

# Roll-ups: Performance and Incentives for Industry-Consolidating IPOs<sup>\*</sup>

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First draft: March 2000  
This draft: July 2000

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<sup>\*</sup> We are grateful to Richard Howell (Notre Capital), John Pecher (FYI Incorporated), John Quelch, Michael Wathen (Price Waterhouse Coopers), Greg Udell, Bob Parrino, and seminar participants at Indiana University for helpful comments and suggestions. We would especially like to acknowledge the insights and contributions that Ken Wiles (Lloyd & Company) has provided to the paper. Anna Danielova and Andras Marosi provided excellent research assistance.

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### Abstract

This study examines the motivations for and empirical performance of roll-up transactions, a special class of initial public equity offering where multiple small business entities are consolidated into a single publicly traded company. Using a sample of 47 deals initiated between 1994 and 1998, we find that the long-term stock price performance of roll-ups substantially lags that of several benchmarks. Further, measures of accounting profitability for these new firms are, on average, significantly lower than those for companies from comparable industries. An analysis of the cross-sectional variation in long-run stock performance reveals that it is important that managers and owners of companies acquired in the roll-up remain involved in the business as shareholders and directors. Further, while the market's response to announcements of subsequent acquisitions by the roll-up firms is positive, market-adjusted post-announcement returns are significantly negative. We conclude that, as an organizational form, roll-ups have not met investor expectations and have, on average, decreased shareholder value.

## Roll-Ups: Performance and Incentives for Industry-Consolidating IPOs

### 1. Introduction

Roll-up initial public offerings (i.e., “roll-ups”) are transactions in which a shell company goes public while simultaneously merging with a number of other companies that operate in the same industry. Roll-ups take place for a number of reasons, but the primary motive for such a combination is to bring together several firms in a highly fragmented industry in an effort to obtain synergies in cost reduction and revenue enhancement. This strategy is best executed via an IPO because the public offering provides the company with liquid shares and cash, which can then be used as payment in the purchase of the companies that are merged. In addition, the shares, together with the cash proceeds, can also be used to make further acquisitions in an attempt to continue the consolidation process started at the IPO stage.

A roll-up causes a dramatic transformation in the operating environment for the firms involved. Small, closely held, private companies become much larger, publicly held firms that continue to grow with subsequent acquisitions. These changes present many challenges for the resulting firm; thus, the organizational and governance structure of a roll-up are vital to its performance in the aftermath of the IPO event. The goal of this paper is to investigate the relation between corporate governance and firm performance for these transactions. We do this by first describing the roll-up structure in detail and examining the stock price and accounting performance of the companies created via this financial mechanism. We then relate these performance measures to several aspects of the governance structure of the companies involved in the roll-up and to a number of other relevant factors.

Our sample consists of 47 firms that engaged in a roll-up transaction over the five-year period from 1994 to 1998. The total value of these companies, measured at the IPO price is approximately \$7.3 billion, or about \$156 million per company. Similar to IPOs in general (see, for example, Loughran and Ritter (1995)), we find that these companies perform poorly in the long run, even worse, in fact than the performance documented for the overall IPO market. Indeed, total returns for our sample of roll-ups through the earlier of the delisting date or December 31, 1999 are negative. The accounting performance, using measures such as operating margin and return on sales, is comparably poor. The firms in our sample are not profitable, on average, in the first year after their IPOs, and about 15% have negative operating income. While this lack of profitability may not be surprising, given that these firms have just gone public, it is important to keep in mind that these companies operate in relatively mature industries and that most of the acquired companies have long operating histories. In addition, performance is still below the industry mean after two years and one-third of the firms remain unprofitable. This suggests that, on average, roll-ups have not lived up to the market's initial expectations.

We also examine the cross-sectional variability in the long-run performance and find that it is important that the managers of the companies acquired in the roll-up transactions (i.e., the founding companies) remain involved in the business. Long-run stock price performance (from the initial IPO event until either delisting or the end of 1999) is more than 60 percentage points higher when the majority of the directors come from the founding companies. In addition, we find that roll-up firms perform better as the founders own more shares of the company. This result suggests that it is crucial to let the managers of the original companies play an important role in the new firm. Simply bringing a number of companies together without keeping some of the original management expertise leads to a substantial decline in shareholder wealth. Finally, long-

run performance is lower when more firms are included in the original roll-up, which suggests that the integration of a large number of companies may cause substantial logistic and cultural problems.

Because the basic premise behind the roll-up transaction is to consolidate an industry, we also study acquisition activity subsequent to the roll-up. The 47 firms in our sample made 593 acquisitions after the IPO through the end of 1999. However, since it is common for multiple transactions to be announced on the same day, we are able to identify 322 distinct announcement dates. Interestingly, the market reaction around the announcement is actually positive: market-adjusted returns average 1.13% for the three days around the acquisition announcement. When we sum this return across all acquisition announcements made by each firm and average across the firms in our sample, we obtain an abnormal announcement period return due to acquisition activity of 10.17%. This positive stock price reaction seems at odds with the firms' poor long-run stock price performance. However, we find that companies are more likely to make further acquisitions when they have performed well up to that point: companies make acquisitions after they have outperformed the market by more than 16 percentage points. Despite this, though, performance subsequent to the acquisitions is very poor. The post-acquisition market-adjusted returns (counting each acquisition date as an individual observation) through delisting or December 31, 1999 are -115%. Such performance suggests that the acquisition strategy has not worked and that the market's initial reaction was far too optimistic about the merits of the additional deals.

Our analysis reveals that the greatest beneficiary from the roll-up transaction is the sponsor, which is the individual or organization that brings the companies together into a single business entity. The sponsor's compensation consists mainly of stock in the newly created company, sometimes augmented with a direct cash payment. However, this

compensation is reduced by the money the sponsor typically invests in the shell company to cover initial expenses. In addition, the sponsor often makes loans to the company, which are sometimes forgiven. We find that the value of the cash and stock compensation, computed at the offering price, net of the sponsor's investment in the company averages \$29.2 million (median=\$15.3 million), or 17.28% of the initial offering value of the company. We also find that the sponsor and the founders sell significant stakes in the firm in subsequent years.

The remainder of this paper proceeds as follows. Section 2 discusses roll-up transactions in more detail. Section 3 describes and summarizes our transaction sample. Section 4 analyzes the performance of the companies and examines their subsequent acquisition activity. Section 5 concludes the study. We also include a case study of TeleSpectrum Worldwide, one of the companies in our sample.

## 2. Description of roll-up transactions

A roll-up occurs when two or more substantive operating entities combine in a single business combination effected by the issuance of stock just prior to or simultaneously with an initial public offering. Such a transaction is achieved by creating a shell company into which the sponsors of the transaction contribute cash to cover initial expenses such as due diligence costs. Sometimes the cash contribution is actually in the form of a loan, which can be forgiven later or repaid in common stock. The sponsors then identify and negotiate with potential founding companies. Simultaneous with the IPO, the assets of the founders are contributed to the shell company for stock and cash generated by the offering.

The main thrust behind roll-up transactions is that they serve as a vehicle to consolidate fragmented industries of considerable size. When the roll-up trend started in

1994, many industries, particularly in the service sector, consisted of a large number of very small companies. (Of course, this is still the case today.) Consolidators aim to achieve substantial market share in these industries through acquisitions. As a result, they plan to realize significant economies of scale both in revenues, but mainly in cost reductions.<sup>1</sup> NationsBanc Montgomery Securities (1998a, 1998b) suggested that a minimum industry market size of \$5 billion in sales was necessary to support roll-up transactions and identified 19 services industries that met this criterion. Credit Lyonnais Securities, USA (1998) mentioned five areas where substantial economies of scale could be identified: purchasing, marketing and advertising, computer systems, distribution, and management.

Apart from the synergistic benefits that may exist, it has also been argued that roll-up transactions allow for the possibility to acquire companies at a relatively low stock price multiple using shares of a company trading at a much higher multiple. Practitioners sometimes refer to this strategy as a private-to-public arbitrage. For example, Credit Lyonnais mentions a “typical” case of stock valued at 12x EBITDA used to purchase a small family owned business for 6X EBITDA.

The idea behind industry consolidation is not new; Waste Management may have started the trend in 1971. Roll-up IPOs, however, are a relatively new phenomenon. The first roll-up in our sample, U.S. Delivery Systems, took place in 1994 and we have been able to identify 47 transactions over the 1994-1998 period that have sufficient data available to be included in our study. Practitioners mention several reasons for the increased recent interest in roll-ups. First, a number of private equity partnerships have discovered that roll-ups were the easiest way to achieve industry consolidation in

industries without a natural leader. Second, potential investors in the vibrant IPO market of the past decade have been quite receptive to new ideas. Third, many small business owners are ready for retirement and lack natural succession plans, making the possibility of selling out to a public company an interesting alternative. Fourth, the growth in corporate outsourcing provides a unique opportunity for companies in the service industry. Fifth, improvements in information technology mean that greater economies of scale can be attained by consolidating. Sixth, the roll-up eliminates the personal guarantees of debt by the original owners of the founding companies. Of course, these last two reasons are not unique to roll-ups, but apply to business consolidation, in general. It is also possible that it took until the mid-1990s for potential sponsors to realize that roll-ups could get executed without recognizing goodwill expenses. We discuss this issue in detail in the Appendix to this paper.

### 3. Sample selection and sample characteristics

We gather data on roll-ups from a variety of sources. To identify the sample, we employ lists of roll-up companies provided by securities firms, combined with a search of SEC filings. We obtain further data from S-1 filings and prospectuses. Several companies filed an initial registration statement without making it to the IPO stage. These firms are discarded from our sample. Additional data on the firms are obtained from Securities Data Corporation (IPO data and M&A announcements), Center for Research in Securities Prices (stock price data), and Compustat (accounting data).

