in the table, we also investigate conditional acquisition rates for quintile of first-day returns computed across all acquisitions. We find similar results. Since underpricing varies across hot and cold markets, we investigate (but do not report in the table) the relation between underpricing and acquisition activity separately for hot and cold markets. We find no statistically significant difference in conditional acquisition rates across underpricing quintiles between firms that IPO in hot and cold markets.

In both samples, the year one spike is dramatic for the merger/IPO wave of the 1990s. The rate of acquisition in year one is more than three times higher during the merger/IPO wave. Not surprisingly, the rate of acquisition is significantly higher each year during the merger wave than in other years. Finally, the year one acquisition rate is significantly higher during the merger wave but not for the sample that excludes the years from the merger wave.

We turn next to the characteristics of the acquisitions of young firms. We discussed in the introduction the literature which suggests that firms make diversifying acquisitions as their investment opportunities disappear in their industry. There is a spike in the acquisition rate of diversifying acquisitions in year 1 as well. In year 1, firms have a conditional acquisition rate of 0.25 outside their industry. This rate falls over time so that the acquisition rate outside the industry is 0.16 in year 4. As a

proportion of the acquisitions, the fraction of diversifying acquisitions increases from year 1 to year 4, but not significantly. 39% of the acquisitions in year 1 are diversifying acquisitions when we use the whole sample of acquisitions; by year 4, 44% of the acquisitions are diversifying acquisitions. A similar result holds for the sample of completed acquisitions. To further buttress the point that firms make diversifying acquisitions early in life, it is striking that 40% of the acquisitions in the year of the IPO are diversifying acquisitions.

We saw earlier that young firms mostly acquire private firms and subsidiaries. For the sample as a whole, there is no evidence of a spike in year 1 for acquisitions of public firms. When we compare IPOs in hot and cold markets, we find similar results, though there is evidence of a spike in year 1 in the acquisition of public firms for IPOs in hot markets (not reported). Over time, acquisitions of public firms become more important as a fraction of all acquisitions because the acquisition rate falls for acquisitions of private firms and subsidiaries. It follows from this that the year 1 spike in acquisitions is driven by acquisitions of private firms and subsidiaries.

Lastly, we investigate the method of payment. When the data is available, cash is used more often than equity. However, the stock acquisition rate is not significantly higher in year one than it is in year 4. In contrast, the cash acquisition rate is. There is no evidence, therefore, that firms use their stock to pay for acquisitions more intensely early on in their life. The acquisition rate for stock acquisitions is 0.09 for hot market IPOs in year 1 and is 0.05 for cold market IPOs in the same year. However, the acquisition spike is not significant for stock acquisitions whether the firm went public in a hot market or a cold market.

We reproduce our analysis for the acquisition rate using the dollar acquisition rate, but do not show the results in a table. The sample is notably smaller, so that our statistical tests have limited power when we consider subsamples. There is no evidence of a year one spike with the sample of all acquisitions. In fact, the conditional dollar acquisition rate is the same for year 1 and year 4, 0.04. For the same sample, we find that the conditional dollar acquisition rate is significantly higher in years 2 and 3 for firms that IPO in a hot market than for firms that IPO in a cold market. Further, young firms spend significantly

more on acquisitions during the merger/IPO wave of the 1990s than in other years. Though firms make diversifying acquisitions early in their life, we find that they spend significantly more on acquisitions in their 2-digit SIC code. Finally, the fraction of the amount spent on acquisitions that is spent on private firms acquisitions falls significantly from year 1 to year 4, while the fraction of the amount spent on public acquisitions increases significantly. Though firms spend more on private firm acquisitions in year 1 than on public firm acquisitions, the ranking flips already in year 2. However, the differences in these fractions are never significant. The results are similar using the sample of completed acquisitions, but the significance is typically less as that sample is smaller.

#### **4.3. The influence of the age since incorporation`**

Throughout the paper so far, we have ignored the fact that firms that go public vary in age since incorporation. We now divide our IPO firms for which we have the year of incorporation into quintiles according to their age since incorporation at the IPO. Panel a of Table 9 shows the median age since incorporation for each of the quintiles. There is a surprisingly wide range of age since incorporation for the IPO firms. We turn next to an investigation of whether the conditional acquisition rate of firms since the IPO depends on the age of incorporation of firms. For that purpose, we show in Panel b of Table 9 the conditional rate of young and mature firms relative to their IPO for each of the quintiles of age since incorporation. We saw for the sample as a whole in Table 4 that there is no significant difference in the conditional acquisition rate of young and mature firms. This result (not tabulated) holds as well for each age since incorporation quintile except for the firms in the first quintile. We find evidence significant at the 10% level that young firms acquire more than mature firms if they are in the youngest quintile. However, this evidence is due entirely to the merger/IPO wave years. The last panel of the table looks at the spike in year 1. We find that the spike is significant for all age quintiles since incorporation except for the fourth quintile. However, once more, this result (not tabulated) is driven by the merger wave of the 1990s.

## 5. The market's reaction to acquisitions by young and mature firms

In this section, we investigate the stock-price reaction to acquisition announcements by young and mature firms. If firms make acquisitions because of a lack of growth opportunities, we expect an especially poor reaction to acquisitions by young firms since they just went public partly based on their investment opportunities. If young firms make acquisitions to exploit their growth opportunities because acquisitions are complementary to capital expenditures, there would be no reason for the market to react adversely to acquisitions.

We estimate abnormal returns as net-of-market returns over the window  $[-1,+1]$  around the first announcement date. Such an approach is especially appropriate for young firms since we do not have much data to estimate a market model. It is well-known from the literature that announcement returns differ by the type of target and by the method of payment.<sup>4</sup> In Table 10, we therefore provide announcement return estimates for acquisitions by young and mature firms across all combinations of type of target and method of payment. However, only a subset of acquisitions has information on the method of payment.

The first panel of the Table reports abnormal returns for all acquisitions. We see that for all acquisitions, young firms have higher abnormal returns than mature firms. When we consider different types of targets, we see that young firms have higher abnormal returns than mature firms for both acquisitions of private targets and acquisitions of subsidiaries. There is no difference in abnormal returns between young and mature firms for acquisitions of public firms. When we turn to acquisitions for which the method of payment information is available, we have a much smaller sample. The results are provided in the next panel of the Table. The results are similar to those of the first panel, but significance is lower.

We consider separately acquisitions paid for with cash and acquisitions paid for with equity. The results are provided in Table 11. Young firms experience higher abnormal returns than mature firms for acquisitions paid for with cash. Strikingly, young firms have higher abnormal returns than mature firms when they acquire public firms for cash. The same result holds for subsidiaries. However, there is no

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<sup>4</sup> See, for instance, Fuller, Netter, and Stegemoller (2002).

significant difference for acquisitions of private firms. When we turn to acquisitions paid for with stock, we find that for the whole sample of such acquisitions, young firms earn higher abnormal returns than mature firms. However, this result does not hold for acquisitions of public firms with stock. For these acquisitions, there is no difference for the mean abnormal return and for median young firms have lower abnormal returns than mature firms.

When we use the sample of all acquisitions, we find that young firms have higher abnormal returns for most types of acquisitions. The only case where there is any evidence that young firms have worse abnormal returns than mature firms is for acquisitions of public firms with stock. In that case, the evidence is present only for medians and not for means. We conduct the same investigation for the sample of completed acquisitions and reach similar, but less strong conclusions. We do not reproduce the results in a table. When we look at all acquisitions, young firms have significantly higher abnormal returns. This is also the case for acquisitions paid for with equity. However, few of the differences for subsamples are significant. Such an outcome might not be surprising as the sample of completed acquisitions is substantially smaller than the sample of all acquisitions.

In Table 11, we separate acquisitions into diversifying and related acquisitions. To the extent that firms diversify when they have poor internal growth opportunities, we would expect diversifying acquisitions to signal to the market that a firm does not have good internal growth opportunities. We saw that the only acquisitions by young firms to which the market reacts negatively are acquisitions of public firms paid for with stock. Strikingly, this result is due to related acquisitions. The market reacts more favorably to diversifying acquisitions by young firms paid for with stock than to related acquisitions. In contrast, the market reacts more adversely to related acquisitions of public firms paid for with stock than it does to diversifying acquisitions.

## **6. Conclusion**

In this paper, we investigate the acquisition behavior of IPO cohorts through their lifecycle. We find that the acquisition rate of IPO cohorts follows a u-shape: the acquisition rate is higher when firms are



young (their first three complete calendar years) and when they are mature (years ten to twenty) than when they are middle-aged (years four to ten). This pattern is heavily influenced by the intensity of activity in the acquisition market. During the merger/IPO of 1995 to 2000, young firms were dramatically more acquisitive than mature firms. In contrast, in other periods, mature firms are at least as acquisitive as young firms. However, young and mature firms differ in the type of acquisitions they make. Young firms make more acquisitions of private firms and fewer acquisitions of public firms relative to mature firms. Consequently, if one were to focus only on acquisitions of public firms, one would conclude that mature firms are more acquisitive than young firms. Any theory that explains why young firms are more acquisitive has to explain why this greater acquisition rate translates itself into more acquisitions of private firms than of public firms.

Theories of acquisitions in the lifecycle of firms that argue that firms become acquisitive and diversify because they run out of internal growth opportunities are inconsistent with the evidence we present. Not only do firms acquire intensely just after they go public, so that their first acquisition is at least as likely to be a diversifying acquisition than not, they even make diversifying acquisitions at roughly the same rate early in their life as they do when they mature. Further, if acquisitions are made because internal growth opportunities have vanished, we would expect the market to react adversely to acquisitions by young firms and especially diversifying ones. However, we show that the market generally reacts more positively to acquisitions by young firms. The exception to this result is that the market reacts poorly to acquisitions of public firms for equity irrespective of whether a firm is young or mature and reacts worst of all to the acquisition of related public firms paid for with equity.

**Table 1. IPO sample and rate of survival**

IPOs are identified using the SDC Global Issues Database. The IPO sample includes all initial public offerings in 1975-2002, and excludes reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisition deals of the IPO firms include all acquisitions in the SDC's M&A database for 1981-2006. Event Year refers to the deal year with respect to the IPO year, event year 0. The first three columns provide the IPO year, total number of IPOs in each IPO year, and the percentage of new IPOs in each IPO year compared to the total number of IPOs in the sample. IPO proceeds are reported by the SDC Global Issues Database and calculated as the total number of shares issued multiplied by the offer price. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). Total Assets (\$M) are reported by SDC and are measured before the IPO. All dollar values are reported in 2004 dollars using the CPI as a deflator. IPO total assets are available for 4,244 (63%). IPO underpricing is calculated for the 6,518 IPOs (out of 6,548) for which data are available. The post-IPO survival rate is calculated as the number of firms alive as of January 1<sup>st</sup> of the 5<sup>th</sup>, 10<sup>th</sup>, and 20<sup>th</sup> event year over the total number of IPO firms. The last two columns report the total number and percentage of IPO firms that survived until the end of the sample period, January 1st, 2007.

