

**The Rise and Fall of the Amex Emerging Company Marketplace**  
(forthcoming Journal of Financial Economics)

**Reena Aggarwal**

U.S. Securities and Exchange Commission and Georgetown University School of Business

**James J. Angel**

Georgetown University School of Business

Georgetown University  
School of Business  
Washington, D.C. 20057

Tel. (202) 687-3784

Tel. (202) 687-3765

Fax (202) 687-4031

*aggarwal@gunet.georgetown.edu*

*angelj@gunet.georgetown.edu*

April 1998

JEL Classifications: G10; G15

We wish to thank the Amex, the NASD, and the Vancouver Stock Exchange for providing data used in this study, along with the many senior officials of ECM-listed companies and Amex members who generously shared their insights with us. We also wish to thank the anonymous referee for very helpful comments. We also thank seminar participants at the SEC, Georgetown University, and Financial Management Annual Meetings for comments. Excellent research assistance was provided by Amin Haque. Funding support from Georgetown University School of Business and the Georgetown University Center for Business-Government Relations is acknowledged. The Securities and Exchange Commission disclaims responsibility for any private publication or statement of any SEC employee or Commissioner. This article expresses the author's views and does not necessarily reflect those of the Commission, the Commissioners, or other members of the staff.

# **The Rise and Fall of the Amex Emerging Company Marketplace**

## **ABSTRACT**

In 1992, the American Stock Exchange launched the Emerging Company Marketplace (ECM) to trade the stocks of small but growing companies. Bid-ask spreads decreased dramatically after listing, and news coverage increased. Executives of issuing firms were quite satisfied. Yet few firms chose to list on the new ECM, and the market closed in 1995. What went wrong? The cooperative organization of the exchange meant that few Amex stakeholders had much to gain from the success of the ECM. A series of scandals damaged the reputation of the exchange. Successful firms quickly moved to the regular Amex leaving the unsuccessful firms behind. Furthermore, markets for very small firms have not fared well historically.

# **The Rise and Fall of the Amex Emerging Company Marketplace**

## **1. Introduction**

On March 18, 1992, the American Stock Exchange (Amex) launched the Emerging Company Marketplace (ECM) with great fanfare. The ECM was designed to trade the stocks of small but growing firms until they grew large enough to qualify for a regular Amex listing. Bid-ask spreads fell substantially for the firms that listed on the ECM, and media coverage of the ECM firms increased. However, relatively few companies followed the initial 22 firms, and the Amex closed the market on May 11, 1995.

What went wrong? How could a market produce a substantial reduction in transaction costs, yet fail to succeed? Furthermore, the ECM is one of many failed attempts to launch public equity markets for small stocks in the United States and Europe. Why do such markets have so much trouble? This paper analyzes several factors which possibly contributed to the demise of the ECM and which shed light on the factors affecting the development of equity markets for smaller firms.

The governance structure of the Amex is one factor. Like most traditional exchanges, the Amex is organized as a membership organization rather than a private firm. This cooperative structure meant that most Amex stakeholders had little to gain if the ECM succeeded. In fact, some members of the Amex board represented firms that also owned Nasdaq market makers in direct competition with the Amex.

So-called “junior” markets like the ECM suffer from an adverse selection problem. The successful firms graduate to a listing on the senior market, leaving behind the unsuccessful ones. The junior market thus develops a reputation as a place for unsuccessful firms. As part of the Amex, the ECM had no incentive to keep firms from graduating to a regular Amex listing. This problem was

made worse for the ECM because poor screening of firms led to some embarrassing scandals that hurt the ability of the ECM to attract new listings.

The market mechanism chosen for the ECM, which was the same as the regular Amex auction market, is another possible factor. Although auction markets like the Amex generally have lower bid-ask spreads than dealer markets such as Nasdaq, the wider bid-ask spreads of a dealer market can possibly motivate broker-dealers to promote a stock, increasing liquidity by widening the pool of potential shareholders. However, the ECM-listed firms enjoyed both a decrease in bid-ask spreads and an increase in their media visibility, implying that the market mechanism alone did not lead to the failure.

The experience of the ECM provides a natural opportunity to investigate these questions, and to take a closer look at the competition between markets for listings. The next section presents the history of the ECM. Section 3 examines in more detail the hypotheses regarding the failure of the ECM, and presents the empirical results. Section 4 documents the failures of other markets in the United States and other countries that have attempted to trade very small company stocks. Section 5 concludes and summarizes.

## **2. The Amex Emerging Company Marketplace**

By 1992, the Amex was in a difficult competitive position. Traditionally, new firms first traded on the over-the-counter (OTC) market, then moved to the Amex as they grew larger, and eventually attained a listing on the NYSE. However, the evolution of the OTC market into the Nasdaq market, with substantially improved quotation and trade dissemination over the old OTC market, significantly reduced the relative benefits of an Amex listing. The Amex lost significant market share in its core equity business. As a fraction of the total share volume on the traditional

exchanges (NYSE, Amex, and the regionals), the market share of the Amex fell from a peak of 29.6% in 1968 to 6.1% in 1991.<sup>1</sup> The number of issuing firms fell from a 1975 level of 1,215 to 860 by the end of 1991.

The Amex had tried a number of ways to increase its business in the 1970s and 1980s, including a successful entry into the options business and a failed entry into futures trading.<sup>2</sup> The Amex also scored a series of successes by listing innovative derivative securities that the NYSE would not. Thus, it was in character with the history of the Amex that it would contemplate starting a new market in 1992.

Following the resignation of Amex Chairman Arthur Levitt, Jr. in 1989, the Amex chose former congressman James Jones as its chairman. Although he had been a public member of the Amex's board since 1987, Jones had no work experience in financial services. According to Lux (1991), Jones, when first asked about the job, remarked "I don't really know enough about the industry." In addition to launching the ECM, Jones explored plans for a number of potential new ventures, including after-hours trading, a satellite trading floor in Hawaii, and a merger with the Philadelphia Stock Exchange.

The ECM was similar in concept to many of the junior, or "incubator" markets that had been started by the major stock exchanges in Europe to provide an exchange market for firms too small for the senior market. The Amex also intended to compete with Nasdaq for the listings of stocks that were too small to qualify for the regular Amex. By listing such companies early in their development, the Amex hoped to retain them as they grew bigger.

The Amex had three potential competitive advantages in this market segment. First, its auction market usually produced narrower bid-ask spreads than did Nasdaq's dealer market. The lower transaction costs were expected to attract firms and investors. Second, at that time there was

no last-trade reporting for Nasdaq stocks that were not part of the Nasdaq National Market, so investors had substantially less information about prices and volumes for such stocks. Since the Amex reported trade prices and volumes almost immediately over the consolidated tape, this improved information should also have attracted both listing companies and investors. Third, because of its traditional listing standards, the Amex had a reputation for listing firms of higher quality than many of those found in the *Pink Sheets* or the Nasdaq stocks outside the Nasdaq National Market.

The Amex adopted listing requirements for the ECM that were much less stringent than for a regular Amex listing. These are illustrated in Table 1. Not only were ECM requirements smaller in terms of stockholders' equity than regular Amex requirements, but ECM firms did not have to show positive earnings. Furthermore, there was no requirement for outside directors or audit committees. Concerns about the quality of the ECM firms were raised by the SEC and others even before the market started. Then SEC Commissioner Mary Schapiro was quoted in *The New York Times* (Labaton, 1992) as saying "Investors should understand that these companies are subject to much lower standards than companies traditionally associated with the American Exchange." The Amex sought to allay these concerns by promising to screen the companies very carefully. In addition, the Amex priced the listing fees for the ECM just slightly lower than Nasdaq's listing fees, as seen in Table 2.

---

Please insert Tables 1 and 2 approximately here.

---

## **2.1 *The ECM companies***

The ECM began trading on March 18, 1992, with 22 companies. The original ECM

companies were relatively small, having a median market capitalization of \$18 million and a median market price of \$3.00 per share. Many of them were high-tech firms. The companies were allegedly picked by a "blue ribbon" committee of Amex members and money managers. Most of the original companies had previously traded on what is now known as the Nasdaq Small Cap market, a lower tier of Nasdaq than the Nasdaq National Market. Six of the firms had previously traded on the *Pink Sheets*, meaning that they were even smaller and there was less trading activity in them. *Pink Sheets'* quotations are not firm; rather they are primarily indications of interest, not commitments by dealers to trade at a given price. One of the stocks (Intertel Communications) had previously traded on the Vancouver Stock Exchange, an automated exchange known primarily for trading speculative mining stocks. Table 3 provides summary statistics about the firms that listed on the ECM and where their stocks traded prior to listing on the ECM. Appendix 1 contains more details about the firms.

---

Please insert Table 3 approximately here.

---

As time progressed, the Amex listed smaller firms and firms that had been delisted from Nasdaq. Few of the additional listings came from the Nasdaq Small Cap market. Most came from the *Pink Sheets* or elsewhere. Five of the firms were private firms which had no public market for their stocks, not even in the *Pink Sheets*.

The Amex used the same market mechanism for the ECM stocks as for the regular Amex stocks. Eleven different specialist firms handled the trading in the original ECM stocks along with their regular stocks at various posts on the Amex trading floor. Although in general the ECM stocks traded like regular Amex stocks, there were a few differences. The ticker symbols for ECM stocks carried the suffix ".EC," which made it difficult for some brokers to access information about the firms on their computer systems. Furthermore, ECM-listed stocks were not automatically marginable

like regular Amex-listed stocks.<sup>3</sup> This made it more difficult for investors to purchase the stock on margin.

Another difference between the regular Amex and the ECM was that, unlike regular Amex-listed firms, ECM firms were not automatically exempted from the SEC's Penny Stock Disclosure Rules.<sup>4</sup> This meant that brokerage firms would incur additional compliance costs and paperwork in determining which ECM firms were covered by the Penny Stock Disclosure Rules, making it less likely that the firms would want to bother promoting ECM-listed firms.