Table 1 lists the roll-up transactions included in our analysis, in chronological order of their respective S-1 dates. Table 2 contains summary statistics on these

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<sup>1</sup> Sparks (1998) stresses the importance of keeping the roll-up transaction focused on similar companies in a single industry. In particular, she notes that *not* diversifying a roll-up into unrelated



transactions. As illustrated in Panel A of Table 2, the first roll-up took place in 1994, two transactions followed in 1995, and the bulk of the deals occurred in 1996, 1997, and 1998. Since roll-ups are a relatively recent phenomenon, we only have a few years to evaluate their success. Panel B tabulates the number of founding companies involved in each transaction. The mode and median are both seven, and the mean is 9.7. Ten or more firms are combined in over one-fourth of the cases (e.g., Pentagra Dental Group, Inc brought together 53 dental practices.) In the following section, we examine whether the number of firms involved in the roll-up affects subsequent performance.

Panel C of Table 2 contains the industry composition of the sample. A total of 17 companies are in services industries, six are in construction and four are durable goods wholesalers. The dominance of service companies is not surprising given that these industries tend to be more fragmented, a prior condition for motivating a roll-up transaction. Also, with fewer “heavy” assets in place, service companies can usually be combined more rapidly than firms where the logistics (e.g., appraisals, title searches) are more demanding.

Panel D contains additional summary statistics. The average firm raises \$64.3 million (median=\$50.1 million). Based on the offer price, the average market capitalization of the companies is \$155.7 million (median=\$118.4 million); this includes the proceeds from exercising the overallotment option. Underpricing, computed as the percentage price change from the offer price to the first trading price, is 14.6%, on average, (median=9.52%), which is fairly typical of IPOs in general. For example, Lee, et al. (1996) report average underpricing of 12% for a sample of 1,767 U.S. IPOs completed over the period from 1990 through 1994.

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businesses during or after the IPO is a crucial factor in the deal’s ultimate success.

The founding companies collectively own approximately 40% of the company's shares after the offering, on average, and they supply about half of the directors of the new company. In addition, the CEO comes from the founding companies in 27.7% of the cases. This suggests substantial involvement by the founding companies in the initial operations of the roll-up. There is only one company where the founders did not receive any shares or board representation.

The sponsors own 16.9% of the company, on average (median=12.45%), which represents the bulk of their compensation for their effort in bringing the firms together; they sometimes receive cash compensation as well. However, they also make an initial investment in the company and they may make loans to the company, which are forgiven in some cases. When we value the firm at the offer price, add cash compensation and subtract the funds invested in the company and loans made to the company, we find that the average sponsor makes \$29.2 million in a successful transaction, with a median of \$15.35 million.<sup>2</sup> Unfortunately, we have only anecdotal evidence on how much effort is required in putting together a roll-up and how many proposed transactions do not make it to the IPO stage. It is therefore difficult to gauge whether this amount of compensation is appropriate, but at a cursory level it does appear to be very substantial.

#### 4. Post-IPO performance of roll-up firms

In this section, we examine the performance of the roll-up companies in our sample. We study both stock market and accounting performance. In each case, it is important to determine the appropriate benchmark. One possibility is to compare the

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<sup>2</sup> Not all the loans made to the company are forgiven, but the language in the prospectuses is not always clear on this issue. To be conservative, we subtract the value of all the loans made to the company in calculating this figure. Without subtracting the loans, total compensation averages \$29.61 million (median = \$16.00 million).

company to other firms in the industry, but the problem with that approach is that there are few publicly traded firms in the industry segment we are studying. Indeed, this condition is perhaps the chief motivation for the transaction and the roll-up itself is often that industry's first publicly traded firm. While we can find other publicly traded companies with the same SIC code, these firms are likely to be very different from the roll-up companies. We therefore prefer to first compare the stock price performance of the companies in our sample to a measure of the overall stock market, but we will also report results using industry- and size-matched firms. In the empirical work that follows, we use the value-weighted CRSP index as our market proxy. For accounting performance, we report the raw numbers, and we also adjust for the performance of other companies in the same four-digit SIC code.

#### *4.1. Stock returns*

In Panel A of Table 3, we report stock returns for several subperiods after the effective date of the IPO. Because many transactions took place toward the end up the sample period, the sample size declines as we increase the time period over which we study returns. We find no significant difference in the general market performance and roll-up performance over the first six months. Roll-up firm returns average 4.88% over the first six months, compared to a market return of 7.92% for the same period. After the first six months, however, roll-up performance starts to deteriorate dramatically. Mean and median returns for the roll-up firms are negative in all subsequent six-month periods, and the returns are always significantly less than the market returns. The 25 firms in our sample with at least two years of post-IPO returns data have total returns of 13.66% (median=5%) after two years, compared to market returns of 51.52% (median=51.03%); this difference in roll-up and market benchmark returns is highly significant. In the last

row of Panel A of Table 3, we cumulate returns from the IPO date through delisting or December 31, 1999, whichever occurs earlier. These figures provide strong evidence that investing in roll-ups has been harmful to shareholder wealth. Mean returns are  $-25.61\%$ , and median returns are  $-59.28\%$ , compared to very strong market performance over this period.

Figure 1 presents a graphical illustration of long-run returns to both the roll-up sample and the market. To compute returns in this figure, we average daily returns across the roll-up firms and cumulate these returns over time.<sup>3</sup> We then use the same approach to compute the benchmark market returns. This computation assumes that: (a) portfolios are rebalanced on a daily basis and (b) when a firm drops out of the sample, that position is liquidated and the funds are reinvested equally in the other stocks. The figure illustrates that roll-ups outperform the market for about 120 days after which their returns start to deteriorate. The returns after 756 trading days (approximately three years) are better than those reported in Table 3, where we use buy and hold returns, but the extent of the underperformance relative to the market is of the same magnitude: more than 90 percentage points.

The lack of abnormal returns for roll-up firms during the first six months after the IPO and the subsequent deterioration in returns is consistent with the evidence reported by Loughran and Ritter (1995) for 4,082 IPOs conducted in the U.S. market from 1970 until 1990. However, starting six months after the IPO, the firms in our sample perform much worse than those studied by Loughran and Ritter. For example, we report second year returns of  $-18.11\%$ , on average, compared to  $3.6\%$  in their sample. Overall, the comparison with the evidence reported by Loughran and Ritter indicates that roll-up firms

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<sup>3</sup> Note that the returns in Figure 1 do not correspond with those presented in Table 3 since the latter documents buy and hold returns.

perform at par with their sample of IPOs for the first six months, but that the subsequent decline in performance after the first year is worse.

Panel B of Table 3 provides further evidence on the long-run stock price performance of the firms in our sample using two alternative benchmarks, both of which are constructed from samples of matching firms. Roll-ups are unique corporate events in that they combine aspects of both merger and acquisitions transactions with traditional IPOs. Consequently, each matching-firm comparison sample was designed to help isolate these effects. The first sample consists of firms in the same industry (4-digit SIC code) closest in size to the IPO firm.<sup>4</sup> As we discussed previously, it is not clear how useful industry matching is since the firms in our sample are often the first firms that are attempting to start an industry consolidation. These findings should therefore be interpreted with caution. As illustrated in the table, the firms in our sample also underperform the industry benchmark by a large margin. The average returns of the benchmark firms taken from the roll-up IPO date until the delisting of the roll-up firm or the end of December 1999 is 36.02% compared to -25.61% for the firms in our sample. These returns are significantly different from each other at the 8% level.

The second benchmark sample consists of companies closest in size to the roll-up firm that have completed an IPO within 2 weeks of the firms in our sample. As illustrated in Panel B of Table 3, the roll-ups also perform poorly relative the IPO-benchmark. The mean roll-up underperforms the benchmark by close to 30% over its lifetime (-25.61% roll-up return versus 3.81% for the benchmark). The median level of underperformance is

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<sup>4</sup> If a matching firm is delisted before the roll-up firm, we splice in the next-best matching firm at the time of delisting. This procedure is the same as the one followed by Loughran and Ritter (1995). To conserve space, we have not listed the names of the firms in the two matching samples. They are, however, available from the authors upon request.

similar. However, because the returns are very noisy, only the median difference is marginally significant.

Taken together, the comparison of the roll-up transactions with the two matching-firm samples indicates that the stock price performance of the roll-up sample was substantially worse than that of either firms of comparable size from similar industries or single-firm IPOs of comparable size. However, it is also interesting to note two additional points. First, it is clear from the returns in Panel B that roll-up performance lags that of established firms by significantly more than it does that of newly created matching firms. Second, inasmuch as roll-up performance lags that of single-firm IPOs, it is apparent that the attempt to assimilate several small operating companies into a cohesive unit also results in the cumulative loss of shareholder value.

Our final test of the long-run performance of the roll-ups employs the calendar time portfolio approach discussed by Fama and French (1993) and Lyon, Barber, and Tsai (1999). We implement this approach in the following manner. First, using monthly returns data, we form a portfolio in calendar time of firms that have completed a roll-up over the prior three years. Thus, the composition of the portfolio changes on a monthly basis. Second, we estimate the following time-series regression:

$$r_{p,t} - r_{f,t} = \alpha + \beta_m(r_{m,t} - r_{f,t}) + \beta_s SMB_t + \beta_{bm} HML_t + \varepsilon_t$$

where

$r_{p,t}$  is the month  $t$  return on the roll-up portfolio

$r_{f,t}$  is the month  $t$  risk free rate

$r_{m,t}$  is the month  $t$  market return

$SMB_t$  is the month  $t$  return on a portfolio of small stocks minus the return on a portfolio of large stocks

$HML_t$  is the month  $t$  return on a portfolio of high book-to-market stocks minus the return on a portfolio of low book-to-market stocks

Fama and French (1993) discuss the construction of the SMB and HML portfolios in detail.<sup>5</sup> The intercept from this regression represents the monthly abnormal performance of the firms in our sample under the assumption that the Fama-French three-factor model is a correct representation of the return-generating process.

