CAMBRIDGE ASSOCIATES LLC

# U.S. MARKET COMMENTARY

# U.S. VENTURE CAPITAL: GOOD, BAD ... OR UGLY?

## October 2009

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**U.S. Venture Capital: Good, Bad ... or Ugly?**

Earlier this year we sounded a cautiously optimistic note on venture capital investing, concluding that despite the large capital overhang and current lack of exit opportunities, "we continue to regard select high-quality venture capital managers as an effective means to capture returns from entrepreneurial developments across several sectors." [1] Our outlook today is much the same, as the continued drought in both fund raising and exit opportunities means conditions are little changed.

However, some developments are worth noting. First, the extraordinarily long initial public offering (IPO) drought has forced existing venture capital managers to allocate a larger percentage of existing funds to portfolio companies, which may reduce competition for investment dollars, but will also exacerbate the problem of oversupply (i.e., too many companies looking for exits) in coming years. This is not to say these companies are in direct competition for dollars (or exits) with new companies, but rather that there has been a relatively consistent number of profitable exits[2] over time (Table A), while the scale of the industry (including amount of capital raised and invested, number of venture capital firms, and number of portfolio companies) has increased dramatically. As a result, the *percentage* of profitable exits has fallen sharply in recent years, and we expect this state of affairs to persist until and unless the industry scales back to a more sustainable level. Second, investor attitudes toward the asset class have soured, as more and more investors are questioning the wisdom (and efficacy) of locking up capital in pursuit of what have been, in recent years, far from stellar returns. (Rolling ten-year performance, for example, is likely to turn negative by the end of this year as the last of the extraordinary returns of the late 1990s fall out of the trailing ten-year period.)

Thus, we are of two minds regarding venture capital investments. On one hand, we believe conditions have improved somewhat with regard to future investments. We anticipate there will be less capital competing for new venture investments as more capital is being reserved for existing portfolio companies, and as some investors are pulling back from the asset class. On the other hand, the very fact that venture capital managers are continuing to support current portfolio companies is likely to pressure exit *prices* in coming years. Further (and perhaps most importantly), venture capital has always been an asset class where manager selection is of paramount importance. (For example, of the 153 firms in our database with three venture capital funds or more raised in vintage years 1981–2004, only 21% had at least three-quarters of their funds in the first or second quartile, and only 17% had at least a 2.0 times overall total value to paid-in capital ratio.) Table B shows the wide dispersion of manager returns over time; in short, *one does not invest in venture capital to get median returns, one invests to get access to top-tier managers*. Thus, while we believe high-quality managers will continue to offer compelling returns, the trick is not only to identify these managers in advance, but also to gain access to what are almost always highly allocated funds.

[1] Please see our 2008 report *U.S. Venture Capital Investing*.
[2] Exits in which investors receive more money than they invested.

**The Good …**

As noted, we believe some recent developments have made venture more attractive for investors looking to make commitments today, provided they can identify and get access to top funds.

1. Venture capital commitments for the first three quarters of 2009 were a mere $8.3 billion, compared to $25 billion for the same period in 2008, and full-year totals ranging from $29 billion to $36 billion from 2005–08 (Table C). Further, fund raising has dropped each quarter in 2009, falling from $4.7 billion in first quarter to $2 billion in second quarter to $1.6 billion in third quarter; we expect the full-year total to be about $12 billion. In short, there are fewer dollars competing for new investments.

2. While much of the money raised in recent years remains uncalled, an increasing percentage of the capital overhang appears to be earmarked for existing portfolio companies. It is worth noting that roughly half the unrealized portfolio companies in our database have been in portfolios for three years or less (Table D); we cannot quantify how much capital has been reserved for follow-on offerings, but clearly many of these companies will require a good deal of support before becoming viable exit candidates. (While we use industry data for overhang numbers and internal data for the number of portfolio companies, in our opinion what we are seeing in our numbers is reflective of a broad industry trend.)

3. There has been notable improvement in valuations, with the most dramatic declines seen in later-stage rounds (Table E). (Seed and early-stage valuations have been very stable over time, which reflects the reality that these rounds cannot get too high or they will not leave enough ownership of the company for the entrepreneur(s) and management team.) Median pre-money valuations (across all rounds and sectors) dropped from a high of $27.0 million in first quarter 2008 to $21.2 million in second quarter 2009; still, it is worth noting that valuations were even lower as recently as third quarter 2007 ($16.5 million). Further, according to VentureSource, the rate of insider rounds in first quarter 2009 (the most recent data available) was 57%, up from 54% in first quarter 2008 and 41% in third quarter 2008. In addition to signaling that venture capital managers are spending more time and money triaging existing companies, this may indicate that reported valuations are overstated, since insiders are, of course, less likely to insist on marking down valuations on companies in their portfolio.