## **2.2 Scandals and embarrassments**

Almost immediately after the ECM started, questions arose about the care with which the Amex had screened ECM firms. *Business Week* (Weiss, DeGeorge, and Greisling, 1992) and *The Wall Street Journal* (O'Brien, 1992) reported that the controlling shareholder of one ECM-listed firm, PNF, a maker of flame retardants, had previously been barred for life by the Amex and was a convicted arsonist. Other scandals beset the market: The SEC temporarily suspended trading in Digitran, the first ECM firm to graduate to the regular Amex, in May 1993 pending an investigation of the firm's accounting methods. Later, *Business Week* (Weiss and Schroder, 1994) reported that the CEO of Printron had been sued twice by the SEC for securities violations — once as a man and once as a woman — and had not revealed this information to the Amex.

Perhaps even more embarrassing than the scandals, two of the original ECM firms, North Coast Energy and Ocean Optique, voluntarily returned to trading on Nasdaq. *Securities Week* (1992) quoted Ken Gordon, the CFO of Ocean Optique, as stating "We were almost illiquid on the Amex, and would sometimes go an entire week without trading."

The U.S. General Accounting Office (1994) delivered more bad news, finding "weaknesses

in Amex's practices of assessing companies' qualifications for Marketplace listings." Specifically, the Amex had not screened the early firms thoroughly, although it later improved its screening process. The report also found that the Amex's reliance on qualitative listing factors, such as the companies' prospects, was potentially misleading to investors who were expecting tougher listing standards.

### 2.3 *Closure*

Throughout the life of the ECM, new listings replaced some of the firms that left, so the total number of ECM listings stayed relatively stable. Nonetheless, by the end of 1992, there were only 28 companies on the ECM, far below the 50 that Amex officials had envisioned. The number fell to 22 by the end of 1993. Some smaller firms joined the ECM in 1994, bringing the number of listings to 35 and the median market capitalization from its original \$18.4 million down to \$6.8 million. Several of the later listings on the ECM were "fallen angels," companies that had been delisted from Nasdaq and then traded in the *Pink Sheets*. In August 1993, Jones, who had personally championed the ECM, resigned as chairman of the Amex to become the U.S. ambassador to Mexico. He was replaced in 1994 by Richard Syron, who had been president of the Federal Reserve Bank of Boston. Syron stopped actively marketing the ECM pending a review, and the Amex announced the closure of the market on May 11, 1995. After the closure, the remaining ECM firms were permitted to continue trading on the ECM. Many of them moved up to the regular Amex list as soon as they met the listing standards, although as of this writing several of them are still trading as ECM stocks.

During its life, the ECM listed a total of 65 firms. Table 4 contains information about the status of the firms after the ECM closed. As of June 1997, 29 of those 65 firms had graduated to a primary Amex listing, and 15 were still on the ECM. Eight of the firms had voluntarily switched to Nasdaq, and 11 were delisted by the Amex for failing to meet listing requirements. One stock was

listed in Toronto and one other on the NYSE.

---

Please insert Table 4 approximately here.

---

### **3. Hypotheses regarding the failure of the ECM**

#### ***3.1 Governance structure of the Amex and the ECM***

The governance structure of the Amex might have contributed to the failure of the ECM because important Amex constituencies had little to gain from the ECM. Like most traditional stock exchanges, the Amex is organized as a not-for-profit membership organization. As Hart and Moore (1995) eloquently point out, this cooperative organization can lead to serious inefficiencies. Whereas an investor-owned firm has the clear objective of maximizing shareholder value, the members of a cooperative have divergent interests. Members buy seats on the Amex in order to make money by executing trades for themselves or their customers on the Amex. The members are more concerned with earnings from their trading operations than they are with maximizing the value of an Amex membership.

It is interesting to note that none of the successful entrants into the U.S. equity market in recent years have been organized as cooperatives: Electronic trading networks such as POSIT and Instinet are for-profit ventures. Furthermore, several exchanges, including Amsterdam, Australia, Milan, and Stockholm, have converted or are in the process of converting from cooperative ownership to limited liability companies.

Euroquote, an earlier attempt to start a pan-European trading system, highlights some of the problems cooperative organizations face when attempting to launch new ventures.<sup>5</sup> The Federation

of European Stock Exchanges sought to make it possible for its member stock exchanges to share prices and quotations. In its first phase, Euroquote would have provided only price information, but the long-term goal was to become an integrated European trading mechanism. Euroquote would have allowed the member markets to compete with one another in a manner similar to the competition between market makers on Nasdaq. However, the system was scuttled prior to launching because several member exchanges felt their individual interests were threatened by it.

Apparently few, if any, Amex stakeholders had a stake in the ECM. As the CEO of one ECM-listed firm (who requested anonymity) bluntly put it, “There was no constituency inside the exchange [for the ECM].” Clearly, the Amex officials who had championed the ECM, such as its chairman, James Jones, had a reputational stake in its success. However, the other constituencies had little to gain from the ECM. Some of the existing Amex-listed companies were concerned that the new segment with its lower listing standards would damage the reputation of Amex-listed firms (Lux, 1991). Even if the ECM had succeeded, it would not have benefitted the options traders, because the Amex trades options mostly on non-Amex stocks.

Although the Amex specialists would have benefitted if the ECM had resulted in more high-volume regular Amex listings, conversations with some Amex specialists indicated that they were not too interested in the ECM firms themselves. The low potential trading volumes of the tiny ECM firms meant that they had little immediate profit potential.<sup>6</sup> Because the specialists were already trading the regular Amex stocks, they did not give the ECM firms much attention. However, some specialists strongly supported the ECM because they viewed it as providing the listings of the future.

The retail brokerage firms that route orders to the Amex should not have been particularly concerned over whether a stock traded on the ECM, the regular Amex or the NYSE. They would have earned the same commission regardless of where a trade executed. However, Amex-member

firms that also owned Nasdaq broker-dealers stood to gain from the failure of the ECM, because their affiliated market makers could earn more money from Nasdaq's traditionally wider bid-ask spreads.

The composition of the Amex's 25 member Board of Governors in 1992 reflected the diverse interests of the membership. The Amex, like the NYSE and the NASD, is required to have public board members. There were 12 board members who represented the public, including former Federal Reserve Chairman Paul Volcker and Princeton University Professor Burton Malkiel. Several of these public board members were affiliated with the larger Amex-listed firms. The remainder of the board positions were split between specialist firms, floor brokers, and brokerage firms. Six of the Amex governors represented firms which were also affiliated with Nasdaq market makers, including Merrill Lynch, Smith Barney, Prudential, and Nomura. Thus, the potential supporters of the ECM among the floor traders and specialists were in a minority on the board and unable to save the ECM when the board was deciding its fate.

One example of how this cooperative governance hurt the ECM was in the screening of ECM firms. Some of the poor quality firms that hurt the ECM's reputation were introduced by members of the exchange, and thus received less than appropriate scrutiny. Another example is the response of the Amex to the concerns of the larger listed firms, represented by "public" members of the board, that the ECM would hurt the reputation of the larger firms. Thus, the Amex took several steps to differentiate the ECM firms from the regular Amex-listed firms, such as adding the problematic ".EC" suffix to the ticker symbol of ECM firms.

In addition, because the Amex had designed the ECM to generate more listings for the regular Amex, there was no incentive for the ECM to discourage firms from moving up to the main list. Indeed, conversations with executives of ECM-listed firms indicate that the Amex encouraged the

firms to move to the main list as soon as they qualified. An independent market like Nasdaq competes aggressively to keep its listed firms from moving to another market. This accentuated the adverse selection problem described below.

### **3.2 *Adverse selection***

The ECM, like other junior markets, suffered from an adverse selection problem. By definition, such markets target firms that are too small for the senior market. Some of the firms do well and graduate to the senior market. The firms that do not do well remain behind in the junior market. Thus, the junior market must constantly list new firms or face a drop in listings. For example, of the 28 firms on the ECM at the end of 1992, 16 (57.1%) were gone by the end of 1993.

If anything such as an economic recession, a market downturn, or a scandal disrupts the flow of new listings, the junior market will comprise only the less successful firms, damaging its reputation. The declining number of listings and an unsuccessful reputation further deters new firms from listing in the junior market, setting up a vicious circle of decline. The poor screening by the Amex made this problem even worse. The scandals created a reputation for the ECM as a collection of poorly screened firms, further deterring other firms from considering a listing.

#### **3.2.1 *Stock market performance of ECM firms***

The adverse selection hypothesis implies that the successful firms would quickly move on to the regular Amex, and that the less successful firms would spend more time on the ECM. This was indeed the case. To investigate this, we examine the stock market performance of the ECM firms during the time they were listed on the ECM. Overall, many of the ECM-listed stocks performed poorly, as indicated by the 11 delistings out of the 65 stocks. To examine aggregate performance of

the ECM stocks, we calculate returns on a value-weighted portfolio of firms that listed on the ECM during the time period that they were on the ECM. We compare the performance of this ECM portfolio with the Nasdaq Composite Index and with a control portfolio made up of 65 size- and industry-matched firms.<sup>7</sup> The control firms are selected from the CRSP database by matching each ECM firm with the Nasdaq-listed firm in the same two-digit SIC code that was closest in market capitalization to the ECM firm. A firm was included in the control firm portfolio only during the time its matching ECM firm was in the ECM. For comparison, we set each portfolio to a starting value of 100 as of the close of the first day of trading on the ECM, March 17, 1992. Figure 1 shows that the returns on the ECM portfolio fell by about 40% during the life of the ECM, while the returns on the control portfolio fell about 20% and the Nasdaq Composite Index increased almost 40%. Of the 65 ECM firms, 39 declined in value during their tenure on the ECM, 25 increased in value, and one was unchanged.

---

Please insert Figure 1 approximately here.

---

In Table 5, we compare the cumulative buy-and-hold returns of the individual firms during the periods that they were listed on the ECM with the returns on two different benchmark portfolios, the Nasdaq Composite Index and the control firms benchmark. In the spirit of Barber and Lyon (1997), we examine the buy-and-hold-abnormal return ( $BHAR_{i\tau}$ ) for stock  $I$  over the period  $\tau$  for which it was listed on the ECM, which we compute as follows:

$$BHAR_{it} = \prod_{t=1}^{\tau} [1 + R_{it}] - \prod_{t=1}^{\tau} [1 + E(R_{it})] - 1 \quad (1)$$

where  $R_{it}$  is the return for stock  $I$  during period  $t$  and  $E(R_{it})$  is given by the benchmark return. The mean BHAR is not significantly different from zero for both benchmarks. However, the median firm's BHAR is significantly negative for both benchmarks; the median ECM firm suffered a decline of 19.3% compared with the control firms.