We report the results of this regression model in Panel C of Table 3 for those months with at least ten roll-ups in the sample (i.e., all months starting in September of 1996). Not surprisingly, the performance of roll-ups is strongly related to the market performance and the size and book-to-market factors. After controlling for these factors, we find that roll-ups exhibit underperformance of 2.01% per month. These results strengthen our finding of poor post-IPO performance of the firms in our sample.

#### *4.2. Cross-sectional determinants of abnormal returns*

Having established roll-ups' poor temporal performance in aggregate, this section examines whether we can explain the cross-sectional variation of the abnormal returns for roll-up transactions. For explanatory variables, we focus on factors related to corporate governance of the firms involved in the deals, but we also examine other characteristics of the roll-up transactions.

The number of founding firms involved in the roll-up transaction may have an impact on the long-run performance of the company. Arguments can be developed in support of either a positive or a negative effect. On one hand, the effect could be positive because the number of firms involved in the transaction proxies for the extent to which

consolidation is achieved from the start. If more firms are involved, the roll-up firm will generally be larger and the firm will be able to reap the anticipated economies of scale faster. On the other hand, the larger the number of firms involved in the roll-up, the more difficult it is to integrate the companies, both culturally and from an on-going operating standpoint. If the market did not anticipate these problems at the IPO stage, long-run performance may be negatively affected. This schism implies that there may be an optimal number of initial companies. For example, Richard Howell of Notre Capital Partners, the sponsor of eight of the transactions in our sample, suggests that having five to 12 founding companies is ideal.

Practitioners also argue that there are substantial first-mover advantages for roll-ups. The first companies from a particular industry to affect such a transaction can reap economies of scale faster. Further, they get their choice of the best companies to include in the roll-up as well as the first opportunity to evaluate future acquisition targets. We investigate whether this first-mover advantage is reflected in better stock price performance. We also include as a measure of the previous experience of the sponsors the number of prior roll-ups they completed. Only two sponsors in our sample, Notre Capital Partners and Mr. Jonathan J. Ledecy, are involved in multiple rollups.<sup>6</sup>

The continued involvement of the founding companies in the management of the new business may also affect performance. Again, arguments can be developed to support both positive and negative effects. If founders continue to be involved in the management of the new company, each of the founders may favor his or her business over the others,

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<sup>5</sup> We thank Eugene Fama for providing the monthly returns on the SMB and HML portfolios.

<sup>6</sup> Mr. Ledecy is involved in three of the transactions included in our sample. Those transactions also involve other individuals as sponsors and those individuals are only involved in one of the roll-ups. Setting the experience variable equal to zero for these transactions does not affect our findings. In addition, we find similar results if we include a dummy to indicate whether the sponsor has completed at least one previous transaction.



which could delay integration and lead to power struggles in the firm. On the other hand, if the founders receive proper incentives to maximize the value of the new firm, their continued involvement could prove to be very beneficial because they bring substantial knowledge of both the industry and their individual businesses to the table. Notre Capital, for example, makes continued involvement of the founders a pre-condition to getting the deal done. In particular, they suggest that the following organizational conditions need to be established before a roll-up can take place: (a) founder management signs a five-year employment contract with the new roll-up firm; (b) 75% of the compensation for selling the company is in roll-up stock; (c) the founders receive a board seat; and (d) as a group, the founders control the board, i.e., they have the majority of the seats. This continued involvement also insures that the founders are not selling out when they feel their business is overvalued. Thus, the founders can be viewed as serving the same role as the large shareholders in Shleifer and Vishny's (1986) model.

Finally, we examine whether the long-term performance is related to the ownership of the sponsor in the business, and the number of directorships held by the sponsor. High sponsor ownership suggests that the sponsor has more of an incentive to maximize firm value. However, higher sponsor ownership implies that the founders may hold fewer shares, and thus have less control of corporate decision making. It is also possible that sponsor ownership has a negative effect when it gets too high. This could be an indication that the sponsor paid itself too much at the IPO stage and is simply looking to unload the shares as soon as the lock-up period expires. This effect may be exacerbated if the sponsor receives a substantial amount of additional compensation in cash. (Summary statistics on these variables are reported in Panel D of Table 2, and they have been discussed previously.)

Table 4 contains the results of our regression analyses, which use buy and hold returns to the roll-up firms as the dependent variable. In Panel A, we focus on the longest time horizon available for each firm. As such we do not lose observations in our analysis, but the shortcoming of this approach is that we measure performance across different time horizons. However, we do control for the performance of the CRSP value-weighted stock market index over the same period in all regression models. All of our cross-sectional findings continue to hold if we use the performance of the IPO-matching firms or the non-IPO matching firms instead of the market.

In models (i) through (xiii) we include each of the other explanatory variables separately, while model (ix) includes those variables found to be significant in a step-wise linear regression. We find limited evidence that the long-term roll-up stock price performance depends on the number of firms included in the original roll-up plan,<sup>7</sup> and no indication that whether the firm is first in the industry matters (models i and ii).<sup>8</sup> Similarly, long-run performance is not significantly better when the sponsors have prior experience in putting deals together.

We do find strong evidence, however, that the continued involvement of the founders as shareholders and members of the board has a positive impact on the long-term performance of the roll-up firm. We lose two observations when we study the ownership by the founding companies because the ownership data are either ambiguous or the firm has multiple classes of shares outstanding with different voting rights. The results for regression (iv) indicate that for every percentage point of shares held by the founding

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<sup>7</sup> Including a dummy if there are five to twelve founding companies as suggested by Notre Capital does not lead to significant findings. Similarly, we do not find evidence of a non-linearity in this relationship; there is an insignificant effect if we include both the number of firms involved in the original roll-up and the square of the number of firms.

companies, long-term performance increases by 1.5 percentage points. Given an intercept of -0.8308, we need founding company ownership of about 55% for the performance to be zero after controlling for market performance. This level exceeds both the sample-wide mean and median founder ownership statistics reported in Table 2, Panel D. We find a qualitatively similar result when we include a dummy equal to one if representatives of the founding companies control the board: long term returns, after controlling for market performance, are 65 percentage points higher (i.e., 9.08% versus -55.43%) when the majority of the board members come from the founders. This performance is about nine percentage points above the intercept, which suggests that these firms essentially break even, after controlling for market performance. In regression (vi) we check whether performance depends on whether the CEO has a prior relationship with one of the founding companies, but find little evidence to support this conjecture.

In regressions (vii) and (viii), we analyze the impact of sponsor ownership and board control. Neither of these effects is significant at conventional levels, but the coefficient on sponsor ownership suggests that, if anything, sponsor ownership is not beneficial. This inference results from the negative correlation between the sponsor ownership and founder ownership variables. In regression (ix), we include all the variables that are significant in a stepwise regression model, where we eliminate variables insignificant at the 10% level (except that we do not remove the market return). We continue to find significant founder ownership and board control effects. In addition, we find that the long-run performance declines as more firms are included in the roll-up, which suggests that these firms may experience problems in the integration of the founding companies.

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<sup>8</sup> When constructing this measure, we define industry at the two-digit level. Defining industry at the four-digit level or setting the “first mover” dummy equal to one only if more than one roll-up takes

In Panel B of Table 4, we repeat our analysis of Panel A, but we specify roll-up returns in the first year of operation as the dependent variable. As documented in Table 3, we have one-year return data for 46 companies in our sample. One advantage of focusing on the first year of operations is that the absolute performance of the average roll-up to that point is not particularly bad (i.e., it has not yet turned negative). It is therefore interesting to consider whether our cross-sectional findings continue to hold during a period of better relative performance. The results in Panel B of Table 4 are similar to those in Panel A. The significant positive impact of founder ownership and control continue to hold for the first year of operation, as well as the negative effect of the number of firms included in the roll-up.

We do find that the two sponsors who put together multiple transactions in our sample have higher returns during the first year, and the effect of Notre Capital is significant at the 5% level (not reported in the table). This result at least implies that sponsors are more likely to put additional deals together when their prior transactions have a good initial track record.

Overall, the evidence contained in Table 4 suggests that there are important cross-sectional differences in the long-run stock price performance of the roll-up firms in our sample. If the founding companies control the board or hold a substantial amount of stock in the roll-up company, the firms do not underperform relative to the market; if not, underperformance is substantial.<sup>9,10</sup>

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place in the industry does not affect the results.

<sup>9</sup> We do not find a relation between stock price performance and the amount of cash compensation received by the sponsor. This finding is not reported in Table 4. In unreported models we also control for firm size, measured by the market value of equity. The coefficient on firm size is never significant and its inclusion has no effect on the coefficients of the other explanatory variables.

### 4.3. *Accounting performance*

In this section, we examine whether the poor roll-up stock price performance is accompanied by poor accounting performance. Specifically, we study operating profitability as well as net income before extraordinary items, and use both assets and sales as deflators. Sales will not be affected by the accounting methods used for additional acquisitions made subsequent to the offering. To mitigate the impact of outliers, we winsorize all accounting variables at the 5<sup>th</sup> and 95<sup>th</sup> percentile of their distributions. This proves to be a conservative adjustment; the performance of the roll-up firms is worse when we do not truncate the variables.