Putting this all together, one could reasonably conclude that existing investors in venture capital funds whose investment periods have expired will be left "holding the bag" on unprofitable investments made over the past several years, while new investors (i.e., new funds and funds still inside their investment period) will be able to swoop in and cherry-pick the best investments (at reasonable valuations) over the next few years. But of course things are hardly that simple.

**The Bad …**

One of the most difficult aspects of forecasting venture capital returns is that they depend to an extraordinary degree on the health of public markets, since IPOs almost always provide the multiple-bagger returns that make up for losses elsewhere, as well as boost merger & acquisition (M&A) valuations through the "threat" of going public. Further, healthy public markets also strengthen the financial positions of strategic acquirers. Thus, for investors that make commitments today, returns will be dependent on the health of public markets somewhere in the 2013–17 timeframe (give or take a few years). Further, the fact that very few companies have been able to achieve exits over the past two years essentially means the pipeline is full … and getting fuller.

As of year-end 2008, our database showed roughly 4,400 unrealized portfolio companies that were less than ten years old, with about 70% less than five years old. (For comparison, we had about 3,700 companies in our database in 2002, 3,500 in 1999, and 1,900 in 1995.) About 60% of these companies are valued at or above cost, which indicates that investors believe they have value and will look to achieve an exit at some point. We recognize, of course, that not all of these companies will turn into profitable exits, and also that some valued below cost will rise in value; our point is that one cannot simply dismiss this inventory when considering the future exit environment.

Investors should also consider how this backlog will affect returns for recent vintage years. For example, in many cases general partners (GPs) may be looking to sell investments primarily to get liquidity to their limited partners, and/or move on to new investments. Thus, assuming they are not willing (or able) to extend these investments until conditions improve, they will be forced to either find a new set of buyers and/or sell at lower prices.

Unfortunately, there is no reasonable way to construct a profitable exit scenario for any significant fraction of these companies. For example, if we look specifically at the 70% of unrealized portfolio companies less than five years old (about 3,000 companies) and assume a 70% capital loss rate (the average loss rate from 2001 to 2008), the remaining invested capital would have to generate a 5.5 to 8.3 times return to produce a 2 to 2.5 times return (15% internal rate of return) in seven years. Assuming an equal weighting of capital per number of deals, this means 30% of the companies (~920) would need to generate an *average* return of 6.5 times. This is unrealistic in the extreme. Consider that in the best year ever for venture capital exits (2000), about 140 companies generated 5 times or greater returns. Thus, in order to hit the 2 to 2.5 times bogey, the industry would need a similar environment (i.e., 140 5 times or higher investments a year) to persist for *the next six and a half years*.

Fund-raising data paint a similar picture. Since 2000, investors have committed $315 billion to venture capital funds, of which $220 billion has been called. Since 1993, meanwhile, venture capital–backed firms have raised a *total* of $391 billion through IPOs and M&A, with more than one-third of this ($152 billion) coming in 1999–2000. Average exits for the entire period have been less than $25 billion a year ($7.8 billion for IPOs and $16.7 billion for M&A); excluding 1999–2000, exits have been a mere $17 billion annually ($5.6 billion for IPOs and $11.5 billion for M&A). Said a different way, the amount of money

*called* by venture capital managers since 2000 (almost nine years) is *more* than the amount raised in exits for the 14 years including 1993–98 and 2001–08.

The mix of exits, meanwhile, has changed dramatically in recent years, both in terms of strategy (from IPOs to M&A) and result (from profitable to not). Between 1993 and 2008, the number of venture exits[3] ranged from 267 (1994) to 581 (2000). However, the number of IPOs from 1993 to 2000 averaged 202, compared to 49 from 2001 to 2008, while the comparable numbers for M&A were 165 and 330 (Table F). (From a total dollar perspective, M&A has dwarfed IPOs since 1997.) More importantly (and somewhat related)—using our internal data as a proxy, the percentage of profitable exits suffered a dramatic reversal in 2000. From 1993 to 2000, the percentage of profitable exits ranged from 60% to 65%; from 2001 to 2008 they ranged from 24% to 47%. In other words, from 1993 to 2000 (when a majority of exits were profitable) there were about 20% more IPOs than M&A transactions, while from 2001 to 2008 (when a majority were *not* profitable) M&A deals outnumbered IPOs by a whopping 576%.