---

Please insert Table 5 approximately here.

---

Furthermore, the adverse selection effect is apparent in Table 5, which also displays the results by length of tenure on the ECM. Firms that remained on the ECM for less than 200 days performed better than the control firm portfolio with a mean and median BHAR of 22.5% and 11.0% respectively. The mean returns are not significant. Only 37.5% of these firms had negative cumulative abnormal buy-and-hold-returns relative to the control firms benchmark. The firms that stayed on the ECM longer than 300 days suffered a mean and median BHAR of -19.5% and -39.5% respectively, and 76.9% of them had negative BHARs. Once again, the mean returns are statistically insignificant and therefore the results must be interpreted with caution.<sup>8</sup>

This poor stock price performance is indicative of the low quality of the ECM firms and of the adverse selection problem faced by the ECM, in which the good firms graduated as soon as they could, leaving only the weaker firms behind. The ECM itself is not responsible for the price performance of the firms; such firms would have suffered price drops on whatever market they traded.

Although many of the ECM-listed stocks performed poorly, a few did quite well. Spectrum Signal Processing, Media Logic, and Colonial Data Technologies all tripled in value while they were

listed on the ECM. Yet two of these winners, Colonial Data Technologies and Spectrum Signal Processing voluntarily switched to Nasdaq, further damaging the image of the market.

### **3.3 *Market mechanism***

The auction market mechanism of the ECM is another possible factor in its failure, because small firms in the United States have traditionally chosen to be traded in a dealer market. For example, the majority of the small firms that meet the listing requirements of the Amex and the regional exchanges have chosen a dealer market.<sup>9</sup> This preference for dealer markets potentially did not help attract listings to the ECM, because the Amex used the same auction market mechanism for the ECM as it did for its main stocks.

An auction market like the Amex generally produces narrower bid-ask spreads than dealer markets by consolidating trading activity in one location under the oversight of a single specialist who also acts as a dealer.<sup>10</sup> The wider Nasdaq bid-ask spreads have led to much criticism of Nasdaq, including allegations of oligopolistic behavior and price fixing (Morgenson,1993, and Christie and Schultz,1994).<sup>11</sup>

But differences in spreads are not necessarily evidence that one type of market mechanism is inherently better than another. In addition to the bid-ask spread, there is also the issue of “sponsorship,” the marketing efforts of some broker-dealers on behalf of the stocks they cover. Many Nasdaq market makers publish security research about the stocks in which they make markets. This increases the information available to investors. Furthermore, Nasdaq broker-dealer firms have a double incentive to promote trading activity in the stocks in which they make markets, because they earn both commission revenue and dealer trading profits on orders that they generate. Some broker-dealers pass this incentive on to their registered representatives by allowing them to keep a higher

fraction of the gross commissions on such stocks (Morgenson,1993). In contrast, Amex Rule 190 prohibits its specialists from promoting their stocks.

It is not clear *a priori* which type of market mechanism should provide the lowest cost of capital for a firm. Recent theoretical work by Lipson (1997) and Aggarwal and Angel (1997) supports the notion that the smallest firms would prefer a dealer market, and the larger firms an auction market. A dealer market generally has higher bid-ask spreads, which would be expected to increase the cost of capital in the spirit of Amihud and Mendelson (1986). Yet, such higher transaction costs give dealers more incentive to make a market in a given stock. Multiple dealers may devote more capital to the market-making process than a monopolist specialist, which should help make the stock more liquid.<sup>12</sup> Furthermore, the higher spreads give dealers more incentive to provide security research and inform investors about a stock. This effect increases the number of investors who "know about" the stock in the sense of Merton (1987), which leads to a lower cost of capital. Thus, a small firm might rationally choose a higher-transaction-cost market if that market provides additional marketing services for its stock than would the lower-transaction-cost market. This is similar to a manufacturer who chooses a high-cost boutique as a channel of distribution because it provides marketing support that a low-cost mass merchandiser may not.

Even though some small firms may prefer a dealer market, it does not follow that this is the preference for all small firms. Whether the potential for increased investor interest provided by a dealer market is offset by its higher transaction costs is likely to differ from company to company. For some firms, the added marketing from Nasdaq broker-dealers might not be worth the higher transaction costs. Other firms might believe that the reputation effect of an Amex listing would increase the pool of potential investors more than would the marketing efforts of Nasdaq broker-dealers. Thus, it was likely that some small firms would be interested in an auction market. Indeed,

choosing a different market mechanism from Nasdaq could have been a viable way to differentiate the ECM product and reach a niche of small firms that did not necessarily prefer a dealer market.

The hypothesis that the market mechanism contributed to the failure of the ECM contains several empirical implications. As discussed above, there are two dimensions of market quality that affect the decision of where to list. One dimension is that of transaction costs, which we measure with the bid-ask spread.<sup>13</sup> The ECM resulted in significant reductions in bid-ask spreads. The other dimension is the number of investors familiar with the firm, which we measure indirectly by looking at total trading volume and media visibility. Results on average daily trading volume were mixed, but showed a trend toward an increase in trading volume. Media visibility generally increased for the ECM-listed firms compared with a set of size- and industry-matched controls. Thus, the ECM seemed to improve market quality on both dimensions, casting doubt on the hypothesis that the market mechanism alone caused the failure. The following subsections present these empirical results.

### ***3.3.1 Effect of ECM listing on bid-ask spreads***

We obtained data on price, volume, and bid-ask spread from the Amex, the NASD, the Vancouver Stock Exchange, Dow Jones News Retrieval, and the *Pink Sheets* published by the National Quotation Bureau (1992). Bid-ask spread and volume data were not available for firms that were not publicly traded before they joined the ECM, such as initial public offerings and spinoffs. Volume data also were generally not available for firms that traded in the *Pink Sheets*. Consistent with the findings of Christie and Huang (1993) and Huang and Stoll (1996), our sample shows a significant drop in the average bid-ask spread for the 49 ECM firms for which before and after bid-ask spread data were available. As seen in Table 6 the percentage bid-ask spread fell for 43 of the 49 firms, from an average of 15.2% before listing to 6.2% after listing, a decline of 59%.

Intertel Communications, which had previously traded on the Vancouver Stock Exchange, saw its spread rise from 1.9% to 3.9%. Part of this increase might be attributable to the tick size used in Vancouver, where the minimum price variation was one Canadian cent. On the Amex, the minimum tick size for a stock in this price range was 1/16, or \$.0625. The five other firms whose spreads increased generally had a larger number of market makers prior to listing than did the other ECM firms. The mean number of market makers for this group was 18.8 with a median of 18, compared with a mean of 8.5 and a median of 8 for the other ECM firms.

---

Please insert Table 6 approximately here.

---

### ***3.3.2 Effect of ECM listing on average daily trading volume***

Another natural measure of liquidity, average daily trading volume, showed mixed results. Table 7 shows the results on average daily trading volume for the 35 ECM firms for which before and after volume data were available along with the results for their controls. We compare the average daily volume for the firms during their life on the ECM with their average daily volume in the calendar year prior to listing, and the year-to-date volume prior to listing. Compared with the full calendar year prior to listing, average daily volume after listing on the ECM increased for 21 firms and decreased for 14 firms. Median average daily trading volume increased significantly from 4,577 shares per day to 7,411 although the mean decreased insignificantly. The median firm saw its volume increase by 101.6%.

---

Please insert Table 7 approximately here.

---

However, if we use the year-to-date period just prior to listing as the benchmark, then volume increased for only 14 firms and declined for 21 firms, and the median fell from 10,894 to 7,411. Volume for the median firm decreased by 22.1%. Table 7 shows that the average daily trading volume generally declined for the control firms for both benchmarks. Caution should be used in interpreting these trading volume numbers, because of the difference in the way volumes are reported between Nasdaq and the Amex. The double counting of trades by Nasdaq creates an upward bias in reported Nasdaq volume compared with the Amex.<sup>14</sup>

### ***3.3.3 Effect of ECM listing on media coverage***

Because exchange membership can provide additional visibility for a firm, it can lead to more media coverage. This media coverage can in turn increase the pool of investors who "know about" a firm in the sense of Merton (1987), and thus increase its liquidity. To investigate this, we examine the number of media reports, including news wires and newspaper stories, disseminated about these firms. We collect media reports on the firms for one year before and after their ECM listing date from the ALLNWS file on Lexis/Nexis to determine whether ECM-listing had been followed by an increase in media coverage. We exclude stories about the ECM listing itself, duplicate records, and PR wires that were issued by the firm. If ECM listing increased the visibility of the firms, then we would expect an increase in news stories. On the other hand, with less of a dealer network to promote the stock, we would expect a decrease in news stories. Because the changes in visibility could be gradual, we examine three month, six month, nine month, and one year windows around the listing date. We also examine changes in news coverage for the industry and market capitalization matched Nasdaq-traded controls as described above.

Table 8 shows that the number of news stories increased slightly but insignificantly when comparing the three months prior to listing with the three months after. The same is true in comparing the six months before with the six months after listing. However, news coverage was significantly higher in the nine-month and one-year windows. For the 12 months before and after ECM listing, the median number of stories about the ECM-listed firms increased from 15 to 28; 51 of the 65 firms had increases in the number of stories. In contrast, the controls did not see significant increases in news coverage, and in fact the majority (35) of the controls actually had fewer news stories in the year after listing. Thus, listing on the ECM was associated with an increase in media coverage for the ECM-listed firms.

---

Please insert Table 8 approximately here.