Panel A of Table 5 contains raw performance measures for the years after the IPO. Compustat data are not available on all firms and the number of observations varies across data items because some data are missing on Compustat. Note that the average roll-up has negative earnings before extraordinary items in the first year after going public. All the performance measures improve in subsequent years. However, since we have only 12 firms with three years of post-IPO data, the results in the last row of Panel A are best considered suggestive rather than conclusive. The poor accounting performance in the first year of operations after the IPO is consistent with evidence of Mikkelsen et al. (1997), who study 283 IPOs completed over the period 1980-1983, and Jain and Kini (1994), who examine 682 IPOs from 1976 to 1988. However, the improvement in performance in the second year contrasts with the results of these studies in which operating performance continues to decline up to at least three years after single-firm IPOs. Thus, it is possible that the poor accounting performance in the first year following a roll-up transaction has

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<sup>10</sup> In unreported models, we have also included the price/earnings ratio at which the founding companies are bought out. This variable does not affect long-run returns.

more to do with the myriad challenges of combining several existing operating structures than taking the firm public per se.

In Panel B, we compare the accounting numbers to those of other firms in the same 4-digit SIC code industry, even though these firms may be very different in nature. For example, Advanced Communications Group, one of the roll-ups in our sample, is combined together with AT&T in the Telephone Communications Sector. Our results should therefore be interpreted with caution. We also have fewer observations than in Panel A because some roll-up firms are the only companies in their respective four-digit SIC codes. Nevertheless, we find substantial underperformance for the first year after the roll-up. All measures of industry-adjusted profitability are negative with three out of four being significant. Further, the level of underperformance is quite large. For example, the median return on assets of the firms in our sample is only 1.48% in year 1, which is 2.80% below the industry median. Thus, roll-up firms are only about a third as profitable as the other firms in their industry. Profitability improves substantially in the second year and the third, where we find no evidence of underperformance. Mikkelsen et al. (1997) find a different pattern of industry-adjusted performance for their single-firm IPOs. Specifically, they report that in the first fiscal year after completing the transaction, IPO performance is not significantly different from the industry norm. Subsequently, however, IPO performance declines and it is below the industry median for the next ten years. In contrast, the firms in our sample perform poorly immediately after going public, but they appear to recover quickly.

The results on profitability do not fully correspond to the stock price performance. As documented in Table 3, the stock price performance of the firms in our sample does not start declining until the second year, a point in time when the accounting performance actually improves. Taken together, the findings indicate that investors are willing to give

the firm some latitude during the first year of operation, but that the expectations for subsequent performance are high. In particular, it appears that investors do not feel that performing at par with the industry is sufficient to justify their original expectations and, hence, the stock price declines.

#### *4.4. Subsequent acquisition activity*

As mentioned previously, a basic premise behind the roll-up is that the firm will make further acquisitions to continue the consolidation process that began at the IPO stage. To gain a more complete appreciation of the potential benefits accruing to the roll-up transaction, it is therefore crucial to examine these subsequent acquisitions and determine how they are received by the market. We identify the acquisitions made by the firms in our sample using the SDC database. Because many of the acquisitions involve private companies, the amount paid in the transactions is usually not disclosed.

The abnormal returns around the acquisition announcements are reported in Table 6. Forty-two of the 47 companies in our sample make 593 acquisitions from their IPO until the end of 1999. Often, several acquisitions are announced on the same day; as a result, we are able to identify 322 unique announcement days on which acquisitions are made. We measure abnormal returns relative to the CRSP index proxy for the stock market, because for most companies we lack enough trading activity to estimate market model parameters. We employ a three-day event window, including the day before and the day after the announcement. Abnormal returns average 1.13%, significant at the 2% level, and the median abnormal return is 0.78%, significant at the 0.001% level. When we sum the abnormal returns across all the announcement dates for each firm, the average is 10.17%, significant at the 4% level; the median abnormal return is 6.24%, which is significant at the 1% level. Thus, it appears that investors respond positively to further

consolidation in the industry. It may also be the case that the announcement of additional acquisitions signals investors that the integration of the firms combined during the IPO has been successful.

Interestingly, when we explore the abnormal returns for each announcement day, we do find a strong drop-off in returns for transactions announced in 1998 and 1999. On the 130 days on which acquisitions are announced in 1994-1997, abnormal returns are 2.62%, on average (median=1.24%), but for the 192 days when deals are announced in 1998 and 1999, abnormal returns are 0.14%, on average (median=0.22%). The means are significantly different across the two subperiods at the 1% level, and the medians are significantly different at the 2% level.

The positive market response to the acquisitions does not appear to be consistent with the long-run performance reported earlier. This is because the returns of companies before and after their acquisitions are very asymmetric, as reported in Panels B and C of Table 6. To determine pre-acquisition returns, we compute the market-adjusted returns from the IPO until each acquisition date. Thus, there is one observation for each acquisition date, and firms that make more acquisitions are included more often in the computation of this average. We find average market-adjusted returns before each acquisition of 16.51% and median market-adjusted returns of 8.70%. Both the mean and median are significantly different from zero ( $p$ -values  $< 0.001$ ). We also compute market-adjusted returns before each of the first five acquisitions. Median abnormal returns are always positive and the mean is positive in four out of the five cases. However, they are only significantly positive when the firm makes five acquisition announcements. Before their fifth acquisition announcement, roll-up firms outperform the market by 17.53%, on average (median=12.85%). Conversely, the character of abnormal performance changes dramatically when market-adjusted returns are measured in the post-announcement period



(i.e., from the date of the new acquisition until the end of 1999). Averaged across all announcements, the acquirers underperform the market by 115.26% (median = 112.72%). The results are similar when we look the first five acquisitions announcements only; average underperformance is always around 100%.

These market-adjusted results are quite similar to those produced by comparing the roll-up performance to the matching-firm benchmarks described earlier, except that the pre-announcement abnormal returns are higher and significant in all cases, while the post-announcement abnormal returns not as negative, but still highly significant.

Overall, the preceding evidence is consistent with the following scenario. A number of firms go public in a roll-up transaction, with the promise that more acquisitions will follow to further consolidate the industry. These acquisitions will be partially financed by the company's stock. If firms perform well, they make the promised acquisitions. On average, the market supports these transactions. As long as the stock keeps doing well, the firms continue to make acquisitions. However, the strategy does not live up to its promise and when the market starts to realize this, the stock price collapses. Because the firms use the stock as their acquisition currency, further acquisition activity is suspended.

This evidence raises the question as to whether the total stock returns from the roll-up IPO until the end of 1999 is related to the acquisition activity of the firm. We answer this question in Table 7, where we relate the number of acquisition announcements to long-term performance. This model is similar to the one reported in Table 4, column (ix), but we include the number of acquisition announcements and the square of the number of announcements as additional explanatory variables. The purpose of this regression is not to infer causality, but to measure whether long-run returns are higher if the roll-up firms make more acquisitions after their IPO. We cannot infer this relation from Table 6, given the asymmetry in the pre- and post-acquisition returns.

Model (i) of Table 7 only includes as explanatory variables the value-weighted CRSP index, the number of announcements, and the square of the number of announcements. Of particular interest, both of the latter variables are significant in the regression model. The positive sign on the number of announcements and the negative sign on the squared term suggest that long-run performance improves with the number of announcements, as long as there are not too many, 15.4 in this case. Only four companies in our sample make more than 15 announcements. The effect is also economically important. A company that makes ten acquisition announcements has long-run returns that are 48.65% greater than a company with only five announcements.

In model (ii), we include the other explanatory variables found to be significant in Table 4. The effect of the number of acquisitions remains marginally significant, and the inflection point declines to 12.5 announcements.

These results suggest that firms with programs of consistent acquisitions outperform those firms that make few acquisitions, as long as the pace of that acquisition activity is not viewed as being too aggressive.

#### *4.5. Post-acquisition sales by sponsors and founders*

This section examines the post-acquisition ownership positions of the sponsors and founders. Our goal is to determine whether the original owners cash out after the IPO, or purchase more shares instead, and whether these ownership changes affect the long-run stock price performance of the companies.

To determine post-IPO ownership, we examine all the proxy statements available after the roll-up to identify the large shareholders. We then match these with the data obtained from the original prospectuses. While this procedure may not lead to perfect matches -- for example, some investors appear to be listed under different names in the

two sets of documents -- it does insure that we have captured those individuals whose involvement is most likely to have a material impact on the firm in question (e.g., sponsors that continue to own more than five percent of the outstanding shares, founders who remain on the board of directors). Nevertheless, the sales figures we report may be overstated and therefore we also examine stock sales subsequent to the first proxy statement. These findings are less likely to suffer from problems in identifying ownership positions. We focus on changes in the number of shares held, not changes in percentage ownership, because many firms engage in acquisitions financed by equity. In such cases, the fractional ownership of sponsors and founders is likely to decline without having sold any of their original positions. All computations are adjusted for stock splits.

Our findings are displayed in Table 8. Panel A contains cumulative share sales from the initial ownership position reported in the prospectuses. We display two numbers for each year. The first figure includes companies whose founders and/or sponsors sell their entire stake in the firm; the second figure excludes those companies, because these may be cases where we are unable to correctly identify the sponsors and founders from the proxy statements.

Our findings indicate that both sponsors and founders drastically reduce their ownership positions after the IPO, especially the founders who sell more than half of their shares by the time the first proxy statement is published. Sponsors reduce their positions by 26.8%, on average, by the first proxy statement if we include 100% sell-offs, and by 16.4% if we exclude full sell-offs; the median decline is of similar magnitude.<sup>11</sup> Further sales are more limited as illustrated in Panel B of Table 8. None of the promoter sales are significantly different from zero. The founders, on the other hand, continue to sell off

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<sup>11</sup> Note that these figures represent percentage reductions in the number of shares held by the individuals involved, not reductions in their percentage holding of all outstanding shares.

modest amounts of shares: the median sell-off is 5.7% from one to two years after the IPO, and another 5.2% from year two to year three.