IPO Year	Total # of IPOs		Median IPO Proceeds (\$M)	Median IPO Underpricing (%)	Median IPO Total Assets (\$M)	Survival Rate							
						January 1st of Event Year			End of Sample Period in Calendar Year (January 1st, 2007)				
						Year 5	Year 10	Year 20					
1975	5	0.08%	57.93	4.38		4	80%	3	60%	3	60%	1	20%
1976	32	0.49%	18.43	0.56		27	84%	12	38%	9	28%	4	13%
1977	22	0.34%	12.62	6.63		15	68%	7	32%	5	23%	2	9%
1978	28	0.43%	15.79	19.17		22	79%	16	57%	7	25%	2	7%
1979	52	0.79%	17.43	6.25		48	92%	29	56%	14	27%	8	15%
1980	99	1.51%	11.46	12.50		85	86%	58	59%	21	21%	13	13%
1981	236	3.60%	12.47	3.71		195	83%	119	50%	49	21%	36	15%
1982	82	1.25%	9.79	5.77		59	72%	37	45%	18	22%	13	16%
1983	477	7.28%	18.97	4.03	1.71	387	81%	224	47%	80	17%	59	12%
1984	218	3.33%	10.73	1.47		162	74%	94	43%	36	17%	30	14%
1985	212	3.24%	15.10	3.96	23.70	165	78%	98	46%	31	15%	24	11%
1986	451	6.89%	18.61	2.88	41.62	364	81%	243	54%	86	19%	79	18%
1987	315	4.81%	16.63	2.50	24.44	231	73%	157	50%	51	16%	51	16%
1988	134	2.05%	19.16	2.73	63.07	103	77%	66	49%			31	23%
1989	117	1.79%	24.07	5.00	29.40	96	82%	60	51%			28	24%
1990	103	1.57%	24.28	7.69	24.14	86	83%	54	52%			25	24%
1991	225	3.44%	34.95	9.82	28.85	196	87%	110	49%			66	29%
1992	295	4.51%	30.29	4.84	24.91	236	80%	138	47%			86	29%
1993	434	6.63%	32.29	6.93	35.56	348	80%	177	41%			125	29%
1994	359	5.48%	28.04	4.69	25.24	281	78%	125	35%			86	24%
1995	431	6.58%	37.93	14.88	25.04	283	66%	143	33%			120	28%
1996	641	9.79%	37.56	10.00	19.62	383	60%	179	28%			164	26%
1997	426	6.51%	37.07	9.74	23.24	261	61%	131	31%			131	31%
1998	269	4.11%	40.68	9.09	32.45	165	61%					98	36%
1999	432	6.60%	68.03	38.54	31.29	239	55%					160	37%
2000	327	4.99%	43.88	26.61	64.39	199	61%					155	47%
2001	63	0.96%	67.30	13.00	158.07	50	79%					44	70%
2002	63	0.96%	89.25	6.33	172.94	42	67%					42	67%
Total	6,548	100.00%				4732	72%	2280	35%	410	6%	1683	26%
Median Values Across IPO cohorts			24.18	6.29	28.85	165	78%	98	47%	21	21%	43	24%

**Table 2. Conditional acquisition rate by cohort**

IPOs are identified using the SDC Global Issues Database. The IPO sample includes all initial public offerings in 1975-2002, and excludes reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisition deals of the IPO firms include all acquisitions in the SDC M&A database for 1981-2006. Event year refers to the deal year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions in a year divided by the number of firms alive at the beginning of that year. Firms' delisting information is obtained from the CRSP database.

IPO Year	Total # of IPOs	Total # of deals	Event year																							Mean conditional acquisition rate of cohort	Median conditional acquisition rate of cohort			
			0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22			23	24	25
1975	5	18							0.00	0.00	0.50	0.00	0.00	0.00	0.33	0.33	1.00	0.00	0.33	0.33	0.33	0.00	0.00	0.00	<b>0.67</b>	0.50	0.00	0.217	0.000	
1976	32	68						0.04	0.04	0.19	0.20	0.00	0.33	0.00	0.10	0.10	0.22	0.67	0.11	0.33	0.67	<b>0.22</b>	0.67	0.44	<b>1.13</b>	0.57	0.60	0.00	0.316	0.222
1977	22	80				0.12	0.00	0.00	0.11	0.00	0.25	0.43	0.83	1.17	0.40	1.20	0.20	0.60	1.20	0.40	<b>2.00</b>	1.20	0.80	1.00	0.50	0.25	0.33	0.590	0.414	
1978	28	81			0.00	0.08	0.18	0.55	0.16	0.11	0.28	0.50	0.53	0.57	0.00	0.33	0.44	0.11	0.33	0.75	0.25	0.57	0.00	<b>0.83</b>	0.00	0.00	0.00	0.286	0.250	
1979	52	200		0.06	0.20	0.22	0.25	0.14	0.08	0.34	0.23	0.24	0.38	0.46	0.52	0.55	0.50	0.55	0.67	0.44	0.69	<b>0.93</b>	0.38	0.08	0.40	0.60	0.40	0.388	0.392	
1980	99	286	0.06	0.12	0.22	0.13	0.06	0.12	0.09	0.11	0.23	0.21	0.22	0.29	0.43	0.23	0.26	0.47	0.33	0.59	<b>0.63</b>	0.43	0.56	0.56	0.41	<b>0.63</b>	0.50	0.315	0.257	
1981	236	750	0.02	0.18	0.31	0.20	0.04	0.09	0.10	0.08	0.25	0.22	0.25	0.19	0.25	0.43	0.43	0.38	0.60	0.59	0.63	0.50	0.33	0.36	0.62	0.68	<b>0.83</b>	0.72	0.357	0.319
1982	82	225	0.04	0.35	0.27	0.08	0.16	0.19	0.09	0.15	0.31	0.32	0.38	0.24	0.31	0.23	0.19	0.32	0.33	0.27	0.16	0.16	0.28	0.50	0.44	<b>0.53</b>	0.14	0.257	0.266	
1983	477	1,383	0.13	0.26	0.13	0.15	0.09	0.12	0.18	0.21	0.23	0.30	0.38	0.35	0.42	0.41	<b>0.60</b>	0.55	0.41	0.28	0.26	0.20	0.33	0.41	0.47	0.30	0.298	0.289		
1984	218	769	0.17	0.06	0.13	0.14	0.11	0.20	0.15	0.26	0.31	0.43	0.41	0.51	0.70	0.49	0.78	0.73	0.75	0.65	0.53	0.70	<b>1.06</b>	0.66	0.82		0.467	0.486		
1985	212	564	0.03	0.15	0.13	0.14	0.23	0.31	0.21	0.29	0.20	0.23	0.30	0.37	0.39	0.49	0.33	0.29	0.21	0.32	0.32	0.63	0.58	<b>0.72</b>			0.312	0.294		
1986	451	2,228	0.06	0.23	0.25	0.33	0.29	0.28	0.35	0.45	0.49	0.55	0.57	0.62	0.57	0.89	0.67	0.46	0.43	0.64	0.55	0.99	<b>1.20</b>				0.517	0.491		
1987	315	1,186	0.06	0.19	0.26	0.26	0.37	0.33	0.36	0.53	0.48	0.54	0.52	<b>0.69</b>	0.34	0.53	0.37	0.32	0.46	0.36	0.27	0.36					0.379	0.363		
1988	134	557	0.06	0.42	0.32	0.32	0.45	0.45	0.49	<b>0.62</b>	0.46	0.58	0.27	0.39	0.36	0.49	0.33	0.32	0.31	0.21	0.26						0.375	0.364		
1989	117	685	0.13	0.58	0.52	0.45	0.55	0.61	0.69	0.51	0.51	0.52	0.47	0.59	0.54	0.50	0.62	0.67	0.66	<b>0.83</b>							0.552	0.544		
1990	103	678	0.51	0.88	0.76	0.40	0.46	0.47	0.65	0.54	0.63	0.81	<b>1.02</b>	0.28	0.36	0.32	0.80	0.73	1.00								0.624	0.625		
1991	225	1,250	0.18	0.71	0.64	<b>0.75</b>	0.72	0.50	0.55	0.53	0.42	0.44	0.36	0.33	0.27	0.45	0.47	0.49									0.488	0.483		
1992	295	1,834	0.37	<b>0.79</b>	0.73	0.62	0.785	0.70	0.63	0.73	0.47	0.46	0.40	0.47	0.52	0.71	0.55										0.596	0.619		
1993	434	2,082	0.29	<b>0.72</b>	0.60	0.60	0.67	0.56	0.51	0.49	0.33	0.38	0.33	0.30	0.36	0.60											0.481	0.501		
1994	359	1,991	0.35	0.96	<b>1.02</b>	0.88	0.87	0.55	0.47	0.38	0.34	0.38	0.50	0.36	0.59												0.589	0.496		
1995	431	2,006	0.39	<b>1.27</b>	1.02	0.74	0.47	0.37	0.25	0.24	0.30	0.30	0.40	0.49													0.518	0.392		
1996	641	3,093	0.58	<b>1.41</b>	1.06	0.68	0.41	0.33	0.32	0.42	0.48	0.55	0.45														0.609	0.484		
1997	426	2,226	0.71	<b>1.87</b>	1.03	0.49	0.32	0.34	0.45	0.48	0.66	0.57															0.691	0.530		
1998	269	1,535	1.13	<b>1.62</b>	0.83	0.49	0.58	0.59	0.76	0.61	0.73																0.816	0.731		
1999	432	1,615	0.68	<b>1.35</b>	0.46	0.32	0.35	0.48	0.62	0.65																	0.613	0.549		
2000	327	707	0.48	<b>0.52</b>	0.39	0.31	0.31	0.32	0.28																		0.371	0.317		
2001	63	202	0.25	<b>0.79</b>	0.77	0.66	0.54	0.44																			0.575	0.596		
2002	63	177	0.30	0.54	0.66	<b>0.94</b>	0.76																				0.641	0.655		
Total	6,548	28,476																												
Mean conditional acquisition rate for event year			0.31	0.69	0.52	0.41	0.39	0.34	0.35	0.35	0.37	0.37	0.40	0.39	0.43	0.44	0.50	0.49	0.44	0.49	0.44	0.59	0.63	0.44	0.59	0.45	0.44	0.28		
Median conditional acquisition rate for event year			0.27	0.58	0.49	0.33	0.36	0.33	0.33	0.38	0.34	0.38	0.39	0.37	0.38	0.45	0.45	0.46	0.44	0.33	0.42	0.50	0.58	0.44	0.59	0.50	0.55	0.33		
Number of IPO cohorts			22	23	24	25	26	26	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7		

**Table 3. Conditional dollar acquisition rate**

IPOs are identified using the SDC Global Issues Database. The IPO sample includes all initial public offerings in 1975-2002 and excludes reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms include all acquisitions in the SDC M&A database for 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional dollar acquisition rate is the ratio of the total consideration paid by all firms in an IPO cohort for all their deals during the event year divided the total assets of the firms in that cohort at the beginning of the event year. Firms with missing transaction values are excluded from both the numerator and the denominator. Deal size is reported by SDC as the transaction value, and the total asset value is obtained from the COMPUSTAT/CRSP merged database maintained by WRDS.