---

### **3.4 *Opinions of senior management of ECM-listed firms***

We also undertook field research to learn more about the ECM from the perspective of the ECM-listed firms themselves. We interviewed senior officials from ECM-listed firms who were personally involved with or highly knowledgeable about the original decision to list on the ECM, most of whom were CEOs or CFOs. Because of personnel turnover and the disappearance of some ECM firms, we were unable to locate such knowledgeable officials at all the ECM firms. Table 9 provides summary information about the interviews with 37 of the 65 firms.

---

Please insert Table 9 approximately here.

---

In general, the officials indicated that they had been satisfied with their experiences on the Amex, and most (88.6%) of them would have made the same decision if they had it to do it over again. This is strong evidence against the notion that the Amex alienated its listed companies. Indeed, many of them reported that their firms had endured unsatisfactory experiences with Nasdaq before they listed on the Amex ECM.

One very important finding from the survey is that the majority (71.4%) stated that, even if the Amex had not started the ECM, they thought their firms would have sought an Amex listing anyway once they qualified. This response indicates that the ECM was attracting few firms to the Amex that would not have eventually chosen the Amex anyway. Indeed, several of the firms joined the ECM after the Amex stopped actively marketing it because those firms wanted to be on the Amex. Thus, the ECM was redundant in that it did not attract listings beyond the firms that would eventually have come to the Amex anyway.

During the interviews, the officials freely volunteered many insights into why they listed on the Amex and on the strengths and weaknesses of the ECM. They mentioned repeatedly that lower spreads and more visibility on the ECM were important reasons for listing. Some firms were very pleased with the various investor relations programs offered by the Amex to introduce them to potential investors. For some a contributing factor was to have a listing in the newspaper every day, because many newspapers do not carry quotes for Nasdaq Small Cap stocks. One CEO felt that an Amex listing had more visibility to Europeans than a Nasdaq Small Cap listing, and that this visibility was important for raising additional financing.

Many of the officials expressed a strong belief in the auction market. They thought that the auction market was the “right” way to conduct a stock market. Several firms heard presentations from both the Nasdaq and the Amex and liked the Amex presentation better. They found that “Amex

did a better job at selling.” Other executives believed that the Amex provided better protection against short sellers because at that time there was no uptick rule on Nasdaq. This is consistent with the notion that the Amex is attractive to firms that prefer an auction market but are too small for the NYSE.

Some firms felt that they had “no choice” but to list on the ECM. They had been delisted from the Nasdaq National Market due to financial difficulties, yet they wanted a national marketplace for their stock. Because they were too small to qualify for a regular Amex listing, the ECM was their only national marketplace open to them other than the *Pink Sheets*.

However, not all of the executives were totally satisfied. As one official put it, “... the ECM was a good idea that was poorly executed. The two main problems with the execution were the poor screening and that it was oversold as a market.” One executive felt that “Amex specialists move the stock price too far sometimes on small volume” but was overall very satisfied with the ECM.

Some of the firms that were no longer on the Amex reported that they were unhappy with the loss of support from retail brokers when they moved to the Amex. One CEO stated that he was “dumbfounded” by the reaction of the retail brokerage firms: “As soon as we did that [switched to the ECM], we lost the interest of a lot of retail brokers. They all felt they needed the extra spread to make some money on the stock. They lost interest in us because they couldn't make the hidden commission.” Another official indicated that his firm switched back to Nasdaq for three reasons: they wanted more research coverage, the firm's peer companies were on Nasdaq, and there was a “negative prestige” about Amex.

#### **4. Other markets for small company stocks**

The failure of the Amex ECM is not surprising when viewed in the historical context of the

failures of other stock markets for very small companies. This section discusses attempts in the United States and elsewhere to start public equity markets for small stocks.

#### ***4.1 The United States experience***

In the nineteenth century, there were literally dozens of stock exchanges in the United States. Virtually every major city had a stock exchange of one kind or another. These local exchanges executed orders for local residents in national stocks, and also provided a secondary market for the stocks of local companies. As communications improved, the secondary market for large companies gradually consolidated at the NYSE. This left smaller companies that did not meet the listing requirements of the NYSE or the Amex with a choice between the OTC market or the regional exchanges, most of which operated specialist auction markets similar to the NYSE. Walter (1957) notes that, by the 1950s, most small companies that met the listing standards of the regional exchanges chose to be traded in the OTC market. Most of the local exchanges died.

The surviving regionals continue to list small stocks that do not meet Amex or NYSE listing requirements. However, most of their trading volume is in NYSE- and Amex-listed stocks. According to the SEC (1994), the surviving regionals now do 97% of their business in NYSE and Amex listed stocks, rather than in their exclusive listings.

In 1962 the New York Mercantile Exchange launched the National Stock Exchange in an attempt to diversify by trading equities as well as commodities.<sup>15</sup> The National Stock Exchange, like the ECM, was an attempt to provide an exchange market for stocks too small for the Amex. At that time, such tiny stocks could trade only on the pre-Nasdaq over-the-counter market. However, the National Stock Exchange suffered almost exactly the same fate as later befell the ECM. Few stocks listed on the National, and it had a hard time gaining visibility. Newspapers would not publish its

stock quotes, so it had to buy advertisements in *The Wall Street Journal* to disseminate its prices. The National also suffered from reputation effects. Its president was a former Amex president who had been forced to resign amidst a scandal at the Amex. After languishing for several years, the National finally ceased trading in 1968, ironically in the middle of one of the biggest bull markets in U.S. history.

#### **4.2 *The European experience***

The European experience demonstrates that problems with small stock markets are not limited to auction markets. During the 1980s, virtually every stock market in Europe established a special section for companies that were too small to meet the normal listing requirements. These junior, or "incubator," markets used a variety of market mechanisms, usually ones similar to their parent markets. For example, London's Unlisted Securities Market was designed as a continuous dealer market, and Amsterdam's Official Parallel Market as an auction market with a specialist-like *hoekman*. Other markets used mechanisms for their small market segments that differed from those used in their primary markets: Milan's Mercato Ristretto and Paris' Marché Hors Cote used daily call auctions.

Many of these markets appeared to prosper for a short time, but ultimately they all suffered from severe illiquidity and attracted few companies or investors, as chronicled by Rasch (1994) and Bannock (1994). Amsterdam's Official Parallel Market, which used an auction mechanism similar to the Amex, closed in 1993. London closed its Unlisted Securities Market, which was a dealer market, in 1996.

Bannock (1994) notes that all of the second-tier European markets for small stocks were started by the major European exchanges, similar to the Amex ECM. The adverse selection problem has also been a serious problem with the European junior markets. Because most of the business on

the major exchanges comes from trading larger stocks, the small company tiers are seen as inferior cousins of the main market. Companies move up to the main tier as soon as they qualify, just as was the case in the ECM.

#### **4.3 *Successful small capitalization stock markets***

In contrast to the dismal record of failure for many small capitalization stock markets, there have been some that have survived. In the U.S., Nasdaq now reports a higher trading volume higher than that of the NYSE, and over 900 Nasdaq-listed firms that could list on the NYSE do not.<sup>16</sup> Japan has created Jasdaq, a Nasdaq-like market that now lists almost twice as many stocks as the second section of the Tokyo Stock Exchange. These markets have three things in common. First, both markets grew out of pre-existing over-the-counter markets. They were not just mechanisms created in the search for listings. Second, both are dealer markets. Finally, both are separate entities from the other national exchanges. By being independent, they can specialize in doing the best possible job of serving their target clientele, who might otherwise be overlooked in a market for large companies. They also have a strong financial incentive to compete to retain listings and prevent their successful firms from switching to the other markets. Thus, many of the more successful firms remain in these markets for significant periods of time, bolstering the markets' reputation.

#### **4.4 *Other new initiatives for small capitalization stock markets***

Other attempts are also under way to create special markets for smaller stocks. London's Alternative Investment Market (AIM) has attracted over 260 stocks with a market capitalization over six billion pounds since its inception in 1995. The AIM operates a hybrid market that contains elements of both an auction and a dealer market. The AIM system allows for the electronic matching

of orders in addition to displaying competing quotes.

Several of the primary European stock exchanges have launched new markets for smaller stocks in Germany (Neuer Markt, 1997), France (Le Nouveau Marché, 1996), Brussels (Le Nouveau Marché, 1997), and Amsterdam (NMAX, 1997). These markets generally combine features of both auction and dealer markets. These markets are also linking up in a project called Euro-NM, which will allow members of each exchange to trade the small stocks listed on the other exchanges. This linkage is a direct response to the 1996 launch of Easdaq, a Nasdaq-like system that is independent of the national exchanges. It is still too early to tell how these markets will do in the long-term. As of October, 1997 there were only 15 stocks on Easdaq, 30 on France's Nouveau Marché, and 10 on Neuer Markt.

## **5. Summary and conclusions**

The Amex Emerging Company Marketplace appeared to start successfully. Bid-ask spreads fell for most of the listed firms. Volume results were mixed, with reported trading volume rising substantially for some stocks but falling for others. The visibility of most of the ECM firms increased, as evidenced by more media coverage in the year after listing on the ECM. Interviews with officials of ECM-listed firms indicated that they were satisfied with the trading of their stocks on the ECM and with the services provided by Amex.

Nevertheless, the ECM failed. Several factors contributed to this failure. The organizational structure of the Amex as a membership organization meant that few Amex stakeholders had much to gain from the success of the ECM. Firms affiliated with Nasdaq market makers held almost one fourth of the Amex board seats, and these firms could have had a vested interest in seeing the venture fail.

The ECM also suffered from the same adverse selection problem that has affected other junior markets. The successful firms graduated to the main Amex as soon as they could, leaving the unsuccessful firms on the ECM. Scandals affecting three of the original stocks damaged the ECM's reputation for monitoring the quality of its listings, one of its initial selling points. Indeed, the poor quality of the firms earned the ECM the nickname "The Submerging Company Marketplace." This poor reputation contributed to the reluctance of other firms to list on the ECM, leading to a vicious circle of decline.

Because the ECM was owned by the Amex, there was no incentive for the ECM to try to prevent its listings from moving onto the Amex, which exacerbated the adverse selection problem. One thing that the Amex could have done differently would have been to encourage the successful ECM firms to stay on the ECM longer, in order to build up the reputation of the ECM market. It could also have structured the ECM as a separate entity that would have had an incentive to try to retain its listings.