We also investigated whether the promoters and founders sell more shares before the price starts declining and whether the sales are related to future stock price declines. We have not been able to identify any significant relationships, which indicates that post-rollup sales by promoters and founders have no predictive ability. (These results are not reported in Table 8.) The level of founder ownership, however, remains an important determinant of overall stock price performance. When we substitute the level of founder ownership, measured one or two years after the roll-up, in the long-run return regressions reported in Table 4, we continue to find a significant positive relationship. Thus, even though founders may sell a substantial fraction of their shares after the roll-up, their initial ownership was sufficiently large in more successful companies to compel their continued participation. And, since these share sales are unrelated to performance, they continue to hold a larger fraction of the better firms.

## 5. Concluding remarks

It perhaps goes without saying that converting a closely held company into a publicly traded corporation is one of the most dramatic transformations that any business organization can make. It is not surprising, then, that the myriad issues attending an initial public stock offering have attracted considerable attention in the financial economic literature. Some of this research, typified by studies dating to Logue (1973) and Ibbotson (1975), has concentrated on measuring the market's initial and long-run reaction to IPO events while other papers have investigated some of the underlying links between the security issuance and market valuation processes (e.g., Beatty and Ritter (1986) and Carter, Dark, and Singh (1998)).

By combining many of the characteristics of traditional equity offerings with several unique cultural and logistical features, roll-up IPO transactions present an opportunity to extend this literature in a compelling way. In this paper, we examine motivations and economic impact of 47 roll-ups initiated between 1994 and 1998. We find that while the initial and short-term reactions to these new firms are comparable to those of the market as a whole, their long-term stock price performance substantially lags that of several benchmarks and is, in fact, even worse than the long-run performance of traditional IPOs documented in prior studies. Further, measures of accounting profitability for our roll-up sample are, on average, significantly lower than those for companies from comparable industries. Interestingly, we show that accounting performance for the typical roll-up improves at the same time the stock price performance is eroding.

Our analysis of the determinants of the cross-sectional variation in long-run stock performance reveals that it is important that managers and owners of companies acquired in the roll-up remain involved in the business. Indeed, such involvement through stock ownership and board membership helps to mitigate what might otherwise be an adverse reaction from investors. We also find some support for the hypothesis that a limited number of firms should be included in the roll-up transaction, but there is no evidence to support any meaningful first-mover advantage. Further, while the market's response to announcements of subsequent acquisitions by the roll-up firms is positive, market-adjusted post-announcement returns are significantly negative. On balance, we conclude that, as an organizational form, roll-ups have not as yet met investor expectations and have, on average, failed to increase shareholder wealth.

One point that emerges from the entire set of results we document is that a roll-up is a distinctive event, differing significantly in both form and market reaction from a

traditional new equity offering. While the work contained herein explores many of these unique attributes, additional questions remain unanswered. For example, the role of the roll-up sponsor appears to be more pervasive and potentially more influential than that of the investment bank in a traditional IPO. What factors (e.g., industry experience, capital commitment) determine an effective sponsor and why does sponsor ownership appear to have deleterious effects? Further, given the relatively recent development of the roll-up market, it is impossible at present to know whether there are cyclical factors affecting the market reaction to these deals. Finally, there may be important personality factors that influence the success of a deal; Sparks (1998), for instance, noted that none of the consolidations involving physicians have done very well. What are these crucial traits and how are they “priced” in the market? The answers to questions of this nature await further research.

Case Study: TeleSpectrum Worldwide Inc. (NASDAQ: TLSP)<sup>12</sup>

TeleSpectrum went public in August of 1996. It was an initial roll-up of six companies in the direct marketing industry including three outbound telemarketing companies, an inbound customer support company, a fulfilment and direct mail company, and a market research company. The founding companies ranged in expected 1996 revenues from approximately \$10 million to \$50 million. The stated goal of the sponsors was to create a one-stop location for direct marketing services.

The sponsor of the transaction was one of the largest commercial real estate owners in Philadelphia and the CEO of CRW Financial, which was a collection agency dedicated primarily to collections in the casino and gaming industry. In late 1995, the sponsor identified the telemarketing industry as an opportunity for a roll-up after seeing the significant stock market performance of APAC Teleservices and SITEL Corporation, which had both successfully completed traditional IPOs in 1995.

The first companies to agree to participate in the roll-up were identified in early 1996, with the final two companies agreeing to participate in April 1996. The initial registration statement was filed on May 23, 1996, and TeleSpectrum went public for \$15 per share on August 8, 1996. The underwriters were J.P. Morgan & Co., Dillon, Read & Co. Inc., Legg Mason Wood Walker Incorporated and The Robinson-Humphrey Company, Inc. The stock closed on August 8 at \$16.3125, an increase of 8.75% over the offer price. Figure 2 displays TeleSpectrum returns and stock market returns from August 8, 1996 until December 31, 1999. The sponsor became the CEO and Chairman and then

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<sup>12</sup> Much of the following analysis was contributed by Ken Wiles, who was Chief Financial Officer of Somar, Inc., one of the companies included in the TeleSpectrum roll-up. He was also Vice President for Business Development of TeleSpectrum for six months after the IPO. All the information contained in this case study is publicly available.

hired an outside President and CFO. Only the President had industry experience prior to joining TeleSpectrum although that was not with an outsourcing telemarketing company.

After the IPO, ownership by the founding companies was 18.98%, which represents a market value of approximately \$66.1 million, based on the offer price. However, the founders received more of their compensation in cash: \$90.9 million. This does not fit with the guideline proposed by Notre Capital (the sponsor with the largest number of transactions in our sample) that the founders should receive at least 75% of their compensation in stock. The founders of TeleSpectrum held 40% of the board seats, which is also below Notre Capital's guideline of majority control. The sponsor made an investment of \$1.6 million in the company, and received 36.68% of the shares as compensation. Valued at the offer price, the gain to the sponsor was \$126.05 million.

Within several weeks of the offering, operational control of the company began to be consolidated in the Philadelphia headquarters and several of the founding business managers were offered severance packages to leave the company. Within approximately one year, all of the owner-managers of the founding companies had left Telespectrum, along with many of the original middle managers and salespeople. Again, this does not fit with the roll-up business model described by Notre Capital.

The stock price initially rose from its offering price of \$15 to just above \$20 dollars in the first six weeks of trading. Subsequently, the stock traded from \$12 to \$17 per share, through the third quarter of 1997 when the company announced that it would not meet analysts' estimates; as a result and the stock price dropped to just above \$6. Over the next several months the stock traded as low as \$2.75.

The company made three acquisitions during the first year of operations. The original owners from one of these acquired companies left within a year and another of the founding firms was spun off within two years. TeleSpectrum also closed all of the call



centers from one of its founders when the predominant customer of that company decided to bring its call center operations in-house. Subsequently, TeleSpectrum sold its direct mail and fulfillment operations as well as its market research company. The company is absorbing CRW Financial and has merged with California-based International Data Response Corporation, which is a privately held teleservices firm. TeleSpectrum now predominately provides outbound telemarketing and inbound customer support services.

In 1997, the President of TeleSpectrum left the firm, and shortly thereafter the original sponsor and CEO, Brian O'Neill, hired a replacement CEO/President who had successfully turned around a major tax preparation company. The sponsor retained the Chairman's position. During the three days around the announcement of this change, the stock price increased from \$4.125 to \$6.50. The stock further recovered to trade at \$11 dollars at one point, but has predominately traded in a range from \$4 to \$9. In addition, in 1999 the initial CFO left the company and the sponsor resigned his Chairmanship and is no longer on the board of directors or a member of management. As of June 30, 2000, Telespectrum shares traded at \$4.5625.

### Appendix: Accounting Issues in Roll-up Transactions

Issued in August 1970, Accounting Principles Board (APB) Opinion 16 specifies that corporations may apply either the purchase or pooling of interest (“pooling”) methods of accounting for business combinations. Under the purchase method, the purchase price is allocated to the restated fair market values (i.e., stepped-up basis) of the acquired assets and assumed liabilities of the acquired company. The amount by which the purchase price exceeds the sum of the fair market values of the acquired assets less assumed liabilities is recorded as goodwill, which must be written off against the acquiring company’s income over a period not to exceed 40 years. Under a pooling, a business combination is accounted for by uniting the ownership interests of companies through an exchange of equity securities. The assets and liabilities of the constituents are carried forward (i.e., carry-over basis) to the combined corporation at their recorded or historical amounts. A pooling avoids any earnings drag generated by amortizing goodwill, since none is created.

To provide guidance as to which accounting treatment is appropriate, APB 16 stipulates 12 criteria, which if satisfied, indicate that the business combination should be accounted for as a pooling.<sup>13</sup> These standards have been refined and altered over time. In September 1982, the Security and Exchange Commission released Staff Accounting Bulletin (SAB) 48. The SEC summarized SAB 48 as follows: “This staff accounting bulletin reflects the staff’s long-standing position that when a company acquires assets from promoters and shareholders in exchange for stock prior to or at the time of its initial public offering such assets should generally be recorded at the cost to the promoter or shareholder.”<sup>14</sup>

Roll-up sponsors interpreted SAB 48 to permit a pooling accounting treatment for simultaneous acquisitions and IPOs even if the conditions for pooling set forth by APB 16 were not met. In addition, roll-up companies were able to distribute cash to the shareholders of the founder companies. Cash consideration given in these transactions was treated for accounting purposes as a dividend from the IPO firm to the original shareholders of the founding companies. Roll-ups were thus able to present combined pro forma historical financial statements that were intended to represent the results of the companies as a combined publicly traded entity despite having no history of common operations or management. In addition, under pooling accounting, the roll-up avoided goodwill charges. This may have been an important consideration for some sponsors.