IPO Year	Event year																									Mean conditional dollar acquisition rate of cohort	Median conditional dollar acquisition rate of cohort	
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			25
1975														0.021	0.233	0.190		0.023		0.005							0.094	0.023
1976						0.001	0.007		0.003					0.006	0.006	0.006		0.004		0.018	0.061	0.012			0.001		0.011	0.006
1977				0.019					0.011							0.002		0.126			0.044	0.016	0.042	0.005	0.002	0.023	0.029	0.017
1978				0.004	0.001	0.063			0.004	0.0002	0.076				0.001		0.0001			0.242	0.004						0.039	0.004
1979			0.010	0.001	0.003	0.013	0.003		0.007	0.014		0.001	0.001	0.004	0.002	0.004	0.003	0.0003		0.106	0.002	0.020	0.0001	0.0003		0.007	0.010	0.003
1980		0.007	0.022	0.010	0.017	0.003	0.070	0.004	0.012	0.019	0.002	0.019	0.003	0.009	0.022	0.009	0.005	0.081	0.264	0.068	0.0002	0.031	0.001	0.017	0.054	0.018	0.031	0.017
1981	0.011	0.033	0.054	0.083	0.014	0.017	0.095	0.036	0.055	0.030	0.009	0.008	0.004	0.020	0.006	0.018	0.043	0.050	0.003	0.026	0.008	0.002	0.009	0.002	0.006	0.007	0.025	0.015
1982		0.166	0.020	0.086	0.086	0.052	0.001	0.001	0.007	0.010	0.016	0.012	0.044	0.005	0.001	0.002	0.044	0.027	0.0002	0.007	0.011	0.029	0.027		0.072	0.032	0.016	
1983	0.036	0.007	0.021	0.009	0.005	0.010	0.009	0.001	0.001	0.002	0.005	0.004	0.013	0.014	0.003	0.004	0.002	0.034	0.046	0.004	0.004	0.004	0.012	0.010		0.011	0.006	
1984	0.073	0.023	0.037	0.035	0.040	0.008	0.007	0.004	0.009	0.020	0.008	0.007	0.010	0.166	0.049	0.015	0.014	0.005	0.001	0.001	0.011	0.022	0.027			0.026	0.014	
1985	0.002	0.009	0.007	0.012	0.004	0.006	0.002	0.001	0.032	0.003	0.007	0.006	0.009	0.006	0.010	0.007	0.011	0.004	0.002	0.037	0.00001	0.012				0.009	0.006	
1986	0.010	0.016	0.018	0.015	0.008	0.011	0.004	0.015	0.016	0.007	0.008	0.008	0.015	0.006	0.005	0.003	0.001	0.002	0.001	0.016	0.005					0.009	0.008	
1987	0.033	0.008	0.011	0.010	0.041	0.008	0.005	0.024	0.017	0.012	0.034	0.020	0.041	0.058	0.098	0.019	0.013	0.003	0.002	0.003						0.023	0.015	
1988	0.008	0.076	0.023	0.013	0.039	0.019	0.064	0.021	0.042	0.098	0.158	0.011	0.004	0.035	0.007	0.008	0.006	0.004	0.064							0.037	0.021	
1989	0.021	0.015	0.074	0.015	0.018	0.039	0.067	0.052	0.029	0.191	0.004	0.025	0.008	0.046	0.013	0.042	0.008	0.029								0.039	0.027	
1990	0.065	0.026	0.042	0.005	0.032	0.029	0.012	0.007	0.016	0.035	0.020	0.015	0.029	0.016	0.004	0.004	0.007									0.021	0.016	
1991	0.003	0.034	0.029	0.050	0.052	0.037	0.011	0.027	0.008	0.019	0.031	0.006	0.050	0.021	0.017	0.007										0.025	0.024	
1992	0.003	0.014	0.013	0.045	0.026	0.023	0.008	0.007	0.005	0.009	0.004	0.047	0.006	0.012	0.018											0.016	0.012	
1993	0.019	0.038	0.047	0.048	0.090	0.110	0.053	0.042	0.025	0.027	0.013	0.032	0.008	0.039												0.042	0.038	
1994	0.013	0.048	0.073	0.081	0.043	0.040	0.044	0.024	0.032	0.020	0.019	0.018	0.241													0.053	0.040	
1995	0.028	0.056	0.119	0.038	0.018	0.043	0.230	0.007	0.017	0.008	0.012	0.021														0.050	0.025	
1996	0.015	0.055	0.069	0.064	0.062	0.031	0.032	0.018	0.028	0.012	0.020															0.037	0.031	
1997	0.009	0.102	0.242	0.048	0.032	0.032	0.014	0.013	0.073	0.013																0.058	0.032	
1998	0.035	0.077	0.175	0.055	0.052	0.021	0.026	0.024	0.074																	0.060	0.052	
1999	0.073	0.145	0.022	0.007	0.004	0.009	0.003	0.008																		0.034	0.008	
2000	0.025	0.034	0.012	0.021	0.007	0.006	0.008																			0.016	0.012	
2001	0.0001	0.003	0.007	0.003	0.009	0.003																				0.004	0.003	
2002	0.033	0.027	0.053	0.045	0.232																					0.078	0.045	
Mean conditional dollar acquisition rate for event year	0.025	0.044	0.050	0.033	0.037	0.023	0.035	0.017	0.024	0.027	0.021	0.019	0.030	0.028	0.029	0.021	0.012	0.028	0.043	0.044	0.014	0.017	0.017	0.007	0.027	0.014		
Median conditional dollar acquisition rate for event year	0.019	0.033	0.026	0.028	0.023	0.017	0.012	0.014	0.017	0.013	0.010	0.013	0.009	0.016	0.007	0.007	0.007	0.014	0.002	0.017	0.005	0.016	0.012	0.005	0.006	0.013		
Number of IPO cohorts	21	23	24	24	26	25	24	20	21	21	18	18	16	17	17	16	13	14	9	12	11	9	7	5	5	4		

**Table 4. Conditional acquisition rate of young versus mature firms.**

IPO data and acquisition deals are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisitions announced in 1981-2006. Event year refers to the year relative to the IPO year, which is event year 0. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom denotes the period from 1995 to 2000. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). The IPO underpricing quintiles are obtained using the sub-sample of 6,518 IPOs (out of 6,548) for which we have data. The method of payment is reported by SDC for deals that are classified as having disclosed the details of the transactions. The target's organizational form is classified using the data available in SDC into private, public, subsidiary, and unknown. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively. The tests of means use a t-statistic and the tests of proportions use a z-statistic.

	All acquisitions			Completed acquisitions		
	[1]	[2]	Test of means [1]-[2]	[1]	[2]	Test of means [1]-[2]
	Young	Mature		Young	Mature	
Event years	1-3	10-20		1-3	10-20	
Total number of acquisitions	11,378	5,247		11,378	5,247	
Total number of completed acquisitions for which the buyer had less (more) than 50% of the target before (after) the deal				7,974	3,683	
Mean [Firms alive as of January 1st of event year]	6,251	923		6,251	923	
Mean conditional acquisition rate	0.52 <sup>a</sup>	0.47 <sup>a</sup>	0.69	0.37 <sup>a</sup>	0.33 <sup>a</sup>	0.63
IPO year --Mean conditional acquisition rate						
[1] Hot	0.57	0.47	1.00	0.41	0.36	0.55
[2] Cold	0.47	0.42	0.39	0.35	0.32	0.29
Neutral	0.54	0.51	0.23	0.35	0.35	0.04
		Test of means: [1]-[2]		0.54	0.66	
IPO return quintiles --(IPO cohort) Mean conditional acquisition rate						
1	0.52	0.34	2.12 <sup>b</sup>	0.38	0.23	2.08 <sup>b</sup>
2	0.51	0.47	0.57	0.36	0.32	0.57
3	0.49	0.35	1.55	0.34	0.23	1.68 <sup>c</sup>
4	0.55	0.64	-0.67	0.38	0.43	-0.44
5	0.52	0.51	0.11	0.36	0.34	0.25
		Test of means:[1]-[5]		0.20	-2.28 <sup>b</sup>	
Acquisition year --Mean conditional acquisition rate						
[1] Merger/IPO boom 1995-2000	0.99	0.57	3.70 <sup>a</sup>	0.70	0.38	4.07 <sup>a</sup>
[2] Other	0.41	0.45	-0.78	0.29	0.34	-0.83
		Test of means: [1]-[2]		5.12 <sup>a</sup>	0.94	
Relatedness--Mean conditional acquisition rate						
[1] Not in the same 2-digit SIC	0.20	0.21	-0.28	0.14	0.14	-0.32
[2] In the same 2-digit SIC	0.32	0.26	1.28	0.23	0.18	1.28
		Test of proportions: [1]-[2]		-0.85	-0.35	
Target's status--Mean conditional acquisition rate						
[1] Private	0.33	0.25	1.47	0.24	0.19	1.24
[2] Public	0.04	0.05	-2.39 <sup>b</sup>	0.02	0.03	-2.64 <sup>b</sup>
[3] Subsidiary	0.14	0.15	-0.37	0.10	0.10	-0.01
		Test of proportions: [1]-[2]		2.29 <sup>b</sup>	1.65 <sup>c</sup>	
		Test of proportions: [1]-[3]		1.26	0.79	
		Test of proportions: [2]-[3]		-1.21	-0.95	
Method of payment--Mean conditional acquisition rate						
[1] Cash	0.13	0.15	-0.73	0.10	0.11	-0.39
[2] Stock	0.06	0.04	1.96 <sup>c</sup>	0.05	0.03	2.00 <sup>c</sup>
Both	0.03	0.02	1.86 <sup>c</sup>	0.02	0.01	1.63
Unknown	0.30	0.26	0.82	0.20	0.18	0.65
		Test of proportions: [1]-[2]		0.69	1.00	
Relatedness--Mean [Fraction of acquisitions]						
[1] Not in the same 2-digit SIC	0.41	0.45	-1.01	0.40	0.44	-0.80
[2] In the same 2-digit SIC	0.59	0.55	1.01	0.60	0.56	0.80
		Test of proportions: [1]-[2]		-1.33	-0.84	
Target's status--Mean [Fraction of acquisitions]						
[1] Private	0.61	0.54	2.55 <sup>a</sup>	0.62	0.57	1.82 <sup>c</sup>
[2] Public	0.10	0.12	-1.25	0.07	0.10	-2.77 <sup>a</sup>
[3] Subsidiary	0.27	0.33	-2.44 <sup>b</sup>	0.29	0.32	-1.22
		Test of proportions: [1]-[2]		4.03 <sup>a</sup>	3.25 <sup>a</sup>	
		Test of proportions: [1]-[3]		2.31 <sup>b</sup>	1.62	
		Test of proportions: [2]-[3]		-1.99 <sup>b</sup>	-1.77 <sup>c</sup>	
Method of payment--Mean [Fraction of acquisitions]						
[1] Cash	0.24	0.33	-3.02 <sup>a</sup>	0.24	0.33	-2.92 <sup>a</sup>
[2] Stock	0.11	0.09	1.44	0.12	0.10	1.30
Both	0.04	0.03	1.04	0.04	0.04	0.47
Unknown	0.61	0.55	1.48	0.59	0.53	1.48
		Test of proportions: [1]-[2]		1.02	1.79 <sup>c</sup>	