Even though many small firms have traditionally chosen a dealer market, the auction market mechanism of the ECM could have been a viable way to differentiate the ECM from Nasdaq. Indeed, interviews with senior officials of ECM-listed firms indicated that the ECM attracted firms that wanted an auction market. Perhaps modifications to its auction market similar to the new hybrid markets such as the AIM and Euro-NM would have broadened the appeal of the market to more firms.

Ultimately, the ECM was closed because it was redundant. It did not attract firms beyond those that would eventually have sought an Amex listing anyway, and thus it was not worth the direct and reputational costs of operation. This redundancy is what one would expect if firms are well informed and choose their listing rationally.

For the designers and regulators of financial markets, especially in countries that are developing new markets, the lessons are clear. Exchanges must properly screen firms to prevent scandals from destroying confidence in the market. This is especially important for a new market with a small number of stocks. Markets should seriously consider the limited liability form of ownership instead of the traditional membership organization. Policy makers seeking to establish and promote capital markets in their countries should nurture competition among markets for listings. A firm in the process of deciding its listing policy should consider, in addition to transaction costs, how a market mechanism affects the visibility of its stock.

One interesting issue for further research is to explore the reason why Nasdaq has managed to avoid the adverse selection problem that is common to junior markets and to retain the listings of many large companies that qualify for listing on the Amex and the NYSE.

## REFERENCES

- Aggarwal, Reena, and James J. Angel, 1998, Optimal listing policy: Why Microsoft and Intel do not list on the NYSE. Working paper, Georgetown University, Washington, D.C.
- American Stock Exchange, 1992, *American Stock Exchange Fact Book*, New York.
- American Stock Exchange, 1993, Listing fees for domestic issuers on the American Stock Exchange. New York Stock Exchange, Nasdaq Small Cap and Nasdaq NMS.
- Amihud, Yakov, and Haim Mendelson, 1986, Asset pricing and the bid-ask spread. *Journal of Financial Economics*, 17, 223-249.
- Bannock, Graham, and Partners, 1994, *European Second-Tier Markets for NTBFs: A study carried out for the European Commission*. Graham Bannock & Partners, Ltd., London.
- Barber, Brad M., and John D. Lyon, 1997, Detecting long-run abnormal stock returns: The empirical power and specification of test statistics. *Journal of Financial Economics* 43, 341-372.
- Barclay, Michael J., 1997, Bid-ask spreads and the avoidance of odd-eighth quotes on Nasdaq: An examination of exchange listings. *Journal of Financial Economics* 45, 35-60.
- Bessembinder, Hendrik, 1997, The degree of price resolution and equity trading costs. *Journal of Financial Economics* 45, 9-34.
- Bruchey, Stuart, 1991, *Modernization of the American Stock Exchange: 1971-1989*. Garland Publishing, New York.
- Christie, William G., and Roger D. Huang, 1993, Market structures and liquidity: A transactions data study of exchange listing. *Journal of Financial Intermediation* 3, 300-326.
- Christie, William G., and Paul H. Schultz, 1994, Why do Nasdaq market makers avoid odd-eighth quotes? *Journal of Finance* 49, 1813-1840.
- Clarkson, Gerald, 1990, EC plan for European stock market threatened by disunity. *Reuter Library Report*, December 19.
- Clyde, Paul, Paul Schultz, and Mir Zaman, 1997, Trading costs and exchange delistings: The case of firms that voluntarily switch from the American Stock Exchange to the Nasdaq. *Journal of Finance*, 52, 2103-2112.
- Demsetz, Harold, 1997, Limit orders and the alleged Nasdaq collusion. *Journal of Financial Economics* 45, 91-96.
- Dharan, Bala G., and David Ikenberry, 1995, The long run negative drift of post-listing stock returns.

*Journal of Finance* 50, 1547-1574.

Gould, John F., and Allan W. Kleidon, 1994, Market maker activity on Nasdaq: Implications for trading volume. *Stanford Journal of Law, Business, and Finance* 1, 11-28.

Harris, Jeffrey H., and Paul H. Schultz, 1997, The importance of firm quotes and rapid executions: Evidence from the January 1994 SOES rules changes. *Journal of Financial Economics* 45, 135-166.

Hart, Oliver and John Moore, 1995, The governance of exchanges: Members' co-operatives versus outside ownership. London School of Economics Financial Markets Group Discussion Paper 229.

Hasbrouck, Joel, and George Sofianos, 1993, The trades of market makers: An empirical analysis of NYSE specialists. *Journal of Finance* 48, 1565-1594.

Huang, Roger D., and Hans R. Stoll, 1996, Dealer versus auction markets: A paired comparison of execution costs on Nasdaq and NYSE. *Journal of Financial Economics* 41, 313-358.

Kadlec, B. Gregory, and John J. McConnell, 1994, The effect of market segmentation and illiquidity on asset prices: Evidence from exchange listings. *Journal of Finance* 49, 611-636.

Kandel, Eugene, and Leslie M. Marx, 1997 Nasdaq market structure and spread patterns. *Journal of Financial Economics* 45, 61-90.

Labaton, Stephen, 1992, American Exchange to list smaller stocks. *New York Times*, March 5, D1.

LaPlante, Michele, and Chris Muscarella, 1997, Do institutions receive comparable execution in the NYSE and Nasdaq markets? A transaction study of block trades. *Journal of Financial Economics* 45, 97-134.

Lipson, Marc L., 1997, Market transparency and optimal listing choices. Working paper, University of Georgia.

Lux, Hal, 1991, Change or die: Can the shake-'em-up style of Jim Jones rejuvenate the American Stock Exchange? *Investment Dealers Digest*, November 18, 12.

McConnell, John J., and Gary C. Sanger, 1987, The puzzle in post-listing common stock returns. *Journal of Finance* 42, 119-140.

Merton, Robert, 1987, A simple model of capital market equilibrium with incomplete information. *Journal of Finance*, 42, 483-510.

Morgenson, Gretchen, 1993, Fun and games on Nasdaq. *Forbes*, August 16, 74-79.

National Association of Securities Dealers (NASD), 1992, *Nasdaq Fact Book & Company Directory*, Washington, D.C.

- National Quotation Bureau, Inc, 1992, *National Daily Quotation Service "Pink Sheets."* various issues.
- New York Stock Exchange, 1992, *Fact Book For the Year 1991*. New York Stock Exchange, New York.
- O'Brien, Timothy L., 1992, Amex's new market for 'emerging' firms faces embarrassment. *Wall Street Journal*, July 2, A1.
- Rasch, Sebastian, 1994, Special stock market segments for small company shares in Europe - What went wrong? ZEW-Discussion Paper No. 94-13, Centre for European Economic Research.
- Sanger, Gary C., and John J. McConnell, 1986, Stock exchange listings, firm value, and security market efficiency: The impact of Nasdaq. *Journal of Financial and Quantitative Analysis* 21,1-25.
- Securities and Exchange Commission, Department of Market Regulation, 1994, *Market 2000: An Examination of Current Equity Market Developments*. U.S. Government Printing Office, Washington DC.
- Securities Week*, 1992, Stock of first company to quit Amex's ECM tier now doing better at Nasdaq. November 23, 1992, 4.
- Seguin, P. J. and M. M. Smoller, 1997, Share price and mortality: An empirical examination of newly listed Nasdaq stocks. *Journal of Financial Economics* 45, 333-363.
- Ule, Maxwell G., 1937, Price movements of newly listed stock. *Journal of Business* 10, 346-369.
- United States General Accounting Office, 1994, *American Stock Exchange — More Changes Needed in Screening Emerging Companies for the Marketplace*. Report Number GAO/GGD - 94-72.
- Van Horne, James, 1970, New listings and their price behavior. *Journal of Finance* 25, 783-794.
- Walter, James E., 1957, *The Role of Regional Security Exchanges*. University of California Press, Berkeley.
- Waters, Richard, 1991a, Euroquote charts an ambitious course. *Financial Times*, March 13, 34.
- Waters, Richard, 1991b, Bourses build up defences. *Financial Times*, September 24, 25.
- Weiss, Gary, Gail DeGeorge, and David Greisling, 1992, The Amex: A questionable seal of approval. *Business Week*, April 13, 78.
- Weiss, Gary, and Michael Schroder, 1994, Did the Amex turn a blind eye to a 'showcase' stock?, *Business Week*, September 12, 80.
- Ying, Louis K. W., Wilbur Lewellen, Gary G. Schlarbaum, and Ronald C. Lease, 1977, Stock exchange listings and securities returns. *Journal of Financial and Quantitative Analysis* 12, 415-432.

## NOTES

1. These statistics are derived from the fact books published by the Amex (1992), NASD (1992), and the NYSE (1992).
2. The Amex also tried unsuccessfully to trade NYSE-listed stocks. See Bruchey (1991) for more details about this and the Amex's entries into options and futures trading.
3. Stocks listed on the NYSE, Amex, and Nasdaq National Market are automatically eligible for margin under Federal Reserve Regulation T, which sets margin requirements. The Federal Reserve publishes from time to time a list of other marginable stocks. This lack of marginability for ECM stocks meant that an investor had to put up 100% of the purchase price in order to purchase the stock, and could not borrow against shareholdings of ECM firms.
4. The Penny Stock Disclosure Rules (SEC Rules 15g1-15g6) generally require that brokers selling unlisted stocks with price less than \$5.00 per share must provide additional written disclosures to customers about the risks of such stocks. See Seguin and Smoller (1997) for more about the trading and risks involved in penny stocks.
5. See Clarkson (1990) and Waters (1991ab) for more about Euroquote.
6. Hasbrouck and Sofianos (1993) report that NYSE specialists earn substantially lower profits per trade on less frequently traded stocks.
7. We use a group of control firms as a benchmark in light of Barber and Lyon's (1997) finding that control firms generally provide less biased estimates of long term abnormal returns than other approaches. Results for a variety of different benchmarks were quite similar and are omitted for brevity.
8. One potential problem that could bias these tests would be a high degree of correlation (e.g. an "ECM factor") among the ECM stocks. To check for this, we calculate the Pearson correlation coefficient among all possible pairs of ECM stock returns during the time they were listed on the ECM, as well as the correlations among all possible pairs of controls. The mean correlation among the ECM stocks was only 0.008 with a median of 0.003, compared with a mean correlation among the pairs of controls of 0.004 with a median of 0.005. The 10th and 90th percentiles for the ECM firms were -0.10 and 0.12, and the 10th and 90th percentiles for the controls were -0.10 and 0.11. We thus do not think that there is a serious correlation bias affecting the stock returns of the ECM firms.
9. For example, as of July 1997, 1,328 firms with market capitalization less than \$100 million in the Compustat PC-Plus database meet the Amex listing requirements for stockholders' equity, pre-tax income, shares outstanding, market capitalization, and price. Of these firms, 1,066 (80.3%) are listed on Nasdaq, 77 (5.8%) on the NYSE and 185 (13.9%) are listed on the Amex.
10. Numerous studies investigate differences between dealer and auction markets. See Ule (1937), Van Horne (1970), Ying, Lewellen, Schlarbaum, and Lease (1977), Sanger and McConnell (1986), McConnell and Sanger (1987), Christie and Huang (1993), Kadlec and McConnell (1994), Dharan

and Ikenberry (1995), Huang and Stoll (1996), and Clyde, Schultz, and Zaman (1998) for a sample of the work on differences across exchanges.