Although SAB 48 was released in 1982, roll-ups did not begin appearing until the mid-1990’s, perhaps because potential sponsors did not realize that SAB 48 could be applied to roll-ups.

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<sup>13</sup> The Financial Accounting Standards Board (FASB) reached a preliminary decision in April 1999 to eliminate pooling as a method by which to record business combinations. FASB also favors a shorter goodwill amortization period not to exceed 20 years. It is currently expected that pooling will be eliminated sometime in 2001.

In July 1996, the SEC responded to what it considered the inappropriate application of SAB 48 with the release of SAB 97. SAB 97 clarifies that SAB 48 was not intended to circumvent the requirements of APB 16. Specifically, if a business combination does not meet the conditions for pooling specified under APB 16, then it should be accounted for at fair value using the purchase method of accounting. In addition, SAB 97 specifies that an acquiring company must be identified in all business combinations that do not meet the pooling conditions set forth in APB 16. If none of the combining companies receives greater than 50 percent of the combined entity's stock, then the company receiving the greatest portion of the combined stock should be presumed to be the acquirer unless there is compelling evidence that another company should be specified as the acquiring entity.

SAB 97 also indicates that, with few exceptions, the financial statements of the acquirer should not be presented on a combined basis with the pre-acquisition financial statements of the acquired companies. SAB 97 therefore confirms the SEC's general prohibition against the presentation of combined financial statements of unrelated companies and that combined statements can only be presented for those periods for which those companies are under common management or control. Note that SAB 97 did not amend or rescind SAB 48, which continues to apply to non-monetary assets that are exchanged for the registrant's common stock just prior to or contemporaneously with an IPO. SAB 48 does not, however, apply to business combinations.

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<sup>14</sup> Securities and Exchange Commission, Staff Accounting Bulletin 48, September 27, 1982.

## References

- Beatty, Randolph P., and Jay R. Ritter, 1986, Investment banking, reputation, and the underpricing of initial public offerings, *Journal of Financial Economics* 15, 213-232.
- Carter, Richard B., Frederick H. Dark, and Ajaj K. Singh, 1998, Underwriter reputation, initial returns, and the long-run performance of IPO stocks, *Journal of Finance* 53, 285-311.
- Credit Lyonnais Securities, 1998, Rollups: US Research, New York, NY.
- Fama, Eugene F., and Kenneth R. French, 1993, Common risk factors in returns on stocks and bonds, *Journal of Financial Economics* 33, 3-56.
- Ibbotson, Roger G., 1975, Price performance of common stock new issues, *Journal of Financial Economics* 3, 235-272.
- Jain, Bharat A. and Omesh Kini, 1994, The post-issue performance of IPO firms, *Journal of Finance* 49, 1699-1726.
- Lee, Inmoo, Scott Lochhead, Jay Ritter, and Quanshui Zhao, 1996, The costs of raising capital, *Journal of Financial Research* 19, 59-74.
- Loughran Tim, and Jay R. Ritter, 1995, The new issues puzzle, *Journal of Finance* 50, 23-51.
- Logue, Dennis E., 1973, On the pricing of unseasoned new issues, 1965-1969, *Journal of Financial and Quantitative Analysis* 8, 83-90.
- Lyon, John D., Brad M. Barber, and Chih-Ling Tsai, 1999, Improved methods for tests of long-run abnormal stock returns, *Journal of Finance* 54, 165-201.
- Mikkelsen, Wayne H., M. Megan Partch, and Kshitij Shah, 1997, Ownership and operating performance of companies that go public, *Journal of Financial Economics* 44, 281-307.
- NationsBanc Montgomery Securities, 1998a, Consolidator Quarterly, First Quarter 1998, San Francisco, CA.
- NationsBanc Montgomery Securities, 1998b, Consolidator Quarterly, Second Quarter 1998, San Francisco, CA.
- Sparks, Debra., 1998, Poof! And small turns into big, *Business Week* (August 3), 72-73.
- Shleifer, Andrei, and Robert W. Vishny, 1986, Large shareholders and corporate control, *Journal of Political Economy* 94, 461-488.

Table 1  
Sample of Rollup Transactions

<u>Company</u>	<u>Ticker</u>	<u>S-1 Date</u>
U.S. Delivery Systems	DLV	05/12/1994
U.S. Office Products	OFIS	02/14/1995
Physicians Resource Group	PRG	06/23/1995
Physician Support Systems Inc.	PHSS	01/16/1996
F.Y.I. Corp	FYII	01/23/1996
Cotelligent Group	COTL	02/14/1996
Coach USA	CUI	05/14/1996
American Residential Services	ARS	06/18/1996
StaffMark, Inc.	STAF	07/03/1996
Fortress Group Inc.	FRTG	07/17/1996
Telespectrum Worlwide Inc.	TLSP	08/08/1996
Signature Resorts	SIGR	08/15/1996
Service Experts	SVE	08/15/1996
Styling Technologies Inc.	STYL	09/20/1996
Medical Manager	MMGR	09/30/1996
United Auto Group	UAG	10/23/1996
PalEx, Inc.	PALX	12/24/1996
Apple Orghodontix Inc.	AOI	03/05/1997
Vestcom International Inc.	VESC	03/18/1997
Group 1 Automotive	GPI	06/24/1997
Comfort Systems USA	FIX	06/26/1997
American Physician Partners	APPM	06/27/1997
Metals USA	MUI	07/10/1997
Industrial Distribution Group	IDG	07/18/1997
Innovative Valve Technologies	IVTC	07/18/1997
Travel Services International	TRVL	07/22/1997
USA Floral Products Inc.	ROSI	08/07/1997
Transcoastal Marine Services	TCMS	08/29/1997
Imagemax Inc.	IMAG	09/12/1997
Advanced Communications Group Inc./DE	ADG	10/10/1997
Pentegra Dental Group Inc.	PEN	10/10/1997
Condor Technology Solutions Inc.	CNDR	10/13/1997
Integrated Electrical Services Inc.	IEE	10/24/1997
Dispatch Management Services Inc.	DMSC	11/10/1997
HomeUSA	HSH	11/14/1997
Pentacon Inc.	JIT	12/03/1997
Brightstar Information Technology Group Inc.	BTSR	12/24/1997
Provant Inc.	POVT	02/12/1998
Unicapital Corp.	UCP	02/20/1998
United Road Services	URSI	02/26/1998
Landcare USA Inc.	GRW	03/18/1998
Compass International Services Corp.	CMPS	04/13/1998
Transportation Components Inc.	TUI	04/20/1998
Hometown Auto Retailers Inc.	HCAR	05/15/1998
Railworks Corp.	RWKS	05/22/1998
Resortquest International	RZT	06/12/1998
Quanta Services Inc.	PWR	10/23/1998

Table 2  
Summary statistics

The sample consists of 47 roll-up IPOs completed over the 1994-1998 period. Data are obtained from registration statements, prospectuses, CRSP, and Compustat. Underpricing is computed as the percentage change in price from the offer price until the first aftermarket price. The dollar return of the sponsor is computed as the total cash compensation of the sponsor plus the value of the shares owned by the sponsor in the roll-up, valued at the offer price, minus the sponsor's investment in the company, minus the value of the loans made to the company. Market value is the value of the firm, computed at the offer price.

Panel A: Distribution by year of IPO

Year	Number of roll-up IPOs
1994	1
1995	2
1996	12
1997	15
1998	17
Total	47

Panel B: Number of founding companies involved in the roll-up transaction

Number of founding companies	Frequency
3	3
4	6
5	5
6	5
7	8
8	4
9	3
10 or more	13
Total	47

Panel C: Industry classification

Industry	Frequency
construction (SIC 17)	6
wholesale trade - durable goods (SIC 50)	4
automotive dealers and gasoline service stations (SIC 55)	3
real estate (SIC 65)	2
business services (SIC 73)	9
health services (SIC 80)	3
engineering, accounting, research, mgmt and related services (SIC 87)	3
other service industries (SIC 72, 75, 76)	2
Others	15

Panel D Other summary statistics

Variable	Mean	Median	Std. dev	Min	Max	N
Number of founding companies	9.72	7	9.20	3	53	47
Size of IPO (\$ millions)	64.3	50.1	77.0	14.6	532	47
Market value at offer price (\$ mill)	155.7	118.4	141.8	18.0	914.5	47
Underpricing (%)	14.56	9.52	16.33	-8.3	58.9	47
Ownership of founders (%)	40.04	44.71	18.01	0	69.10	45
Percentage of directors from founders	47.37	50.00	22.00	0	100	47
CEO from founding company (%)	27.66	-	-	-	-	47
Ownership of sponsor (%)	16.90	12.45	12.00	0	50.49	45
Percentage of directors from sponsor	21.69	16.03	20.99	0	100	44
Dollar return sponsor (\$ millions)	29.23	15.35	42.20	0.175	245.35	44

Table 3  
Stock price performance after the roll-up IPOs

The market return is the return on the CRSP value weighted stock market index. Median returns are reported in parentheses. Returns are computed assuming a buy and hold strategy. In Panels A and B, the p-value is the p-value of a t-test of equality of means. In Panels A and B, the p-value in parentheses is the p-value of sign rank test of equality of medians.