**Table 5. Conditional dollar acquisition rates of young versus mature firms.**

IPO data and acquisition deals are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisition deals announced in 1981-2006. Event year refers to year with respect to the IPO year, event year 0. The conditional dollar acquisition rate is the ratio of all considerations paid for acquisitions of a given type in a year divided by the total assets of the firms alive at the beginning of that year. The transaction size ratio is the dollar value of acquisitions with a given characteristics divided by the dollar amount of acquisitions. Acquisition size is reported by SDC as the transaction value, and the total asset value is obtained from the COMPUSTAT/CRSP merged database maintained by WRDS. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom denotes the period from 1995 to 2000. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). The IPO underpricing quintiles are obtained using the sub-sample of 6,518 IPOs (out of 6,548) for which we have data. The method of payment is reported by SDC for deals that are classified as having disclosed the details of the transactions. The target's organizational form is classified using the data available in SDC into private, public, subsidiary, and unknown. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively. The tests of means use a t-statistic and the tests of proportions use a z-statistic.

	All acquisitions			Completed acquisitions		
	[1]	[2]	Test of	[1]	[2]	Test of
			means			means
	[1]-[2]			[1]-[2]		
Young	Mature		Young	Mature		
1-3	10-20		1-3	10-20		
Total number of deals	11,378	5,247				
Total number of acquisitions (excluding all deals by firms with at least one missing transaction value)	3,896	1,611		3,896	1,611	
Percent of deals (excluding all deals by firms with at least one missing transaction value)	34%	31%				
Total number of completed deals where percent owned after (before) the deals is less (more) than 50%, excluding all deals of firms with at least one missing transaction value				2,913	1,151	
Percent of completed deals where percent owned after (before) the deals is less (more) than 50%, excluding all deals of firms with at least one missing transaction value				75%	71%	
Mean conditional dollar acquisition rate	0.04	0.03	1.44	0.04	0.02	2.17 <sup>b</sup>
IPO year--Mean conditional dollar acquisition rate						
[1] Hot	0.06	0.04	1.26	0.07	0.03	2.09 <sup>c</sup>
[2] Cold	0.03	0.03	-0.07	0.03	0.03	0.08
Neutral	0.03	0.02	2.15 <sup>b</sup>	0.04	0.02	1.70
			Test of means: [1]-[2]			
	2.10 <sup>b</sup>	1.00		2.02 <sup>c</sup>	0.08	
IPO return quintiles (IPO cohort)--Mean conditional dollar acquisition rate						
1	0.05	0.02	3.62 <sup>a</sup>	0.05	0.02	2.91 <sup>a</sup>
2	0.04	0.03	0.92	0.05	0.02	2.60 <sup>b</sup>
3	0.03	0.02	1.37	0.03	0.02	1.42
4	0.05	0.03	1.76 <sup>c</sup>	0.06	0.03	1.52
5	0.08	0.16	-0.61	0.09	0.16	-0.52
			Test of means: [1]-[5]			
	-1.56	-1.02		-1.43	-1.07	
Acquisition year--Mean conditional dollar acquisition rate						
[1] Merger/IPO boom 1995-2000	0.08	0.03	3.25 <sup>a</sup>	0.12	0.04	2.16 <sup>c</sup>
[2] Other	0.03	0.02	1.02	0.03	0.02	1.36
			Test of means: [1]-[2]			
	3.83 <sup>a</sup>	1.31		2.53 <sup>b</sup>	2.26 <sup>b</sup>	
Relatedness--Mean conditional dollar acquisition rate						
[1] Not in the same 2-digit SIC	0.01	0.01	-0.72	0.01	0.01	-0.18
[2] In the same 2-digit SIC	0.03	0.02	2.19 <sup>b</sup>	0.03	0.01	2.50 <sup>b</sup>
			Test of proportions: [1]-[2]			
	-0.49	-0.04		-0.58	-0.12	
Target's status--Mean conditional dollar acquisition rate						
[1] Private	0.01	0.003	4.00 <sup>a</sup>	0.01	0.003	2.90 <sup>a</sup>
[2] Public	0.02	0.02	0.80	0.02	0.01	1.36
[3] Subsidiary	0.01	0.01	-0.27	0.01	0.01	0.33
			Test of proportions: [1]-[2]			
	-0.24	-0.41		-0.15	-0.31	
			Test of proportions: [1]-[3]			
	0.05	-0.32		0.07	-0.26	
			Test of proportions: [2]-[3]			
	0.28	0.10		0.22	0.05	
Method of payment--Mean conditional dollar acquisition rate						
[1] Cash	0.01	0.02	-0.48	0.01	0.01	0.33
[2] Stock	0.01	0.01	-1.12	0.02	0.01	1.19
Both	0.002	0.003	1.27	0.003	0.003	-0.25
Unknown	0.02	0.003	2.94 <sup>a</sup>	0.01	0.003	2.74 <sup>b</sup>
			Test of proportions: [1]-[2]			
	-1.13	0.20		-0.21	-0.02	
Relatedness--Mean [Fraction of acquisitions]						
[1] Not in the same 2-Digit SIC	0.34	0.39	-0.76	0.35	0.40	-0.74
[2] In the same 2-Digit SIC	0.66	0.61	0.76	0.65	0.60	0.74
			Test of proportions: [1]-[2]			
	-2.21 <sup>b</sup>	-1.51		-2.10 <sup>b</sup>	-1.35	
Target's status--Mean [Fraction of acquisitions]						
[1] Private	0.33	0.27	1.64	0.37	0.31	1.18
[2] Public	0.32	0.39	-1.22	0.28	0.37	-1.70 <sup>c</sup>
[3] Subsidiary	0.33	0.32	0.22	0.33	0.31	0.38
			Test of proportions: [1]-[2]			
	0.04	-0.82		0.61	-0.42	
			Test of proportions: [1]-[3]			
	0.02	-0.32		0.26	0.01	
			Test of proportions: [2]-[3]			
	-0.02	0.50		-0.35	0.43	
Method of payment--Mean [Fraction of acquisitions]						
[1] Cash	0.33	0.54	-3.55 <sup>a</sup>	0.36	0.51	-2.39 <sup>b</sup>
[2] Stock	0.28	0.23	0.89	0.25	0.24	0.23
Both	0.33	0.13	-1.54	0.06	0.10	-1.59
Unknown	0.07	0.10	3.18 <sup>a</sup>	0.33	0.15	2.73 <sup>a</sup>
			Test of proportions: [1]-[2]			
	0.41	1.96 <sup>b</sup>		0.86	1.87 <sup>c</sup>	



**Table 6. OLS regressions for conditional acquisition rate of IPO cohorts during 1975-2002**

This table presents the regression coefficients for OLS regression models where the dependent variable is the conditional acquisition rate for IPO cohorts in an event year. Observations where there are less than 20 firms alive for the IPO cohort are excluded. The merger/IPO boom denotes the period from 1995 to 2000. M&A index is constructed by dividing the total number of acquisitions in SDC by the number of active firms in Compustat. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). Robust standard errors with clustering on IPO-cohort are reported below the coefficient estimates. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable is conditional acquisition rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deal is within 4-9 years after IPO (Yes=1)	-0.13 <sup>b</sup>	-0.13 <sup>b</sup>	-0.12 <sup>a</sup>	-0.12 <sup>b</sup>	-0.19 <sup>a</sup>	-0.19 <sup>a</sup>	0.02	-0.04
	0.05	0.04	0.04	0.04	0.05	0.05	0.08	0.05
Deal is more than 9 years from IPO (Yes=1)	-0.04	-0.05	-0.02	-0.05	-0.11 <sup>c</sup>	-0.10 <sup>c</sup>	0.20 <sup>b</sup>	0.10 <sup>c</sup>
	0.07	0.05	0.06	0.05	0.06	0.06	0.08	0.05
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000)		0.22 <sup>a</sup>		0.22 <sup>a</sup>	0.18 <sup>a</sup>	0.18 <sup>a</sup>		0.31 <sup>a</sup>
		0.03		0.03	0.03	0.03		0.11
M&A index <sub>t</sub>			0.22 <sup>a</sup>					
			0.05					
Above average M&A index <sub>t</sub> (Yes=1)							0.15	
							0.09	
Merger/IPO boom <sub>t-1</sub>					0.04	0.03		
					0.03	0.02		
IPO cohort went public in HOT periods (Yes=1)				0.05		0.04		
				0.07		0.07		
IPO cohort went public in COLD periods (Yes=1)				0.003		-0.005		
				0.07		0.07		
Mean (IPO cohort's first day return)					0.001	0.001		
					0.002	0.001		
Above average M&A index <sub>t</sub> (Yes=1) * Deal is within 1-3 years after IPO (Yes=1)							0.27 <sup>a</sup>	
							0.07	
Above average M&A Index <sub>t</sub> (Yes=1) * Deal is within 4-9 years after IPO (Yes=1)							-0.03	
							0.13	
Above average M&A index <sub>t</sub> (Yes=1) * Deal is more than 9 years from IPO (Yes=1)							-0.20 <sup>c</sup>	
							0.1	
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is within 1-3 years after IPO (Yes=1)								0.34 <sup>a</sup>
								0.1
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is within 4-9 years after IPO (Yes=1)								-0.05
								0.12
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is more than 9 years from IPO (Yes=1)								-0.28 <sup>a</sup>
								0.11
Constant	0.50 <sup>a</sup>	0.44 <sup>a</sup>	0.34 <sup>a</sup>	0.42 <sup>a</sup>	0.49 <sup>a</sup>	0.47 <sup>a</sup>	0.29 <sup>a</sup>	0.35 <sup>a</sup>
	0.06	0.04	0.06	0.09	0.06	0.09	0.07	0.05
R-squared	0.03	0.19	0.09	0.19	0.20	0.21	0.18	0.34
Number of groups	27	27	27	27	27	27	27	27
Number of observations	391	391	391	391	369	369	391	391

**Table 7. OLS regressions for conditional dollar acquisition rate of IPO cohorts during 1975-2002**

This table presents the regression coefficients for OLS regression models where the dependent variable is the conditional dollar acquisition rate for IPO cohorts in an event year. Observations where there are less than 20 firms alive for the IPO cohort are excluded. The merger/IPO boom denotes the period from 1995 to 2000. M&A index is constructed by dividing the total number of acquisitions in SDC by the number of active firms in Compustat. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). Robust standard errors with clustering on IPO-cohort are reported below the coefficient estimates. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively.