11. For more on the alleged Nasdaq collusion, see Barclay (1997), Bessembinder (1997), Demsetz (1997), Harris and Schultz (1997), LaPlante and Muscarella (1997), and Kandel and Marx (1997).

12. However, to the extent that net capital requirements have any relation to the capital employed, an exchange can require its specialists to maintain higher capital levels, although it cannot compel them to use the additional capital to take larger positions. For example, NYSE Rule 104.20 requires a specialist to be able to assume a position of 150 round lots of a given stock, and to maintain sufficient net capital equal to 25% of this position requirement. Thus, a \$30 stock adds \$112,500 to the NYSE specialist's net capital requirement. Under SEC Rule 15c3-1, each stock over \$5 adds only \$2,500 to a Nasdaq market makers net capital requirements, up to a total requirement of \$1,000,000.

13. See Ule (1937), Van Horne (1970), Ying, Lewellen, Schlarbaum, and Lease (1977), Sanger and McConnell (1986), and McConnell and Sanger (1987) for a sample of the work on exchange listings.

14. On a quote-driven market such as the Amex, a large number of transactions are directly between the buyer and the seller; such trades and their attendant volume will be reported only once. The Amex (1992) reports that in 1991 its specialists participated in only 11.2% of the total transactions in the market. In a dealer market such as Nasdaq, the dealers act as intermediaries, and a trade may take part in several stages, each of which gets reported as a trade. For example, a buyer may buy shares from a dealer, who later sells the shares to the natural counter party. Such a trade would be reported as two trades on Nasdaq; if the buyer had purchased directly from the natural counter party on the Amex, only one trade would have been reported. Amex volume is, however, increased for trades in which the specialist participates. See Gould and Kleidon (1994) for an analysis of Nasdaq trading volume.

15. See SEC Release No. 11744 ( File No. 10-53) for some details on the National Stock Exchange. Many of the stocks previously traded on the National Stock Exchange moved to the Boston Stock Exchange, where a few of them are still listed.

16. This number was estimated by using Compustat PC-Plus to search for Nasdaq-listed companies that meet NYSE listing requirements for net tangible assets, pretax income, and number of shares outstanding.

**Table 1**  
**Amex, Nasdaq, and NYSE initial and continuing fees**

The Amex, NYSE, and NASD charge listing firms a fee for initial listing in addition to an annual maintenance fee. The fees are usually based on the number of shares outstanding. This table demonstrates the listing and maintenance fees for selected size firms in effect when the Amex ECM was launched in 1992.

Shares outstanding (millions)	Original listing fees					Annual maintenance fees		
	Nasdaq	Nasdaq National Market	Amex ECM	Amex	NYSE	Nasdaq	Amex	NYSE
1	\$6,000	\$10,000	\$5,000	\$10,000	\$51,550	\$5,250	\$5,500	\$15,700
5	\$10,000	\$30,000	\$5,000	\$25,000	\$84,600	\$7,250	\$7,500	\$15,700
10	\$10,000	\$42,500	\$5,000	\$37,500	\$102,100	\$9,750	\$10,000	\$15,700
25	\$10,000	\$50,000	\$5,000	\$52,500	\$154,600	\$13,250	\$13,000	\$31,400
50	\$10,000	\$50,000	\$5,000	\$77,500	\$242,100	\$20,000	\$13,500	\$41,840
100	\$10,000	\$50,000	\$5,000	\$127,500	\$417,400	\$20,000	\$13,500	\$82,090
200	\$10,000	\$50,000	\$5,000	\$227,500	\$767,100	\$20,000	\$13,500	\$162,590
Maximum	\$10,000	\$50,000	\$5,000	\$227,500 + \$.001 * shares over 100 million	\$1,467,100 + \$.0019 * shares over 300 million	\$20,000	\$13,500	\$500,000

Source: Amex (1993)

**Table 2**  
**Amex, NYSE, and Nasdaq comparative listing requirements in 1992**

This table contains representative initial listing standards for the Nasdaq, Amex, and NYSE at the time of the inauguration of the Amex ECM in 1992, obtained from the individual markets. All markets also have lower standards for continued inclusion on their lists. Some alternative standards exist.

	Nasdaq	Nasdaq National Market System	Amex ECM		Amex	NYSE
			(Companies not presently trading on Nasdaq)	(Companies presently trading on Nasdaq)		
Total Assets	\$4 million	---	\$4 million	\$2 million	---	---
Stockholder's Equity	\$2 million	---	\$2 million	\$1 million	\$4 million	---
Net Tangible Assets	---	\$4 million	---	---	---	\$18 million
Net Income	---	\$400,000 <sup>1</sup>	---	---	---	---
Pretax Income	---	\$750,000 <sup>1</sup>	---	---	\$750,000 <sup>1</sup>	\$2.5 million <sup>3</sup>
Public Float (shares)	100,000	500,000	250,000	250,000	500,000	1,100,000
Market Value of Public Float	\$1 million	\$3 million	---	---	---	\$18 million
Market Value	---	---	\$2.5 million	\$2.5 million	\$3.0 million	---
Market Makers	2	2	---	---	---	---
Minimum price	\$3	\$5	\$1	\$1	\$3	---
Public Shareholders	300	400-800 <sup>2</sup>	300	300	400-800 <sup>2</sup>	2,000 <sup>4</sup>

1. In last fiscal year or two of last three fiscal years.

2. Based on number of shares publicly held and average daily trading volume.

3. In addition, the firm is required to have \$2.0 million in pretax income for each of the preceding two years or a total of \$6.5 million for the sum of the last three years with \$4.5 million in the preceding fiscal year. All three years must be profitable. Alternatively, an aggregate of \$6.5 million in pretax income for the last three years and a minimum of \$4.5 million in the preceding year, with all three years profitable.

4. Round lot holders. Alternatively, a firm may have 2,200 total shareholders together with average monthly trading volume of 100,000 shares.

**Table 3**  
**Summary statistics on ECM firms**

Panel A contains summary statistics for the 65 firms that listed on the Amex ECM between March 18, 1992 and May 11, 1995. The number of market makers in each stock before listing was obtained from the NASD, Amex, or the *Pink Sheets*. Panel B contains information on the source of listings for the ECM. The original firms are the firms that listed on the ECM when it commenced operations on March 18, 1992, and the additional firms are those firms that listed later.

	<b>Market capitalization (millions)</b>	<b>Stock price</b>	<b>Number of pre-ECM market makers</b>
Mean	\$28.8	\$4.34	9.61
Median	\$15.1	\$3.38	8.00
Standard deviation	\$38.8	\$3.17	6.57
Minimum	\$3.0	\$0.69	1
Maximum	\$253.7	\$15.19	30
Number of firms	65	65	46

**Panel B**  
**Source of ECM listings**

<b>Prior market</b>	<b>Original firms</b>	<b>Additional firms</b>	<b>Total firms</b>
Nasdaq - not National Market	15 (68.2%)	11 (25.6%)	26 (40.0%)
<i>Pink Sheets</i> / Nasdaq Bulletin Board	6 (27.3%)	15 (34.9%)	21 (32.3%)
No Previous Market	0 (0.0%)	5 (11.6%)	5 (7.7%)
Vancouver Stock Exchange	1 (4.5%)	3 (7.0%)	4 (6.2%)
Initial Public Offering	0 (0.0%)	3 (7.0%)	3 (4.6%)
Spinoff	0 (0.0%)	3 (7.0%)	3 (4.6%)
London Stock Exchange	0 (0.0%)	1 (2.3%)	1 (1.5%)
Pacific Stock Exchange	0 (0.0%)	1 (2.3%)	1 (1.5%)
Toronto Stock Exchange	0 (0.0%)	1 (2.3%)	1 (1.5%)
Total	22 (100%)	43 (100%)	65 (100%)

**Table 4**  
**Primary listing status of ECM-listed firms**  
**May 1995 and June 1997**

This table presents the primary listing status of the 65 firms that listed on the ECM as of the May 1995 announcement of the closure of the market and also as of June 1997. Delisted refers to firms that were removed from the Amex for failure to meet Amex listing requirements or whose trading was suspended by the Amex. Nasdaq refers to firms that switched voluntarily to Nasdaq.

Primary listing of firm	Status as of May 1995 Number of firms	Status as of June 1997 Number of firms
Amex ECM	32 (49.2%)	15 (23.1%)
Amex (regular)	19 (29.2%)	29 (44.6%)
Delisted	7 (10.8%)	11 (16.9%)
Nasdaq	5 (7.7%)	8 (12.3%)
NYSE	1 (1.5%)	1 (1.5%)
Toronto	1 (1.5%)	1 (1.5%)
Total	65 (100%)	65 (100%)

**Table 5**  
**Stock market performance of ECM listed firms**

This table presents the stock market performance of the 65 firms that listed on the Amex ECM from the time that the firms listed on the ECM until the earlier of the time that the firms left the ECM or the ECM closed in May 1995. Performance is presented for the cumulative buy-and-hold return, and also for cumulative buy-and-hold abnormal returns relative to the size and industry matched control firms described in the text, as well as for market model adjusted returns using the Nasdaq Composite Index as a benchmark. The *p*-value is for the hypothesis that the probability of a negative return is greater than the null hypothesis of a 50% probability.