Panel A: Benchmark is market return

Period	Roll up Return	Market return	P-value difference	N
months 6 – 12	0.0488 (-0.0337)	0.0792 (0.0756)	0.62 (0.40)	47
months 7 - 12	-0.0371 (-0.0957)	0.1386 (0.1499)	0.03 (0.02)	45
months 13 – 18	-0.0514 (-0.0803)	0.1055 (0.0954)	0.08 (0.00)	41
months 19 – 24	-0.1173 (-0.1571)	0.0759 (0.0802)	0.01 (0.02)	25
months 25 – 30	-0.2171 (-0.3537)	0.1242 (0.1292)	0.00 (0.01)	16
months 31 – 36	-0.1446 (-0.0040)	0.0941 (0.0935)	0.03 (0.03)	12
1 <sup>st</sup> year	0.0535 (-0.1957)	0.2225 (0.2014)	0.13 (0.15)	46
2 <sup>nd</sup> year	-0.1811 (-0.2571)	0.2080 (0.1852)	0.00 (0.00)	25
3 <sup>rd</sup> year	-0.3258 (-0.3822)	0.2255 (0.2290)	0.00 (0.00)	12
years 1 and 2	0.1366 (0.0500)	0.5152 (0.5103)	0.04 (0.04)	25
years 1 to 3	0.0332 (-0.3259)	0.9253 (0.9266)	0.00 (0.01)	12
until 12/31/99 or delisting	-0.2561 (-0.5928)	0.6687 (0.5472)	0.00 (0.00)	47

Panel B: Return until 12/31/99 or delisting using alternative benchmarks

Benchmark	Roll up Return	Benchmark Return	P-value difference	N
Industry & size matched non-IPO	-0.2561 (-0.5928)	0.3602 (-0.1373)	0.08 (0.01)	47
Size matched IPO	-0.2561 (-0.5928)	0.0381 (-0.2777)	0.14 (0.06)	47



Panel C: Abnormal returns using calendar-time portfolios and Fama-French Factors

Using monthly returns data we form portfolios in calendar-time of firms that had completed a roll-up over the previous three years. We then estimate the following time-series regression:

$$r_{p,t} - r_{f,t} = \alpha + \beta_m(r_{m,t} - r_{f,t}) + \beta_s SMB_t + \beta_{bm} HML_t + \varepsilon_t$$

where  $r_{p,t}$  is the month t return on the roll-up portfolio,  $r_{f,t}$  is the month t risk free rate,  $r_{m,t}$  is the month t market return,  $SMB_t$  is the month t return on a portfolio of small stocks minus the return on a portfolio of large stocks, and  $HML_t$  is the month t return on a portfolio of high book-to-market stocks minus the return on a portfolio of low book-to-market stocks

Variable	Coefficient (P-value)
Intercept	-0.0201 (0.02)
Market-Rf	1.5328 (0.00)
SMB	1.4688 (0.00)
HML	0.8635 (0.00)
Adjusted r-squared	0.75
Number of months	40

Table 4

Cross-sectional regression of long-term returns on transaction characteristics and governance variables

The dependent variable is the buy and hold return for each qualifying roll-up computed over the holding period. Market return is the return on the value weighted CRSP index. Number of roll-up firms is the number of founding firms involved in the roll-up at the IPO stage. First mover is a dummy variable set equal to one if the firm is the first roll-up in our sample in its two-digit SIC code industry. # Prior deals done is the number of prior transactions in our sample completed by the sponsor. Founder ownership is the fraction of the firm held by the founding companies when the IPO was completed. Founder board control dummy is a dummy variable set equal to one if the founders control more than 50% of the board seats after the IPO. Founder CEO dummy is a dummy variable set equal to one if the CEO was employed by one of the founding companies before the roll-up. Sponsor ownership is the fraction of the firm held by the roll-up sponsor when the IPO was completed. Sponsor board control dummy is a dummy variable set equal to one if the roll-up sponsor controls more than 50% of the board seats after the IPO. P-values are in parentheses.

Panel A: Returns from first aftermarket price until delisting or December 1999

Explanatory Variable	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
Constant	0.3663 (0.49)	-0.2878 (0.30)	-0.2955 (0.30)	-0.8308 (0.04)	-0.5543 (0.05)	-0.2503 (0.34)	-0.0976 (0.73)	-0.3199 (0.23)	-0.1122 (0.83)
Market return	-0.0710 (0.83)	-0.0585 (0.87)	0.0199 (0.95)	-0.0288 (0.93)	-0.0056 (0.99)	-0.0660 (0.85)	0.2064 (0.59)	0.0016 (0.99)	-0.1311 (0.66)
Log (Number of roll-up firms)	-0.2821 (0.19)								-0.455 (0.03)
First mover (2-digit)		0.1386 (0.61)							
# Prior deals done			0.0454 (0.61)						
Founder ownership				1.4971 (0.05)					1.4007 (0.04)
Founder board control dummy					0.6451 (0.01)				0.7159 (0.01)
Founder CEO dummy						0.1388 (0.66)			
Sponsor ownership							-1.7557 (0.17)		
Sponsor board control dummy								0.4214 (0.26)	
Adjusted r-squared	0.00	-0.04	-0.04	0.05	0.09	-0.04	0.00	-0.01	0.23
N	47	47	47	45	47	47	45	47	45

Panel B: Return for first year of trading

Explanatory Variable	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)
Constant	-0.4912 (0.23)	-0.8348 (0.00)	-0.7942 (0.00)	-1.3019 (0.00)	-1.0394 (0.00)	-0.7740 (0.00)	-0.7587 (0.00)	-0.8341 (0.00)	-0.8708 (0.02)
Market return	3.6735 (0.00)	3.6695 (0.00)	3.7337 (0.00)	3.8365 (0.00)	3.6208 (0.00)	3.4341 (0.00)	4.1513 (0.00)	3.8316 (0.00)	3.8687 (0.00)
Log (Number of roll-up firms)	-0.1402 (0.37)								-0.3416 (0.01)
First mover (2-digit)		0.1262 (0.54)							
Number of prior deals done			0.0229 (0.80)						
Founder ownership				1.2960 (0.02)					1.1673 (0.01)
Founder board control dummy					0.6108 (0.00)				0.7381 (0.00)
Founder CEO dummy						0.1835 (0.44)			
Sponsor ownership							-0.8141 (0.33)		
Sponsor board control dummy								0.1681 (0.56)	
Adjusted r-squared	0.24	0.23	0.23	0.32	0.39	0.24	0.27	0.23	0.55
N	46	46	46	43	46	46	44	46	43

Table 5  
Accounting performance

Operating return on assets is computed as operating income divided by total assets. Operating return on sales is computed as operating income divided by total sales. Return on assets is computed as net income before extraordinary items divided by total assets. Return on sales is computed as net income before extraordinary items divided by total assets. Industry is defined at the four-digit SIC code level. All variables are winsorized at the 5<sup>th</sup> and 95<sup>th</sup> percentiles to avoid problems with outliers. In Panel B, in the column of industry-adjusted means, the p-value of the a t-test of equality of this mean to zero is listed in parentheses; in the column of industry-adjusted medians, the p-value of the sign rank test of equality of this median to zero is listed in parentheses.

Panel A: Raw performance measures

	Operating return on assets			Operating return on sales			Return on assets			Return on sales		
Period	Mean	Median	N	Mean	Median	N	Mean	Median	N	Mean	Median	N
Year 1	5.94	5.59	42	6.72	7.51	40	-3.83	1.48	43	-9.62	3.46	40
Year 2	10.31	10.49	32	10.48	9.18	33	1.08	2.71	32	0.51	2.65	32
Year 3	12.19	12.03	12	12.11	10.59	12	2.97	3.03	12	3.10	1.84	12

Panel B: Industry-adjusted performance measures

	Operating return on assets			Operating return on sales			Return on assets			Return on sales		
Period	Mean p-value	Median p-value	N	Mean p-value	Median p-value	N	Mean p-value	Median p-value	N	Mean p-value	Median p-value	N
Year 1	-4.65 (0.00)	-4.71 (0.00)	37	-1.70 (0.42)	-0.75 (0.60)	35	-3.32 (0.03)	-2.80 (0.00)	38	-5.44 (0.06)	-1.20 (0.05)	35
Year 2	-0.18 (0.90)	-1.24 (0.34)	28	1.20 (0.54)	1.32 (0.23)	29	-0.82 (0.59)	-0.84 (0.26)	28	-0.63 (0.69)	-0.26 (0.27)	29
Year 3	1.81 (0.26)	2.96 (0.11)	11	4.84 (0.07)	3.38 (0.11)	11	0.55 (0.69)	-0.92 (0.99)	11	3.19 (0.23)	0.00 (0.79)	11

Table 6  
Abnormal returns surrounding acquisition announcements after the IPO

Abnormal returns are computed as the company return minus the return on the value weighted CRSP index. In the mean column, the p-value is for a t-test of equality of the mean to zero. In the median column, the p-value is for a sign rank test of equality of the median to zero.