Dependent variable is conditional dollar acquisition rate	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Deal is within 4-9 years after IPO (Yes=1)	-0.013 <sup>b</sup>	-0.013 <sup>a</sup>	-0.012 <sup>b</sup>	-0.013 <sup>a</sup>	-0.015 <sup>a</sup>	-0.016 <sup>a</sup>	0.005	-0.005
	0.006	0.004	0.005	0.004	0.005	0.005	0.005	0.004
Deal is more than 9 years from IPO (Yes=1)	-0.018 <sup>a</sup>	-0.019 <sup>a</sup>	-0.015 <sup>b</sup>	-0.020 <sup>a</sup>	-0.022 <sup>a</sup>	-0.023 <sup>a</sup>	-0.001	0.004 <sup>c</sup>
	0.006	0.005	0.006	0.005	0.006	0.006	0.005	0.010
Merger/IPO boom <sub>t</sub> (Yes=1 if deal is in 1995-2000)		0.020 <sup>a</sup>		0.020 <sup>a</sup>	0.007	0.006		0.004
		0.005		0.005	0.007	0.006		0.010
M&A index <sub>t</sub>			0.026 <sup>a</sup>					
			0.008					
Above average M&A index <sub>t</sub> (Yes=1)							0.009	
							0.008	
Merger/IPO boom <sub>t-1</sub>					0.019 <sup>b</sup>	0.019 <sup>b</sup>		
					0.007	0.007		
IPO cohort went public in HOT periods (Yes=1)				-0.005		-0.005		
				0.005		0.006		
IPO cohort went public in COLD periods (Yes=1)				-0.006		-0.007 <sup>c</sup>		
				0.004		0.004		
Mean (IPO cohort's first day return)					0.0001	0.0001		
					0.0002	0.0002		
Above average M&A index <sub>t</sub> (Yes=1) * Deal is within 1-3 years after IPO (Yes=1)							0.030 <sup>b</sup>	
							0.010	
Above average M&A index <sub>t</sub> (Yes=1) * Deal is within 4-9 years after IPO (Yes=1)							-0.010	
							0.010	
Above average M&A index <sub>t</sub> (Yes=1) * Deal is more than 9 years from IPO (Yes=1)							-0.010	
							0.010	
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is within 1-3 years after IPO (Yes=1)								0.050 <sup>a</sup>
								0.010
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is within 4-9 years after IPO (Yes=1)								0.010
								0.010
Merger/IPO boom <sub>t</sub> (Yes=1 if deals are in 1995-2000) * Deal is more than 9 years from IPO (Yes=1)								0.007
								0.010
Constant	0.039 <sup>a</sup>	0.034 <sup>a</sup>	0.020 <sup>b</sup>	0.037 <sup>a</sup>	0.033 <sup>a</sup>	0.038 <sup>a</sup>	0.020 <sup>a</sup>	0.030 <sup>a</sup>
	0.005	0.005	0.008	0.005	0.006	0.007	0.004	0.004
R-squared	0.03	0.09	0.07	0.09	0.13	0.13	0.07	0.14
Number of groups	27	27	27	27	26	26	27	27
Number of observations	382	382	382	382	357	357	382	382

**Table 8. Conditional acquisition rate for the first four years after the IPO and for the IPO year**

IPO and acquisition data are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisitions announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions of a given type in a year divided by the number of firms alive at the beginning of that year. The acquisition frequency is the fraction of acquisitions that have some characteristic. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom denotes the period from 1995 to 2000. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). The IPO underpricing quintiles are obtained using the sub-sample of 6,518 IPOs (out of 6,548) for which we have data. The method of payment is reported by SDC for deals that are classified as having disclosed the details of the transactions. We also provide data on acquisitions for which SDC provides no details on the method of payment. The target's organizational form is classified using the data available in SDC into private, public, subsidiary, and unknown. We use t-statistics to test for differences in mean acquisition rates and a z-statistic for differences in fractions. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively. The superscript <sup>d</sup> denotes subsamples with less than 10 IPO cohorts.

	All acquisitions						Completed acquisitions						
	Event year					Test of means	Event year					Test of means	
	0	1	2	3	4		1-4	0	1	2	3		4
Number of acquisitions	2,264	5,016	3,644	2,718	2,212								
Number of completed acquisitions where percent owned before (after) the acquisitions is less (more) than 50%							1,633	3,490	2,517	1,967	1,601		
Firms alive as of January 1st	6,548	6,374	6,343	6,035	5,389		6,548	6,374	6,343	6,035	5,389		
Mean conditional acquisition rate	0.31	0.69	0.52	0.41	0.39	2.58 <sup>b</sup>	0.22	0.48	0.36	0.30	0.28	2.46 <sup>b</sup>	
IPO year--Mean conditional acquisition rate													
[1] Hot	0.33	0.77	0.54	0.41	0.40	2.08 <sup>b</sup>	0.24	0.54	0.38	0.30	0.29	1.95 <sup>c</sup>	
[2] Cold	0.21	0.63	0.47	0.36	0.35	1.43	0.18 <sup>d</sup>	0.47	0.34	0.27	0.24	1.54	
Neutral	0.36	0.64	0.54	0.42	0.42	1.74 <sup>c</sup>	0.26	0.42	0.35	0.29	0.30	1.31	
Test of means: [1]-[2]	1.44	0.58	0.56	0.48	0.41		0.76	0.41	0.38	0.39	0.59		
IPO return quintiles (IPO cohort)--Mean conditional acquisition rate													
1	0.31	0.63	0.52	0.49	0.45	1.51	0.21	0.46	0.37	0.35	0.32	1.39	
2	0.32	0.71	0.50	0.40	0.36	2.78 <sup>a</sup>	0.23	0.50	0.35	0.29	0.26	2.50 <sup>b</sup>	
3	0.31	0.68	0.46	0.39	0.33	2.79 <sup>a</sup>	0.20	0.49	0.32	0.27	0.22	2.90 <sup>a</sup>	
4	0.35	0.71	0.60	0.40	0.42	2.02 <sup>b</sup>	0.26	0.48	0.41	0.32	0.33	1.66	
5	0.28	0.73	0.51	0.39	0.37	2.34 <sup>b</sup>	0.21	0.50	0.36	0.27	0.25	2.15 <sup>b</sup>	
Test of means: [1]-[5]	0.34	-0.60	0.10	0.87	0.73		0.01	-0.30	0.18	0.80	0.77		
Acquisition year--Mean conditional acquisition rate													
[1] Merger/IPO boom 1995-2000	0.66	1.41	0.93	0.67	0.65	8.02 <sup>a</sup>	0.48	0.98	0.63	0.49	0.46	6.23 <sup>a</sup>	
[2] Other	0.19	0.44	0.38	0.35	0.31	1.61	0.13	0.31	0.27	0.25	0.22	1.33	
Test of means: [1]-[2]	4.22 <sup>a</sup>	6.81 <sup>a</sup>	5.88 <sup>a</sup>	4.08 <sup>a</sup>	4.01 <sup>a</sup>		4.88 <sup>a</sup>	8.01 <sup>a</sup>	5.37 <sup>a</sup>	3.61 <sup>a</sup>	3.63 <sup>a</sup>		
Relatedness--Mean conditional acquisition rate													
[1] Not in the same 2-digit SIC	0.10	0.25	0.21	0.16	0.16	2.12 <sup>b</sup>	0.07	0.17	0.14	0.12	0.11	2.15 <sup>b</sup>	
[2] In the same 2-digit SIC	0.21	0.44	0.31	0.25	0.23	2.76 <sup>a</sup>	0.15	0.31	0.22	0.18	0.17	2.55 <sup>b</sup>	
Test of proportions: [1]-[2]	-0.96	-1.37	-0.85	-0.74	-0.60		-0.81	-1.11	-0.77	-0.67	-0.68		
Target's status--Mean conditional acquisition rate													
[1] Private	0.21	0.46	0.33	0.25	0.22	2.72 <sup>a</sup>	0.15	0.33	0.23	0.18	0.16	2.64 <sup>b</sup>	
[2] Public	0.01	0.04	0.04	0.03	0.04	-0.38	0.01	0.02	0.02	0.02	0.03	-0.67	
[3] Subsidiary	0.08	0.18	0.14	0.12	0.12	2.05 <sup>b</sup>	0.06	0.13	0.10	0.09	0.09	1.98 <sup>c</sup>	
Test of proportions: [1]-[2]	2.07 <sup>b</sup>	3.28 <sup>a</sup>	2.60 <sup>a</sup>	2.19 <sup>b</sup>	1.86 <sup>c</sup>		1.75 <sup>c</sup>	2.72 <sup>a</sup>	2.21 <sup>b</sup>	1.92 <sup>c</sup>	1.68 <sup>c</sup>		
Test of proportions: [1]-[3]	1.88	2.06 <sup>b</sup>	1.53	1.16	0.94		0.99	1.62	1.20	0.93	0.84		
Test of proportions: [2]-[3]	-1.07	-1.48	-1.25	-1.16	-1.00		-0.94	-1.35	-1.18	-1.12	-0.93		
Method of payment--Mean conditional acquisition rate													
[1] Cash	0.07	0.17	0.13	0.11	0.11	2.09 <sup>b</sup>	0.06	0.13	0.10	0.09	0.08	2.22 <sup>b</sup>	
[2] Stock	0.03	0.08	0.06	0.05	0.05	1.38	0.02	0.06	0.05	0.04	0.04	1.23	
Both	0.02	0.04	0.02	0.01	0.02	2.50 <sup>b</sup>	0.02	0.03	0.02	0.01	0.01	2.34 <sup>b</sup>	
Unknown	0.19	0.40	0.30	0.24	0.22	2.65 <sup>a</sup>	0.12	0.26	0.20	0.16	0.15	2.53 <sup>b</sup>	
Test of proportions: [1]-[2]	0.66	0.95	0.78	0.75	0.77		0.53	0.78	0.62	0.65	0.57		
Relatedness--Mean [Fraction of acquisitions]													
[1] Not in the same 2-digit SIC	0.40	0.39	0.42	0.41	0.44	-1.42	0.38	0.37	0.41	0.40	0.37	0.00	
[2] In the same 2-digit SIC	0.60	0.61	0.58	0.59	0.56	1.42	0.62	0.63	0.59	0.60	0.63	0.00	
Test of proportions: [1]-[2]	-1.39	-1.47	-1.07	-1.31	-0.83		-1.53	-1.75 <sup>c</sup>	-1.19	-1.36	-1.86 <sup>c</sup>		
Target's status--Mean [Fraction of acquisitions]													
[1] Private	0.61	0.61	0.61	0.59	0.51	2.88 <sup>a</sup>	0.62	0.62	0.62	0.62	0.51	2.35 <sup>b</sup>	
[2] Public	0.08	0.08	0.10	0.12	0.15	-2.80 <sup>a</sup>	0.05	0.06	0.07	0.08	0.16	-2.41 <sup>b</sup>	
[3] Subsidiary	0.28	0.27	0.26	0.28	0.32	-1.51	0.29	0.29	0.29	0.30	0.32	-0.70	
Test of proportions: [1]-[2]	3.54 <sup>a</sup>	3.79 <sup>a</sup>	3.67 <sup>a</sup>	3.25 <sup>a</sup>	2.72 <sup>a</sup>		3.94 <sup>a</sup>	3.99 <sup>a</sup>	4.01 <sup>a</sup>	3.88 <sup>a</sup>	2.68 <sup>a</sup>		
Test of proportions: [1]-[3]	2.10 <sup>b</sup>	2.30 <sup>b</sup>	2.40 <sup>b</sup>	2.07 <sup>b</sup>	1.43		2.16 <sup>b</sup>	2.20 <sup>b</sup>	2.28 <sup>b</sup>	2.21 <sup>b</sup>	1.37		
Test of proportions: [2]-[3]	-1.65 <sup>c</sup>	-1.72 <sup>c</sup>	-1.47	-1.33	-1.37		-2.09 <sup>b</sup>	-2.07 <sup>b</sup>	-2.01 <sup>b</sup>	-1.91 <sup>c</sup>	-1.38		
Method of payment--Mean [Fraction of acquisitions]													
[1] Cash	0.24	0.24	0.24	0.24	0.26	-0.45	0.26	0.25	0.24	0.23	0.25	0.22	
[2] Stock	0.07	0.09	0.10	0.13	0.12	-1.10	0.08	0.10	0.11	0.17	0.14	-1.17	
Both	0.04	0.04	0.04	0.03	0.04	0.62	0.05	0.05	0.04	0.04	0.04	0.63	
Unknown	0.65	0.62	0.61	0.59	0.58	0.73	0.62	0.59	0.61	0.56	0.57	0.34	
Test of proportions: [1]-[2]	1.57	1.34	1.20	0.95	1.20		1.59	1.37	1.18	0.55	0.92		