In sum, the mid-to-late 1990s appear to have represented a golden age for venture capital, with large numbers of IPOs producing stellar returns (fueled largely, of course, by the dot-com bubble). However, since the bubble burst the industry not only has become *even more* reliant on M&A (it has always been reliant on M&A, of course, but this was masked to some degree by the IPO surge in the late 1990s), but has also seen the lack of IPOs reduce the number of homeruns. Still, while the health of exit markets clearly impacts the number of big winners, this is not the *cause* of venture capital's poor performance numbers. Put simply, the reason the *percentage* of profitable exits has dropped so sharply (as noted earlier) is the oversupply of companies, which has itself been driven by the large sums of money raised by venture capital managers.

The bottom line is that the pipeline of companies looking for exits remains very clogged, which will by necessity hold down exit multiples for the industry as a whole. Further, it is far from clear whether exit numbers since the mid-1990s should be considered a reasonable baseline for future exits, since they include two distinct periods of bubble-driven activity not likely to recur anytime soon.

**The Ugly …**

Those issues, meanwhile, pale in comparison to the biggest problem for prospective investors in venture capital—the fact that an extremely limited number of managers will provide returns sufficient to compensate for the illiquidity of the asset class, and that these managers' funds will be (almost by definition) relatively small and difficult to access. As discussed in our 2008 *U.S. Venture Capital Investing* report, 93% of funds that have generated a net multiple of more than 2 times have been less than $250 million in size. *To clarify—the manager, not fund size, is the primary determinant of returns. However, even the best managers are less likely to post 2 times returns if their fund is sufficiently large.*

[3] These numbers are from the National Venture Capital Association, and reflect a broader universe than our internal data.

This is due in large part to the daunting economics behind achieving a 2 times return as fund size grows. For example, in order for a $250 million fund to generate a 2 times net multiple it needs to generate total value of $563 million—including a 20% GP carry—across a typical portfolio of 20 total companies. (The number of portfolio companies is an important variable, of course, and one might argue that venture capital managers could cut their "risk" somewhat by investing in more companies per fund. However, while increasing the number of companies would reduce the "burden" on each individual company, it would also require an increase in resources to evaluate these companies.) Assuming the fund owns an average of 15% of its portfolio companies at exit, the implied total market capitalization of those companies is $3.8 billion, or an average of $188 million per company. (Of course, managers may end up owning more than 15% of their winners, but we think this is a reasonable assumption.)

However, since the venture investment model relies on homerun investments compensating for losses, we also assumed 30% of portfolio companies will be full or partial losses, and 50% of the portfolio would generate returns between 1 and 3 times. Consequently, based on our model, the fund's strong performers (3 times or greater gross returns—the remaining 20% of the portfolio) would need to generate total market capitalization of nearly $2 billion, or an average valuation of $500 million. Since 1998, the average valuation for venture capital–backed M&A exits has ranged from $49 million (in 2002) to $335 million (in 2000); only in 1999 and 2000 did the average exceed $200 million, and the figures for 2007 and 2008 were $190 million and $116 million, respectively. For IPOs, the range was $167 million (2005) to $363 million (2000), and 2007–08 numbers were $311 million and $284 million, respectively (however, there were only six IPOs in 2008).

For a $750 million fund to achieve a 2 times multiple, six companies would need to generate a total market capitalization amount of nearly $6 billion (or nearly $1 billion per company)—clearly a heroic assumption.

We should note that this issue has been a big topic among investors and managers over the past few years, and that managers seem to have understood the message (and/or the challenging fund-raising environment has forced the issue); thus, we expect fund sizes to be smaller (and the issue at least partially defused) going forward.

**Conclusion**

As noted in the beginning of this paper, we believe that despite the strong headwinds facing the industry, *select* venture capital managers will be able to generate returns sufficient to compensate investors for locking up their money for several years. However, it is critical that investors understand this does *not* mean we are bullish on venture capital in a broad sense; rather, we believe the *very cream of the crop*, running *appropriately sized funds*, will be able to find enough big winners to compensate for their inevitable losers. Unfortunately, even when the extraordinary drop in recent fund raising is taken into account, we expect demand will far exceed the very limited supply for these funds. Said a different way, even if 2009–10 ultimately represent strong vintage years for venture capital, a significant number of investors are likely to be