	Time listed on ECM			Overall
	Less than 200 days	200 to 300 days	More than 300 days	
<b>Number of firms</b>	16	23	26	65
<b>Cumulative buy-and-hold return</b>				
<b>Mean (t-stat)</b>	21.5% (1.24)	10.0% (0.52)	-23.9% (-1.80)	0.7% (-0.08)
<b>Median</b>	12.8%	-10.6%	-38.1%	-16.8%
<b>% negative (p-value)</b>	31.3% (0.993)	60.9% (0.149)	76.9% (0.003)	60.0% (0.053)
<b>Cumulative buy-and-hold abnormal return (Control firms benchmark)</b>				
<b>Mean (t-stat)</b>	22.5% (1.15)	2.6% (0.16)	-19.5% (-1.44)	-1.4% (-0.15)
<b>Median</b>	11.0%	-19.2%	-39.5%	-19.3%
<b>% negative (p-value)</b>	37.5% (0.841)	65.2% (0.072)	76.9% (0.003)	63.1% (0.018)
<b>Cumulative buy-and-hold abnormal return (Nasdaq Composite Index benchmark)</b>				
<b>Mean (t-stat)</b>	20.4% (1.07)	6.0% (0.34)	-27.0% (-2.19)	-3.6% (-0.39)
<b>Median</b>	10.0%	-14.2%	-35.4%	-21.1%
<b>% negative (p-value)</b>	31.3% (0.934)	60.9% (0.149)	80.8% (0.001)	61.5% (0.031)

**Table 6**  
**Effect of ECM listing on bid-ask spreads**

This table presents the effect of ECM listing on the quoted closing bid-ask spreads for a sample of 49 ECM firms for which bid-ask spread data were available both before and after listing. Before bid-ask spreads were calculated for those firms that had been traded on the Nasdaq Small-Cap for the month prior to listing. For stocks that traded in the *Pink Sheets*, the week prior to the ECM listing date was used. After listing bid-ask spreads were calculated for the month following the listing date. Data were obtained from the NASD, Amex, Vancouver Stock Exchange, and the *Pink Sheets*.

	ECM firms					
	Dollar Bid-Ask Spreads			Percentage Bid-Ask Spreads		
	Before Listing	After Listing	Difference	Before Listing	After Listing	Difference
Median	0.375	0.160	-0.210	14.1%	4.9%	-7.9%
Mean	0.411	0.168	-0.244	15.2%	6.2%	-8.9%
Standard error of the mean	0.039	0.008	0.035	1.5%	0.8%	1.3%
Minimum	0.034	0.082	-1.068	1.9%	1.6%	-49.7%
Maximum	1.30	0.344	0.078	54.6%	32.0%	4.5%
Number of increases			5			6
Number of decreases			44			43
Number unchanged			0			0
<i>t</i> - statistic of mean difference			-6.90			-6.63
Sign test <i>p</i> -value			0.000			0.000
Wilcoxon signed rank test <i>p</i> -value			0.000			0.000

**Table 7**  
**Effect of ECM listing on average daily trading volume**

This table presents information on the trading volume for the 35 firms that listed on the Amex ECM for which before and after trading volume are available. Trading volume data prior to listing were unavailable for firms that were IPOs, spinoffs, had no public market, or were traded on the *Pink Sheets*. Statistics are also presented for 35 Nasdaq control firms that were matched to the ECM firms by two digit SIC code and market capitalization at time of listing. Data were obtained from the Amex, Bloomberg, FactSet Research Systems, and the NASD.

	ECM firms		Industry- and size-matched controls	
	Benchmark		Benchmark	
	Prior year	Year to date	Prior year	Year to date
<b>Average daily volume before listing date</b>				
Median volume	4,577	10,894	14,737	14,678
Mean (Standard deviation)	15,837 (22,686)	22,829 (27,768)	44,362 (82,659)	56,726 (135,327)
<b>Average daily volume after listing date</b>				
Median	7,411		11,838	
Mean (Standard deviation)	14,465 (18,030)		37,704 (73,440)	
Median percentage increase	101.64%	-22.14%	-9.26%	-23.91%
Number of firms with higher volume	21	14	13	2
Number of firms with lower volume	14	21	22	33
Difference in mean before and after listing ( <i>t</i> -statistic)	-1,372 (-0.36)	-8,364 (-2.00)	-6,658 (-1.26)	-63,384 (-2.56)
Sign test (Median percentage increase > 0) <i>p</i> -value	0.1553	0.9123	0.9552	1.00
Wilcoxon signed-rank test (Median percentage increase > 0) <i>p</i> -value	0.003	0.810	0.725	0.948

**Table 8**  
**Media coverage before and after ECM listing**

This table presents the number of news stories in the ALLNWS file on Nexis/Lexis for the 65 firms that listed on the Amex ECM measured relative to each firm's listing date. News stories that were about the ECM itself and PR news wires issued by the firm itself were not included. Statistics are also presented for 65 Nasdaq control firms that were matched to the ECM firms by two digit SIC code and market capitalization at time of listing.

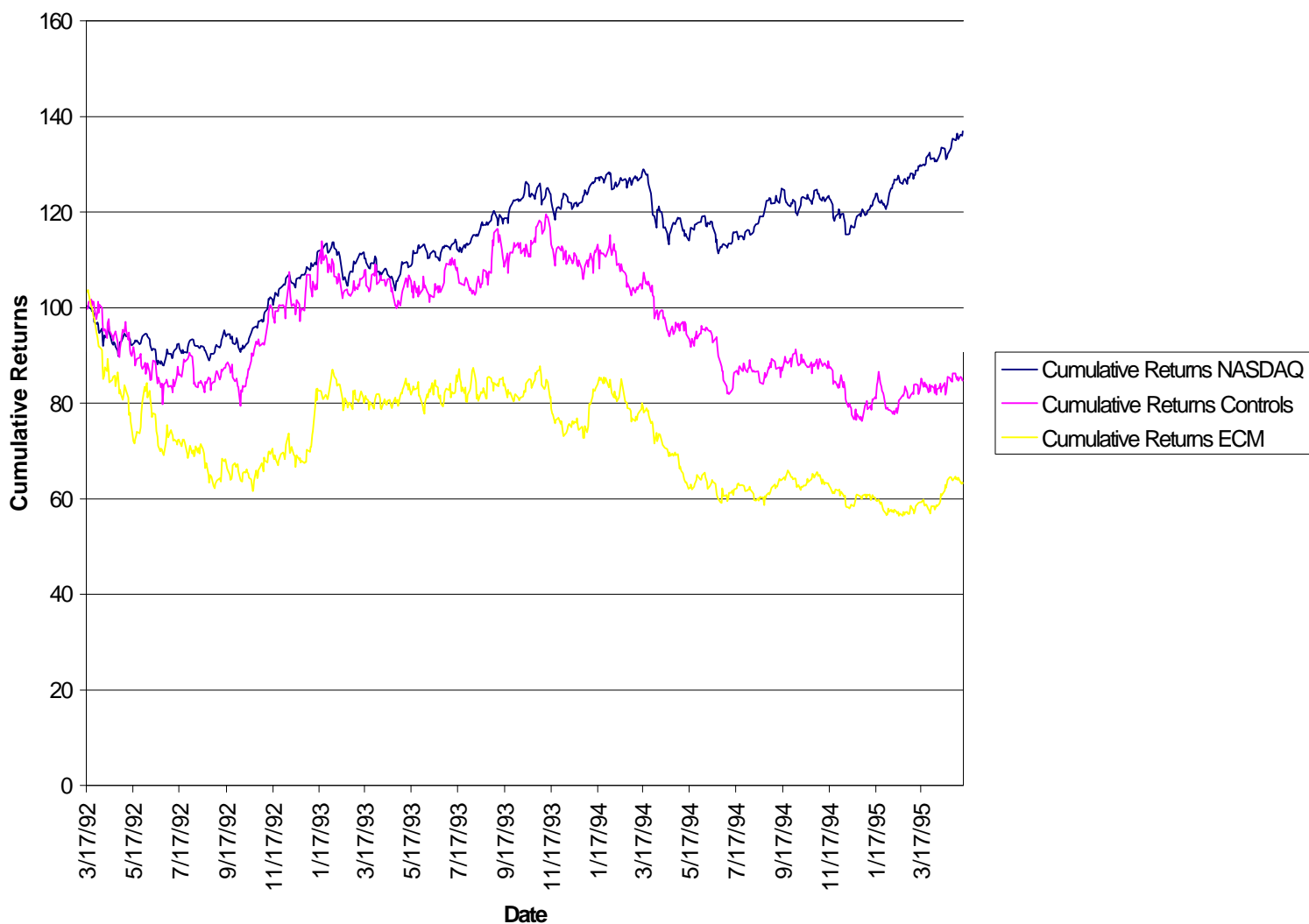
	65 ECM firms				65 industry and size matched controls			
	0 to 3 months	0 to 6 months	0 to 9 months	0 to 12 months	0 to 3 months	0 to 6 months	0 to 9 months	0 to 12 months
<b>Before listing date</b>								
Median number of stories	5	8	11	15	9	18	23	32
Mean number of stories	7.5	13.3	16.8	20.2	11.3	22.0	30.7	40.0
<b>After listing date</b>								
Median number of stories	6	13	21	28	6	12	19	24
Mean number of stories	7.3	14.3	23.3	31.8	10.8	21.5	33.0	43.2
Number of firms with higher number of stories	34	41	44	51	19	29	26	28
Number of firms with same number of stories	5	1	2	1	8	3	8	2
Number of firms with fewer stories	26	23	19	13	38	33	31	35
Difference in mean before and after listing ( <i>t</i> -statistic)	-0.26 (-0.21)	1.08 (0.59)	6.49 (3.31)	11.55 (4.84)	-0.51 (-0.46)	-0.49 (-0.29)	2.23 (1.02)	3.18 (1.26)
Sign test (Median difference > 0) <i>p</i> -value	0.1831	0.0168	0.0012	0.0000	0.9960	0.7373	0.7866	0.8432
Wilcoxon signed rank test (Median difference > 0) <i>p</i> -value	0.087	0.047	0.000	0.000	0.984	0.906	0.426	0.375

**Table 9**  
**Opinions of senior management of ECM-listed firms**

This table summarizes the results of personal interviews with senior officials of 37 ECM-listed firms to learn more about their experiences with the ECM. We attempted to interview officials who were personally involved with, or highly knowledgeable about, the decision to list on the ECM. During the interviews, the officials were asked the questions listed here. The officials also provided additional unstructured comments and insights discussed elsewhere in the paper.