**Table 9. Conditional acquisition rate of firms relative to their IPO for each of the quintiles of age since incorporation**

IPO and acquisition data are obtained from SDC Platinum. IPO founding dates are compiled from SDC Platinum and Professor Jay Ritter's website. The IPO sample includes all initial public offerings in 1975-2002 with founding dates, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisitions announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions of a given type in a year divided by the number of firms alive at the beginning of that year. The acquisition frequency is the fraction of acquisitions that have some characteristic. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom denotes the period from 1995 to 2000. IPO age is calculated as the number of years passed from the founding date relative to the IPO year. The IPO age quintiles are obtained using the sub-sample of 6,301 IPOs (out of 6,518) for which we have data. We use t-statistics to test for differences in mean acquisition rates and a z-statistic for differences in fractions. The superscripts <sup>a,b,c</sup> denote statistical significance at the 1%, 5%, and 10% level, respectively. The superscript <sup>d</sup> denotes subsamples with less than 10 IPO cohorts.

*Panel A. IPO age*

IPO age quintiles	Total # of IPOs	Mean	Median	Std. dev.
1	1,312	1.70	2	1.35
2	1,257	4.35	4	1.42
3	1,262	7.51	7	2.49
4	1,258	14.39	13	6.36
5	1,212	46.78	39	26.91
Total	6,301	14.59	7	20.35

*Panel B. Conditional acquisition rate of young versus mature firms.*

	Completed acquisitions		
			Test of means
	1	2	[1]-[2]
	Young	Mature	
Event years	1-3	10-20	
Total number of acquisitions	10,820	5,258	
Total number of completed acquisitions for which the buyer had less (more) than 50% of the target before (after) the deal	7,627	3,509	
Mean [Firms alive as of January 1st of event year]	6,009	1,012	
Mean conditional acquisition rate	0.41	0.40	0.22
IPO age quintiles --(IPO cohort) Mean conditional acquisition rate			
1	0.41	0.28	1.74 <sup>c</sup>
2	0.39	0.40	-0.07
3	0.37	0.38	-0.16
4	0.37	0.33	0.58
5	0.44	0.36	0.88
Test of means: [1]-[5]	-0.28	-1.18	

*Panel C. Conditional acquisition rate for the first four years after the IPO and for the IPO year*

	Completed acquisitions					Test of means
	Event year					
	0	1	2	3	4	
Number of acquisitions	2,151	4,768	3,487	2,565	2,110	
Number of completed acquisitions where percent owned before (after) the acquisitions is less (more) than 50%	1,562	3,342	2,412	1,873	1,529	
Firms alive as of January 1st	6,301	6,119	6,094	5,814	5,064	
Mean conditional acquisition rate	0.25	0.52	0.39	0.33	0.30	2.58 <sup>b</sup>
IPO Age quintiles (IPO cohort)--Mean conditional acquisition rate						
1	0.29	0.53	0.39	0.32	0.27	2.22 <sup>b</sup>
2	0.22	0.46	0.40	0.31	0.28	2.06 <sup>b</sup>
3	0.19	0.48	0.34	0.30	0.30	1.95 <sup>c</sup>
4	0.22	0.44	0.36	0.32	0.31	1.52
5	0.24	0.53	0.42	0.37	0.23	2.79 <sup>a</sup>
Test of means: [1]-[5]	0.56	0.00	-0.41	-0.54	0.66	

**Table 10. Cumulative abnormal returns around acquisition announcements by young and mature firms conditional on the method of payment and organizational form of the target**

IPO and acquisition data are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisitions announced in 1981-2006. Event year refers to the deal year with respect to the IPO year, event year 0. Method of payment is reported by SDC for deals that are classified as having disclosed the details of the transactions. We also provide data on acquisition and deals rates for deals which SDC classified as ‘undisclosed’ and provided no details of the method of payment. Target’s organizational form is classified using the data available in SDC into private, public, subsidiary, and unknown. Cumulative abnormal returns (CARs) are calculated using the event window of [-1,+1]. Abnormal returns are calculated net of equally-weighted market portfolio. Rows have mean, median, standard deviation, and number of observations respectively. We use t-statistics to test for differences in mean CARs and a z-statistic for the Wilcoxon rank-sum (Mann-Whitney) test of differences in median CARs. We use superscripts <sup>a, b, c</sup> to denote statistical significance at the 1%, 5%, and 10% level, respectively.

<i>All acquisitions</i>				<i>All disclosed acquisitions with data on the method of payment</i>				<i>Sorted by the method of payment: Purely cash</i>				<i>Sorted by the method of payment: Purely stock</i>			
Target's organizational form	Event years		Difference tests t-statistic [z-statistic]	Target's organizational form	Event years		Difference tests t-statistic [z-statistic]	Target's organizational form	Event years		Difference tests t-statistic [z-statistic]	Target's organizational form	Event years		Difference tests t-statistic [z-statistic]
	Young 1-3	Mature 10-20			Young 1-3	Mature 10-20			Young 1-3	Mature 10-20			Young 1-3	Mature 10-20	
[1] Private target	1.38% <sup>a</sup>	0.92% <sup>a</sup>	2.35 <sup>b</sup> [2.72] <sup>a</sup>	[1] Private target	1.66% <sup>a</sup>	1.23% <sup>a</sup>	1.20 [1.55]	[1] Private target	1.04% <sup>a</sup>	0.88% <sup>a</sup>	0.44 [0.84]	[1] Private target	2.5% <sup>a</sup>	1.56% <sup>c</sup>	0.99 [1.83] <sup>c</sup>
	0.52% <sup>a</sup>	0.24% <sup>a</sup>			0.68% <sup>a</sup>	0.35% <sup>a</sup>			0.52% <sup>a</sup>	0.35% <sup>a</sup>			1.06% <sup>a</sup>	0.10%	
	0.12	0.08			0.11	0.09			0.09	0.07			0.15	0.13	
	7,890	2,775			2,843	962			1,405	651			990	228	
[2] Public target	-0.52%	-0.68% <sup>b</sup>	0.33 [0.01]	[2] Public target	-1% <sup>b</sup>	-0.7% <sup>b</sup>	-0.52 [-0.94]	[2] Public target	1.3% <sup>b</sup>	0.12%	1.92 <sup>c</sup> [1.88] <sup>c</sup>	[2] Public target	-2.95% <sup>a</sup>	-1.85% <sup>a</sup>	-1.08 [-1.64] <sup>c</sup>
	-0.4% <sup>a</sup>	-0.58% <sup>a</sup>			-0.62% <sup>a</sup>	-0.45% <sup>a</sup>			0.7% <sup>b</sup>	-0.04%			-3.73% <sup>a</sup>	-1.07% <sup>a</sup>	
	0.11	0.07			0.11	0.07			0.08	0.05			0.13	0.10	
	827	658			581	534			214	303			315	189	
[3] Subsidiary target	2.09% <sup>a</sup>	1.18% <sup>a</sup>	3.50 <sup>a</sup> [3.25] <sup>a</sup>	[3] Subsidiary target	2.4% <sup>a</sup>	1.28% <sup>a</sup>	2.79 <sup>a</sup> [1.97] <sup>b</sup>	[3] Subsidiary target	1.89% <sup>a</sup>	1.00% <sup>a</sup>	2.49 <sup>a</sup> [2.67] <sup>a</sup>	[3] Subsidiary target	6% <sup>a</sup>	2.50%	1.25 [-0.25]
	0.95% <sup>a</sup>	0.37% <sup>a</sup>			1.19% <sup>a</sup>	0.71% <sup>a</sup>			1.18% <sup>a</sup>	0.48% <sup>a</sup>			1.55% <sup>b</sup>	1.71% <sup>c</sup>	
	0.11	0.07			0.12	0.07			0.08	0.06			0.26	0.10	
	3,047	1471			1,429	646			1,174	580			136	33	
	Difference tests t-statistic [z-statistic]				Difference tests t-statistic [z-statistic]				Difference tests t-statistic [z-statistic]				Difference tests t-statistic [z-statistic]		
[1]-[2]	4.54 <sup>a</sup>	4.93 <sup>a</sup>	[6.16] <sup>a</sup> [5.37] <sup>a</sup>	[1]-[2]	5.10 <sup>a</sup>	4.38 <sup>a</sup>	[5.88] <sup>a</sup> [4.31] <sup>a</sup>	[1]-[2]	-0.44	1.91 <sup>c</sup>	[-0.38] [1.40]	[1]-[2]	6.22 <sup>a</sup>	3.12 <sup>a</sup>	[7.34] <sup>a</sup> [3.16] <sup>a</sup>
[2]-[3]	-5.91 <sup>a</sup>	-5.49 <sup>a</sup>		[2]-[3]	-6.00 <sup>a</sup>	-4.78 <sup>a</sup>		[-7.04] <sup>a</sup> [-5.19] <sup>a</sup>	[2]-[3]	-0.99		-2.30 <sup>b</sup>	[-1.13] [-1.88] <sup>c</sup>	[2]-[3]	
[1]-[3]	-3.07 <sup>a</sup>	-1.13	[-3.22] <sup>a</sup> [-1.24]	[1]-[3]	-1.97 <sup>b</sup>	-0.14	[-2.21] <sup>b</sup> [-1.32]	[1]-[3]	-2.48 <sup>a</sup>	-0.33	[-2.81] <sup>a</sup> [-0.56]	[1]-[3]	-1.55	-0.49	[-0.45] [-1.38]
Total	1.43% <sup>a</sup>	0.79% <sup>a</sup>	4.36 <sup>a</sup>	Total	1.56% <sup>a</sup>	0.76% <sup>a</sup>	3.32 <sup>a</sup>	Total	1.42% <sup>a</sup>	0.78% <sup>a</sup>	2.76 <sup>a</sup>	Total	1.64% <sup>a</sup>	0.20%	2.12 <sup>b</sup>
	0.55% <sup>a</sup>	0.21% <sup>a</sup>	[4.65] <sup>a</sup>		0.65 <sup>a</sup>	0.26% <sup>a</sup>	[3.19] <sup>a</sup>		0.73 <sup>a</sup>	0.32% <sup>a</sup>	[3.21] <sup>a</sup>		0.47 <sup>b</sup>	-0.29%	[2.06] <sup>b</sup>
	0.11	0.10			0.12	0.08			0.09	0.06			0.16	0.11	
	11,764	4,904			4,853	2,142			2,793	1,534			1,441	450	