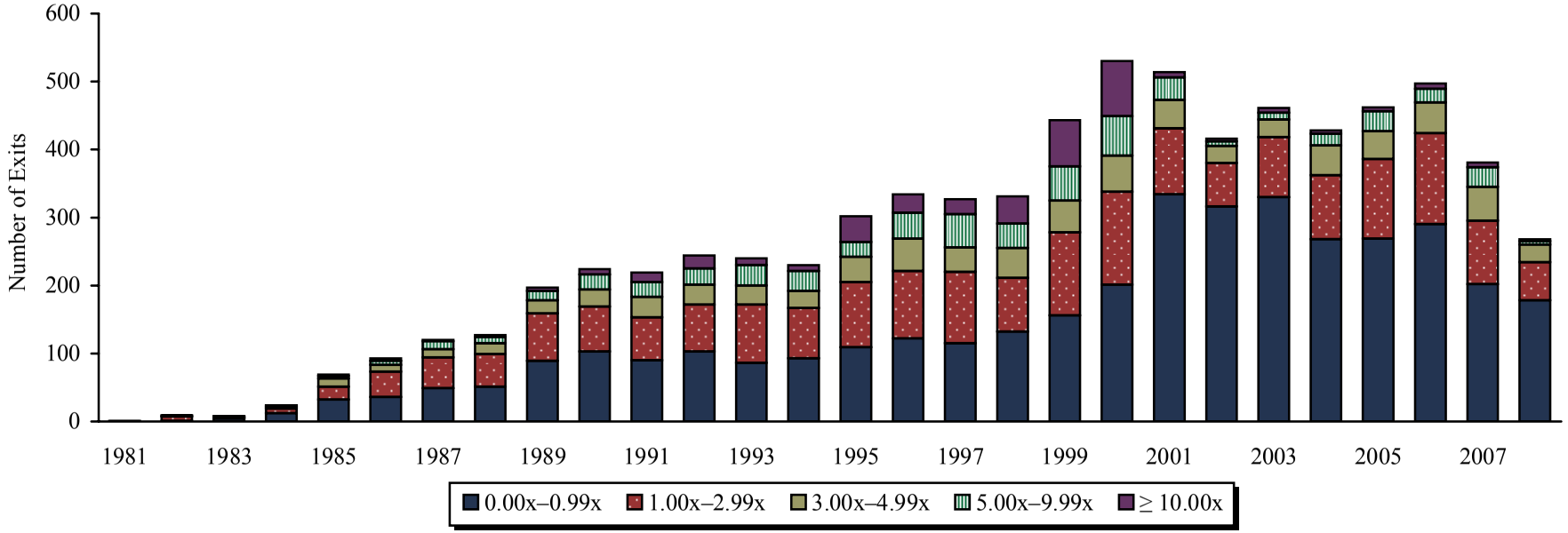
disappointed with net returns given the number of issues facing the industry, the expected impact of unrealized portfolio companies and capital overhang discussed above, and the fact that there is a limit to how much money can be profitably deployed funding start-ups.

In short, at the moment we believe venture makes sense *only* for investors fortunate enough to have access to select high-quality managers. For those without such access (i.e., the vast majority of investors), we believe there are better options that will offer similar (or superior) returns to those we expect from the U.S. venture capital industry as a whole.

## Table A

## FULLY REALIZED U.S. VENTURE CAPITAL–BACKED COMPANIES BY YEAR OF EXIT AND TOTAL VALUE TO PAID-IN CAPITAL RATIO

**As of December 31, 2008**




**Exits by Profitability**

| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Profitable[1] | 54% | 59% | 58% | 64% | 60% | 64% | 63% | 65% | 60% | 65% | 62% | 35% | 24% | 28% | 37% | 42% | 42% | 47% | 34% |
| Not Profitable[2] | 46% | 41% | 42% | 36% | 40% | 36% | 37% | 35% | 40% | 35% | 38% | 65% | 76% | 72% | 63% | 58% | 58% | 53% | 66% |

Source: Cambridge Associates LLC Non-Marketable Alternative Assets Database.

Notes: The category for 0.00x–0.99x excludes investments that were completely written off. This accounts for roughly 25% of the pool of fully realized companies in the Cambridge Associates Non-Marketable Alternative Assets Database.