Description	Mean (p-value)	Median (p-value)	N
Panel A: announcement returns (%)			
3-day window around announcement	1.13 (0.02)	0.78 (0.00)	322
summed across all acquisitions by each company	10.17 (0.04)	6.24 (0.01)	42
Panel B: pre-announcement returns (%)			
market-adjusted return before each announcement	16.51 (0.00)	8.70 (0.00)	322
market-adjusted return before 1 <sup>st</sup> announcement	-2.49 (0.69)	0.50 (0.67)	42
market-adjusted return before 2 <sup>nd</sup> announcement	7.37 (0.30)	2.17 (0.46)	37
market-adjusted return before 3 <sup>rd</sup> announcement	8.29 (0.28)	3.98 (0.24)	35
market-adjusted return before 4 <sup>th</sup> announcement	6.43 (0.47)	6.06 (0.37)	34
market-adjusted return before 5 <sup>th</sup> announcement	17.53 (0.05)	12.85 (0.04)	28
Panel C: post-announcement returns (%)			
market-adjusted return after each announcement	-115.26 (0.00)	-112.72 (0.00)	322
market-adjusted return after 1 <sup>st</sup> announcement	-99.55 (0.00)	-115.09 (0.00)	42
market-adjusted return after 2 <sup>nd</sup> announcement	-97.82 (0.00)	-112.74 (0.00)	37
market-adjusted return after 3 <sup>rd</sup> announcement	-98.36 (0.00)	-117.52 (0.00)	35
market-adjusted return after 4 <sup>th</sup> announcement	-95.80 (0.00)	-105.08 (0.00)	34
market-adjusted return after 5 <sup>th</sup> announcement	-98.20 (0.00)	-116.24 (0.00)	28

Table 7

Effect of acquisition activity on long-run performance for firms making at least one acquisition

The dependent variable is the buy and hold return computed from the first aftermarket price until delisting or December 31, 1999. Market return is the return on the value weighted CRSP index. Founder ownership is the fraction of the firm held by the founding companies when the IPO was completed. Founder board control dummy is a dummy variable set equal to one if the founders control more than 50% of the board seats after the IPO. # acquisition announcements is the number of days on which additional acquisitions are announced. P-values are in parentheses.

Explanatory Variable	(i)	(ii)
Constant	-0.9664 (0.02)	-0.7518 (0.28)
Market return	-0.2310 (0.61)	-0.0167 (0.97)
# acquisition announcements	0.1888 (0.01)	0.1266 (0.10)
# acquisition announcements squared	-0.0061 (0.04)	-0.0051 (0.08)
Founder board control dummy		0.5912 (0.06)
Founder ownership		1.5625 (0.07)
Adjusted r-squared	0.10	0.25
N	41	38

Table 8  
Post-rollup ownership positions of founders and promoters

Ownership data after the roll-up IPO are obtained from proxy statements. We report two numbers for each year. The first number includes those cases where the proxy statements do not contain the names of the sponsors or founders, in which case we assume that their positions were completely sold off. The second number includes only those cases where the sponsors or founders continue to maintain an ownership stake in the firm. In the mean column, the p-value is for a t-test of equality of the mean to zero. In the median column, the p-value is for a sign rank test of equality of the median to zero.

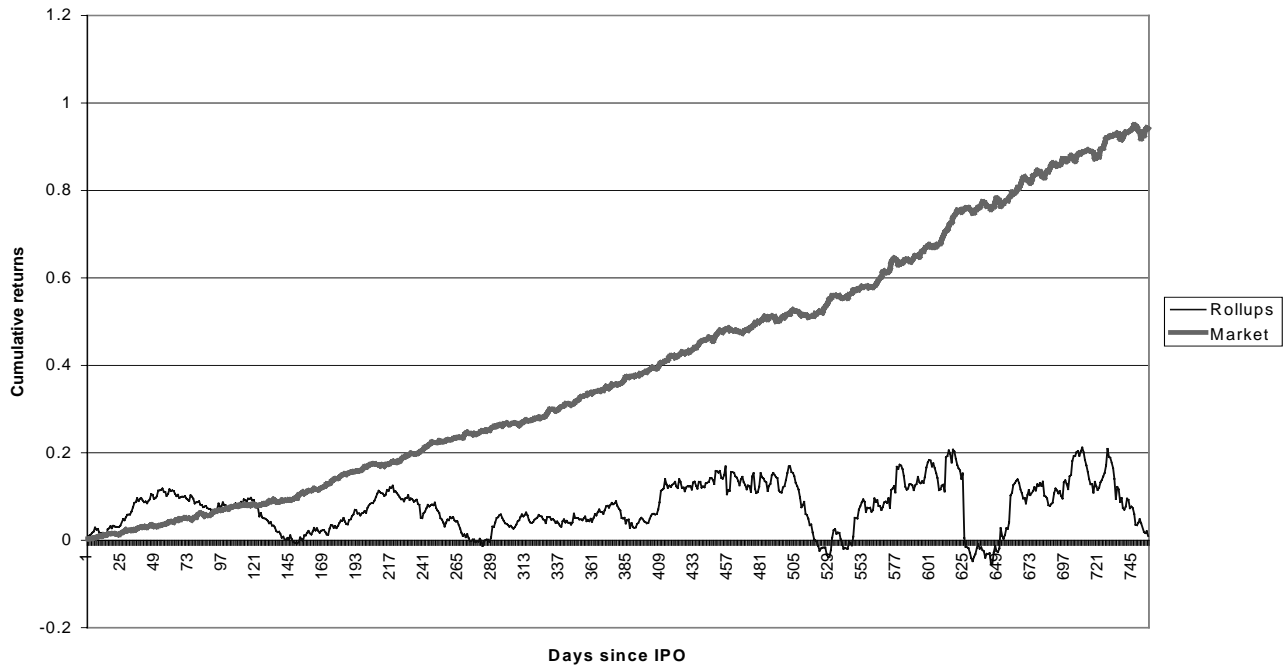
Panel A Cumulative sales from IPO until different periods after the IPO

	Cumulative percentage sold by sponsor			Cumulative percentage sold by founders		
	Mean	Median	N	Mean	Median	N
Year 1	26.8% (0.01)	33.9% (0.00)	40	53.5% (0.00)	51.4% (0.00)	41
	16.4% (0.10)	11.6% (0.04)	35	51.1% (0.00)	51.0% (0.00)	39
Year 2	34.9% (0.01)	60.6% (0.01)	27	61.7% (0.00)	61.7% (0.00)	28
	29.7% (0.03)	55.3% (0.02)	25	57.1% (0.00)	54.1% (0.00)	25
Year 3	46.7% (0.01)	55.9% (0.01)	14	64.6% (0.00)	69.6% (0.00)	13
	42.6% (0.01)	51.8% (0.01)	13	61.9% (0.00)	67.7% (0.00)	12

Panel B: Difference in cumulative sales across years subsequent to the IPO

	Promoter			Founders		
	Mean	Median	N	Mean	Median	N
Sold between yrs + 1 & +2	12.15% (0.14)	0.00% (0.35)	27	12.11% (0.01)	5.70% (0.00)	28
	13.12% (0.14)	0.00% (0.30)	25	12.84% (0.01)	4.37% (0.00)	25
Sold between yrs + 2 & +3	2.27% (0.51)	-0.92% (0.91)	12	9.00% (0.12)	5.20% (0.06)	11
	1.84% (0.63)	-1.85% (0.68)	11	9.90% (0.12)	5.28% (0.06)	10

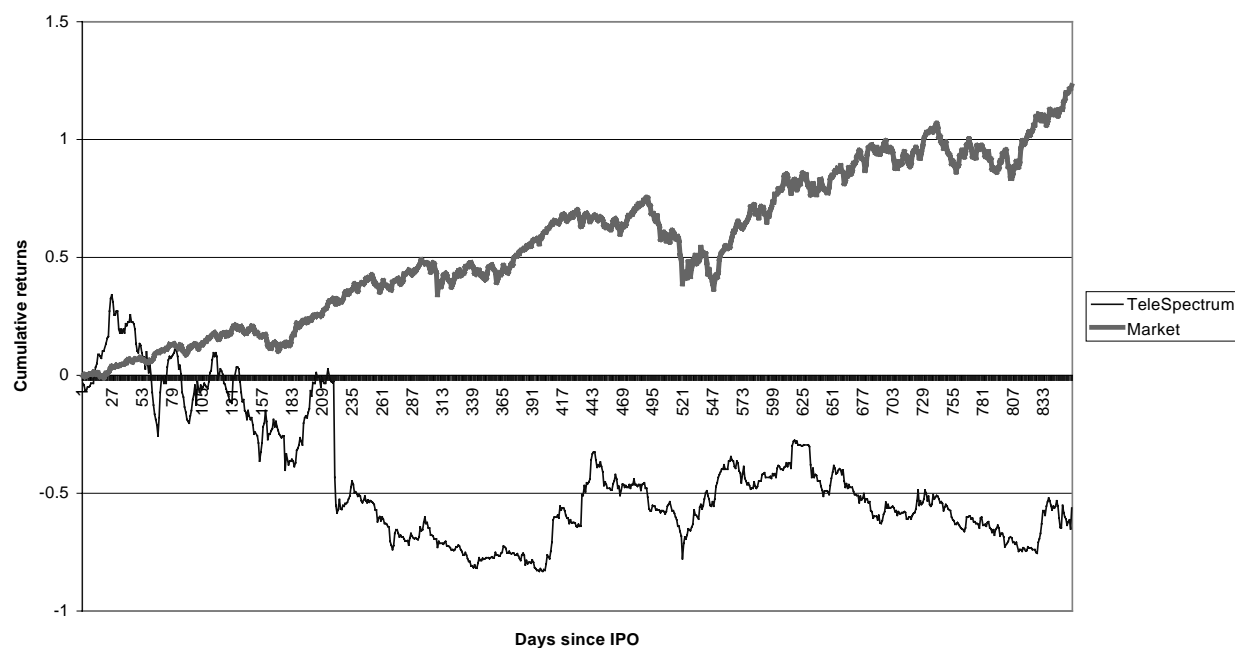
Figure 1: Rollup Returns Versus Market



Roll-up returns are computed assuming daily re-balancing. The number of firms in the roll-up sample declines over time as the number of firms with a longer trading history declines. When a firm disappears from the sample, the averages are computed across fewer observations. Returns are computed until December 31, 1999 or delisting.



Figure 2: TeleSpectrum returns versus market



This graph shows the return of TeleSpectrum Worldwide (TLSP) and the CRSP Market index for the period beginning at the TLSP IPO date (August 8, 1996) until December 31, 1999. Returns have been normalized relative to the stock and index prices prevailing on August 8, 1996.