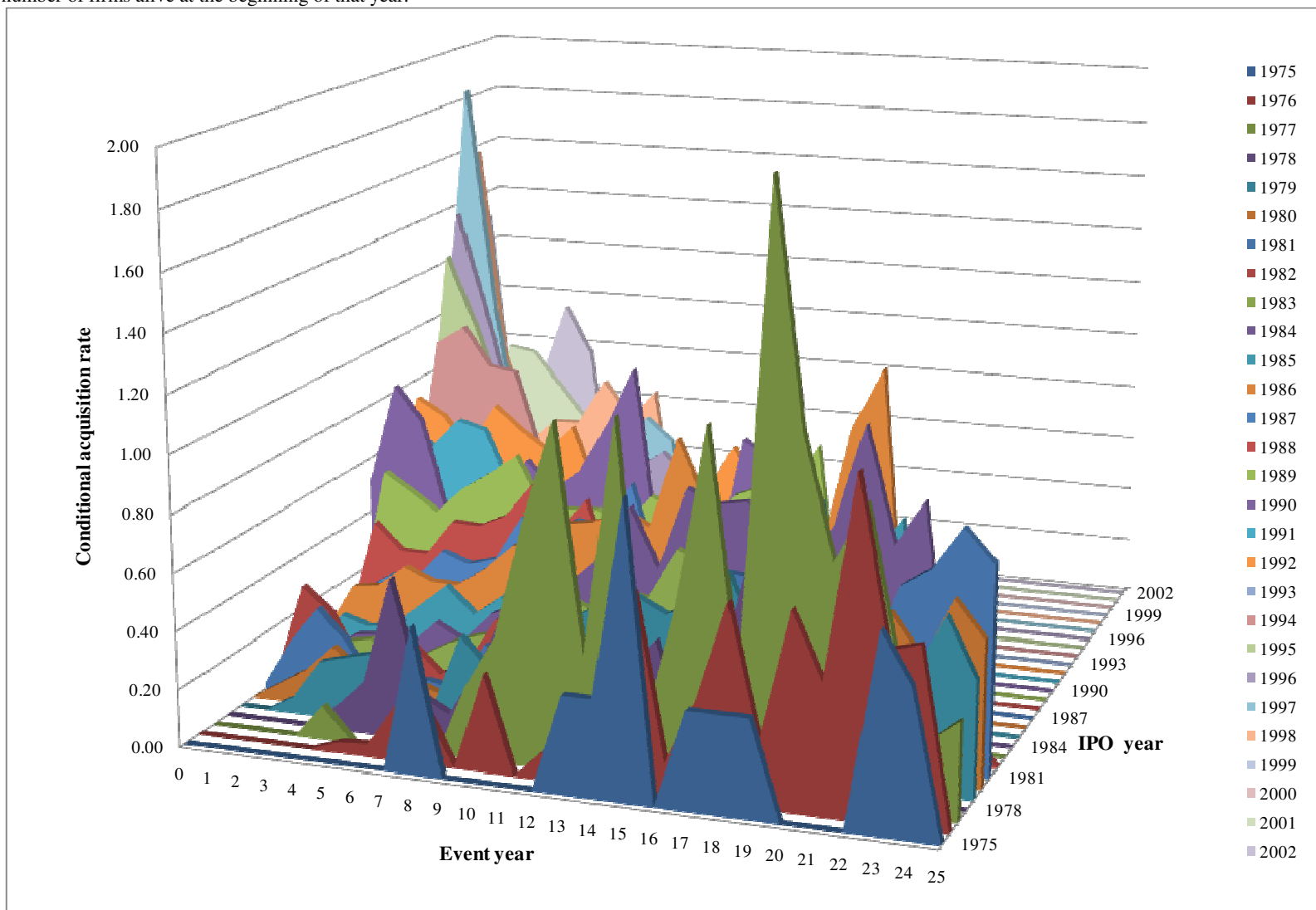
**Table 11. Cumulative abnormal returns around acquisition announcements by young and mature firms conditional on relatedness, the method of payment and organizational form of the target**

IPO and acquisition data are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisitions announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. Method of payment is reported by SDC for acquisitions that are classified as having disclosed the details of the transactions. We also provide data on acquisitions for which SDC provides no details on the method of payment. The target's organizational form is classified using the data available in SDC into private, public, subsidiary, and unknown. Cumulative abnormal returns (CARs) are calculated using the event window of [-1,0,+1]. Abnormal returns are calculated net of equally-weighted market portfolio. Rows have mean, median, standard deviation, and number of observations respectively. We use t-statistics to test for differences in mean CARs and a z-statistic for the Wilcoxon rank-sum (Mann-Whitney) test of differences in median CARs. We use superscripts <sup>a, b, c</sup> to denote statistical significance at the 1%, 5%, and 10% level, respectively.

Target's organizational form	Purely cash								Purely stock							
	Related acquisitions		Unrelated acquisitions		Difference tests				Related acquisitions		Unrelated acquisitions		Difference tests			
	Event years		Event years		[a]-[b]	[c]-[d]	[c]-[a]	[d]-[b]	Event years		Event years		[e]-[f]	[g]-[h]	[g]-[e]	[h]-[f]
	Young	Mature	Young	Mature	t-statistic	t-statistic	t-statistic	t-statistic	Young	Mature	Young	Mature	t-statistic	t-statistic	t-statistic	t-statistic
	1-3	10-20	1-3	10-20	[z-statistic]	[z-statistic]	[z-statistic]	[z-statistic]	1-3	10-20	1-3	10-20	[z-statistic]	[z-statistic]	[z-statistic]	[z-statistic]
	[a]	[b]	[c]	[d]					[e]	[f]	[g]	[h]				
[1] Private target	0.88% <sup>a</sup>	0.65% <sup>c</sup>	1.3% <sup>a</sup>	1.17% <sup>a</sup>	0.51	0.22	0.82	0.91	2.17% <sup>a</sup>	0.65%	3.07% <sup>a</sup>	2.38% <sup>c</sup>	1.63 <sup>c</sup>	0.42	0.93	1.07
	0.34% <sup>a</sup>	0.13%	0.72% <sup>a</sup>	0.46% <sup>b</sup>	[0.59]	[0.74]	[1.30]	[0.89]	1.05% <sup>a</sup>	-0.53%	1.25% <sup>a</sup>	0.63%	[1.46]	[1.32]	[1.01]	[0.94]
	0.09	0.07	0.09	0.08					0.15	0.08	0.14	0.16				
	879	362	526	289					625	108	365	120				
[2] Public target	0.79%	0.12%	2.02% <sup>b</sup>	0.14%	0.87	1.87 <sup>c</sup>	1.10	0.03	-3.8% <sup>a</sup>	-2.82% <sup>a</sup>	-1.16%	0.19%	-0.81	-0.73	1.66 <sup>c</sup>	1.94 <sup>c</sup>
	0.34%	-0.24%	1.05% <sup>a</sup>	0.29%	[0.68]	[1.93] <sup>b</sup>	[1.33]	[0.79]	-4.14% <sup>a</sup>	-1.91% <sup>a</sup>	-2.13% <sup>c</sup>	0.22%	[-1.38]	[-1.13]	[1.92] <sup>c</sup>	[2.07] <sup>b</sup>
	0.08	0.05	0.08	0.05					0.13	0.09	0.13	0.10				
	125	195	89	108					214	128	101	61				
[3] Subsidiary target	1.88% <sup>a</sup>	0.86% <sup>a</sup>	1.91% <sup>a</sup>	1.27% <sup>a</sup>	2.28 <sup>b</sup>	1.09	0.06	0.75	4.06% <sup>c</sup>	5.69% <sup>b</sup>	9.43% <sup>c</sup>	-2.41%	-0.53	2.23 <sup>b</sup>	1.02	[-2.58] <sup>b</sup>
	1.04% <sup>a</sup>	0.33% <sup>b</sup>	1.49% <sup>a</sup>	0.75% <sup>a</sup>	[2.62] <sup>a</sup>	[1.00]	[-0.06]	[1.00]	1.11%	2.97% <sup>a</sup>	1.67% <sup>c</sup>	0.34%	[-1.49]	[1.38]	[0.73]	[-1.95] <sup>b</sup>
	0.09	0.06	0.08	0.06					0.20	0.10	0.34	0.08				
	794	380	380	200					87	20	49	13				
	Difference tests				Difference tests				Difference tests				Difference tests			
	t-statistic				t-statistic				t-statistic				t-statistic			
	[z-statistic]				[z-statistic]				[z-statistic]				[z-statistic]			
[1]-[2]	0.13	1.08	-0.74	1.57					5.54 <sup>a</sup>	3.16 <sup>a</sup>	2.80 <sup>a</sup>	1.12				
	[0.29]	[1.11]	[-0.82]	[0.73]					[6.55]	[2.91] <sup>a</sup>	[3.36]	[0.92]				
[2]-[3]	-1.45	-1.57	0.11	-1.76 <sup>c</sup>					-3.38 <sup>a</sup>	-3.68 <sup>a</sup>	-2.13 <sup>b</sup>	0.99				
	[-1.71] <sup>c</sup>	[-1.44]	[0.20]	[-1.14]					[-4.59] <sup>a</sup>	[-3.86] <sup>a</sup>	[-2.61] <sup>a</sup>	[0.42]				
[1]-[3]	-2.35 <sup>b</sup>	-0.45	-1.05	-0.16					-0.85	-2.21 <sup>b</sup>	-1.31	1.78 <sup>c</sup>				
	[-2.82] <sup>a</sup>	[-0.46]	[-1.00]	[-0.49]					[-0.19]	[-2.57] <sup>a</sup>	[-0.55]	[0.87]				
Total	1.32% <sup>a</sup>	0.62% <sup>a</sup>	1.6% <sup>a</sup>	1.01% <sup>a</sup>	2.41 <sup>b</sup>	1.49	0.81	1.15	0.97% <sup>b</sup>	-0.69%	2.84% <sup>a</sup>	1.37%	2.22 <sup>b</sup>	1.18	2.07 <sup>b</sup>	1.80 <sup>c</sup>
	0.64% <sup>a</sup>	0.15% <sup>b</sup>	1.05% <sup>a</sup>	0.54% <sup>a</sup>	[2.73] <sup>a</sup>	[1.82] <sup>c</sup>	[1.14]	[1.53]	0.22%	-0.95% <sup>b</sup>	0.59% <sup>a</sup>	0.50%	[1.76] <sup>c</sup>	[1.29]	[2.13] <sup>b</sup>	[1.95] <sup>b</sup>
	0.09	0.06	0.09	0.08					0.15	0.09	0.17	0.14				
	1,798	937	995	597					926	256	515	194				