<b>Title</b>			
Chairman, President, CEO, COO	11 (29.7%)		
CFO	21 (56.8%)		
Investor Relations	2 (5.4%)		
Corporate Secretary or EVP	3 (8.1%)		
Total	37 (100%)		
<b>Firm listing status as of June 1997</b>			
Amex (regular)	19 (51.4%)		
ECM	13 (35.1%)		
Delisted	3 (8.1%)		
Nasdaq	1 (2.7%)		
NYSE	1 (2.7%)		
Total	37 (100%)		
<b>"Were you personally involved with the listing decision?"</b>			
Yes	No	Total	
30 (81.1%)	7 (18.9%)	37 (100%)	
<b>"Did you think that the ECM would provide more visibility for the firm than Nasdaq?"</b>			
Yes	No	Not Sure	Total
21 (67.7%)	7 (22.6%)	3 (9.7%)	31 (100%)
<b>"If the Amex did not have the ECM, did you think that the firm would have eventually listed anyway on the Amex?"</b>			
Yes	No	Not Sure	Total
25 (71.4%)	3 (8.6%)	7 (20.0%)	35 (100%)
<b>"If you had it to do over again, do you think you would make the same decision?"</b>			
Yes	No	Not Sure	Total
31 (88.6%)	2 (5.7%)	2 (5.7%)	35(100%)
<b>"Were you satisfied with the experience of your stock on the Amex?"</b>			
Yes	No	Not Sure	Total
32 (88.9%)	3 (8.3%)	1 (2.8%)	36(100%)

### Cumulative Returns of ECM Firms and Controls



**Figure 1.** This figure presents a time series of a value-weighted index of the cumulative buy-and-hold returns of the 65 stocks that were members of the Amex ECM during their tenure on the ECM compared with the cumulative buy-and-hold returns for the Nasdaq Composite Index and with a value-weighted index of 65 size- and industry-matched controls chosen as described in the text. The index values for March 17, 1992 are set to 100.

**Appendix 1**  
**Amex Emerging Company Marketplace Companies**

This table lists the companies that listed on the Amex Emerging Company Marketplace (ECM). Data were obtained from the Amex, the National Association of Securities Dealers, and Lexis Nexis. Original firms are those that listed when the market commenced operations on March 18, 1992. Additional firms are those that listed later. The prior market indicates where the stock traded prior to its listing on the ECM. SC indicates Nasdaq-traded firms that were not part of the Nasdaq National Market System. Market makers before ECM refers to the number of Nasdaq dealers providing quotes in the stock. NA = Not Available or Not Applicable.

Original firms	Listing date	ECM ticker	Prior market	Market capitalization (millions)	Market makers before ECM	Status in May 1995
Advanced Photonix	3/18/92	API	SC	\$10.2	6	Amex
Alta Energy	3/18/92	ALE	SC	\$17.7	9	Amex
American Pacific Mint	3/18/92	DLS	SC	\$16.9	4	ECM
Audre Recognition Systems	3/18/92	ARS	SC	\$253.7	26	Amex
Cancer Treatment Holdings	3/18/92	CTH	SC	\$12.5	12	ECM
Colonial Data Technologies	3/18/92	CDT	SC	\$22.1	5	Amex
Digitran Systems	3/18/92	DGT	<i>Pink Sheets</i>	\$23.8	11	Amex
Epigen	3/18/92	EPN	SC	\$13.4	10	Delisted
Intertel Communications	3/18/92	ITR	Vancouver	\$77.3	NA	Amex
Ion Laser Technology	3/18/92	ILT	SC	\$8.7	16	Amex
Media Logic	3/18/92	TST	SC	\$11.9	10	Amex
Medphone	3/18/92	MPO	SC	\$16.3	26	Delisted
North Coast Energy	3/18/92	NCE	SC	\$13.7	6	Nasdaq
Ocean Optique Distributors	3/18/92	OPQ	SC	\$8.3	1	Nasdaq
PNF Industries	3/18/92	PNI	<i>Pink Sheets</i>	\$28.3	1	Delisted
Printron	3/18/92	PNT	<i>Pink Sheets</i>	\$51.3	10	Delisted
Professional Dental Technology	3/18/92	PRO	<i>Pink Sheets</i>	\$52.5	8	ECM
Randers Group	3/18/92	RGI	SC	\$21.0	13	ECM
Three-Five Systems	3/18/92	TFS	SC	\$5.0	4	NYSE
Top Source	3/18/92	TPS	SC	\$70.2	30	Amex
Topox	3/18/92	TPO	<i>Pink Sheets</i>	\$106.9	6	Delisted
Unique Mobility	3/18/92	UQM	<i>Pink Sheets</i>	\$18.4	8	Amex

Additional firms	Listing Date	ECM ticker	Prior market	Market capitalization (millions)	Number of market makers	Status in May 1995
ACOI Inc	8/4/92	CCS	SC	10.1	15	ECM
Air Methods Corporation	6/2/92	ARF	SC	15.1	15	Nasdaq
Aviva Petroleum	11/14/94	AVV	London	149.5	NA	ECM
Banker's Note, Inc.	3/31/94	TBN	SC	3.6	5	ECM
Bema Gold Corporation	3/4/94	BGO	Toronto	68.7	NA	ECM
Besicorp Group Inc.	11/22/93	BGI	<i>Pink Sheets</i>	21.6	8	ECM
CEC Resources	4/24/95	CGS	Spinoff	6.6	NA	ECM
Chad Therapeutics, Inc.	8/4/93	CTU	<i>Pink Sheets</i>	37.8	9	Amex
Chesapeake Biological Laboratories, Inc.	2/10/94	PHD	<i>Pink Sheets</i>	13.4	6	ECM
Columbus Energy Corp.	7/30/92	EGY	Pacific	15.1	NA	Amex
Cornerstone Bank	3/20/95	CBN	No market	8.8	NA	ECM
Creative Comp. Appl., Inc.	8/23/94	CAP	SC	3.6	13	ECM
Crown Laboratories, Inc.	3/30/94	CLL	<i>Pink Sheets</i>	49.7	1	ECM
Encore Marketing International Inc.	4/29/93	EMI	No market	9.0	NA	ECM
Environmental Diagnostics	9/16/92	EDI	<i>Pink Sheets</i>	35.4	12	Amex
ETS International, Inc.	7/23/92	ETS	Vancouver	24.6	NA	ECM
First West Virginia Bancorp	3/8/95	FWV	<i>Pink Sheets</i>	11.4	NA	ECM
Grove Real Estate Asset Trust	6/16/94	GRE	IPO	5.6	NA	ECM
InnoVet, Inc	7/15/93	IVT	SC	24.2	13	Delisted
Intelligent Controls	2/15/95	ITC	No market	12.3	NA	ECM
Interline Resources Corp.	7/12/94	IRC	SC	68.2	18	ECM
Intl. Remote Imaging Systems, Inc.	6/23/92	IRI	SC	9.2	20	Amex
Leather Factory, Inc. (The)	9/27/93	TLF	<i>Pink Sheets</i>	67.5	2	Amex
Luxtec Corporation	4/20/94	LXU	SC	3.0	8	ECM
Magnum Petroleum, Inc.	11/15/93	MPM	<i>Pink Sheets</i>	12.2	6	ECM
Measurement Specialties, Inc.	4/23/93	MSS	<i>Pink Sheets</i>	15.2	11	ECM
MidSouth Bancorp, Inc	4/19/93	MSI	No market	6.8	NA	Amex

Company	Listing Date	ECM ticker	Prior market	Market capitalization (millions)		Status in May 1995
Northern Instrument Corp.	3/27/92	NIZ	<i>Pink Sheets</i>	12.3	6	Amex
NuMED Home Health Care	5/2/94	NHH	<i>Pink Sheets</i>	10.9	2	Nasdaq
OMNI Multimedia Group Inc	4/20/95	OMG	IPO	7.3	NA	ECM
PC Quote, Inc.	4/23/92	PQT	SC	6.0	6	ECM
Pyrocap International Corporation	1/10/94	PYR	<i>Pink Sheets</i>	21.2	4	ECM
Reliv International, Inc.	3/8/93	RLV	No market	59.9	NA	Amex
RF Power Products, Inc.	4/29/94	RFP	Spinoff	20.5	NA	ECM
Saba Petroleum Company	9/15/93	SAP	<i>Pink Sheets</i>	11.0	8	ECM
Scott Instruments Corp.	7/16/92	SIC	SC	8.1	12	Nasdaq
Sheffield Exploration Co., Inc.	12/14/93	SHE	<i>Pink Sheets</i>	25.8	2	ECM
Soligen Technologies, Inc.	3/10/94	SGT	Vancouver	39.1	NA	ECM
SouthFirst Bancshares	2/14/95	SZB	IPO	8.9	NA	ECM
Spectrum Signal Processing Inc.	7/29/92	SNL	Vancouver	13.4	NA	Toronto
Statordyne Corporation	6/25/93	STY	Spinoff	30.8	NA	Delisted
Surety Capital Corporation	2/23/94	SRY	SC	14.5	12	Amex
WIZ Technology, Inc.	2/2/94	WIZ	<i>Pink Sheets</i>	17.4	6	ECM