**Figure 1. Post-IPO conditional acquisition rate per event-year by IPO-cohort**

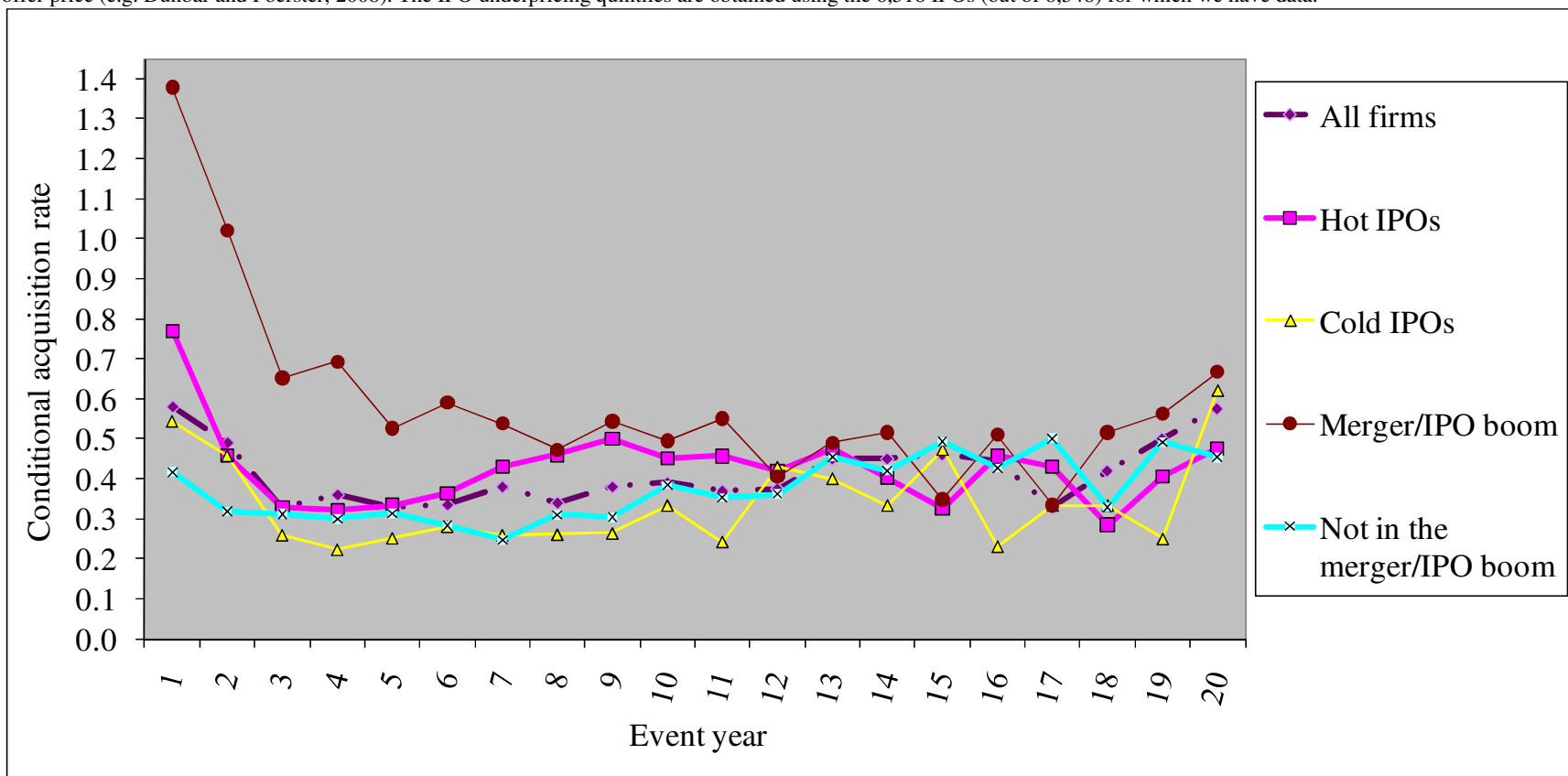
IPO and acquisition data are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisition deals announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions of a given type in a year divided by the number of firms alive at the beginning of that year.





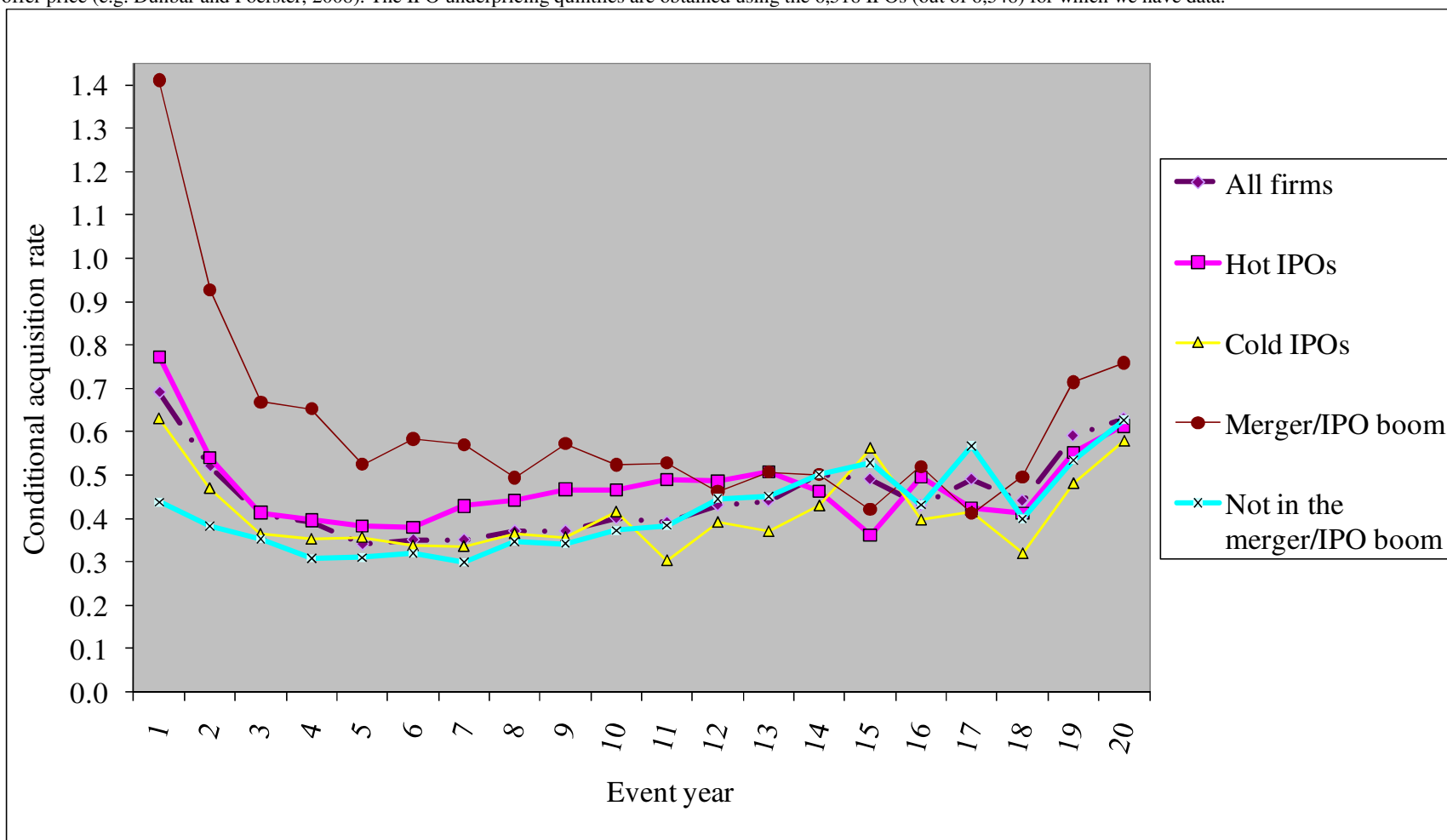
**Figure 2. Post-IPO median value of the event-year conditional acquisition rate by the state of the IPO market and of the M&A market**

IPO and acquisition data are obtained from SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisition deals announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions of a given type in a year divided by the number of firms alive at the beginning of that year. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom period is during 1995-2000. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). The IPO underpricing quintiles are obtained using the 6,518 IPOs (out of 6,548) for which we have data.



**Figure 3. Post-IPO mean value of the event-year conditional acquisition rate by the state of the IPO market and of the M&A market**

IPO and acquisition data are obtained from the SDC Platinum. The IPO sample includes all initial public offerings in 1975-2002, excluding reverse LBOs, spinoffs, rights and unit offerings, ADRs, closed-end funds, and REITs. Acquisitions of the IPO firms are identified using the SDC M&A database and include all acquisition deals announced in 1981-2006. Event year refers to the year with respect to the IPO year, event year 0. The conditional acquisition rate is the ratio of acquisitions of a given type in a year divided by the number of firms alive at the beginning of that year. The IPO market is classified as hot, cold, or neutral following Helwege and Liang (2004). The merger/IPO boom period is during 1995-2000. IPO underpricing is calculated as the initial return  $(P_1 - P_0) * 100 / P_0$ , where  $P_1$  is the first-day closing stock price or bid-ask average (from CRSP) and  $P_0$  is the IPO offer price (e.g. Dunbar and Foerster, 2008). The IPO underpricing quintiles are obtained using the 6,518 IPOs (out of 6,548) for which we have data.



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