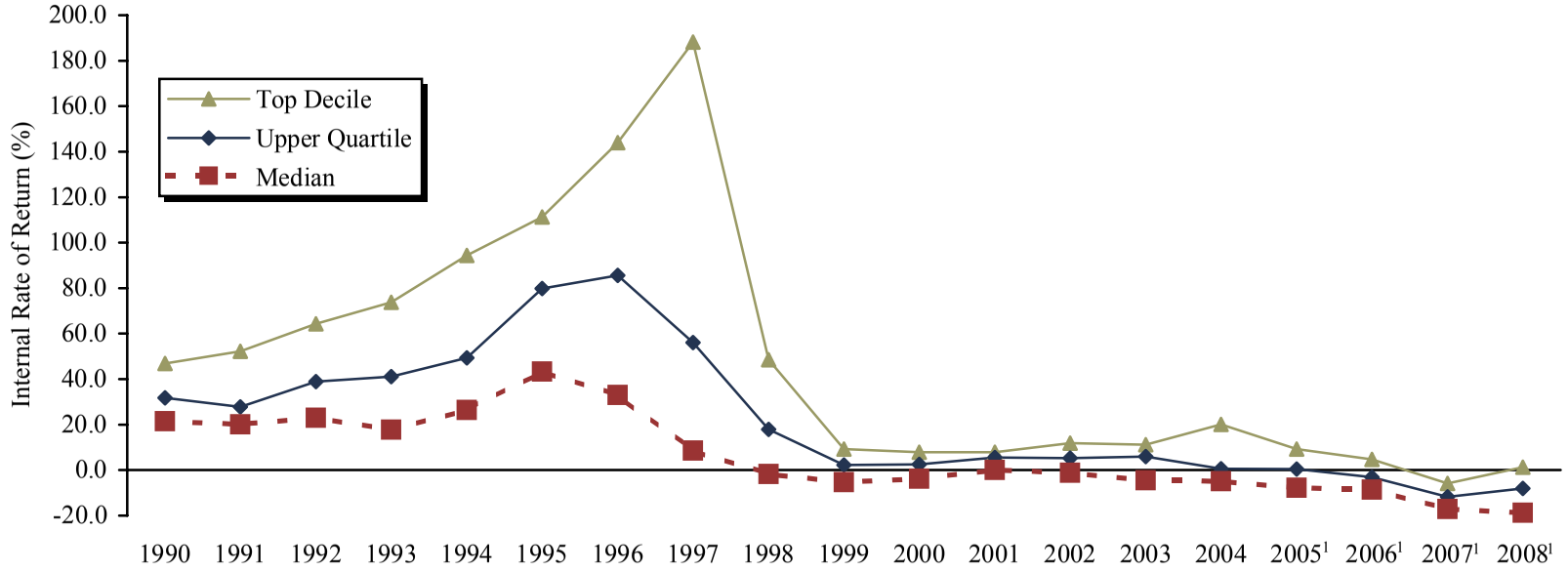
[1] Denotes a company investment with a total value to paid-in capital ratio of at least 1.00.

[2] Denotes a company investment with a total value to paid-in capital ratio of less than 1.00.

## Table B

### INTERNAL RATES OF RETURN (%) NET TO LIMITED PARTNERS OF U.S. VENTURE CAPITAL FIRMS BY DECILE/QUARTILE

### Vintage Years 1990–2008




| | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005[1] | 2006[1] | 2007[1] | 2008[1] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Top Decile | 46.9 | 52.2 | 64.4 | 73.7 | 94.3 | 111.3 | 143.9 | 188.2 | 48.5 | 9.3 | 7.9 | 7.9 | 11.8 | 11.2 | 20.0 | 9.3 | 4.7 | -5.8 | 1.3 |
| Upper Quartile | 31.8 | 27.8 | 38.9 | 41.1 | 49.3 | 79.8 | 85.6 | 56.1 | 18.0 | 2.3 | 2.5 | 5.6 | 5.3 | 6.0 | 0.6 | 0.4 | -3.1 | -11.7 | -8.0 |
| Median | 21.4 | 20.1 | 23.0 | 17.7 | 26.5 | 43.3 | 33.0 | 8.6 | -1.7 | -5.4 | -3.8 | 0.0 | -1.3 | -4.5 | -5.0 | -7.8 | -8.7 | -17.1 | -18.7 |
| Number of Funds | 16 | 18 | 24 | 38 | 42 | 36 | 42 | 75 | 80 | 115 | 159 | 55 | 30 | 35 | 62 | 56 | 66 | 50 | 44 |

Source: Cambridge Associates LLC Non-Marketable Alternative Assets Database.

Note: These internal rates of return have been compiled from 1,043 domestic venture capital funds with inceptions from 1990 through 2008 and are net of management fees, expenses, and carried interest. Data are as of June 30, 2009.

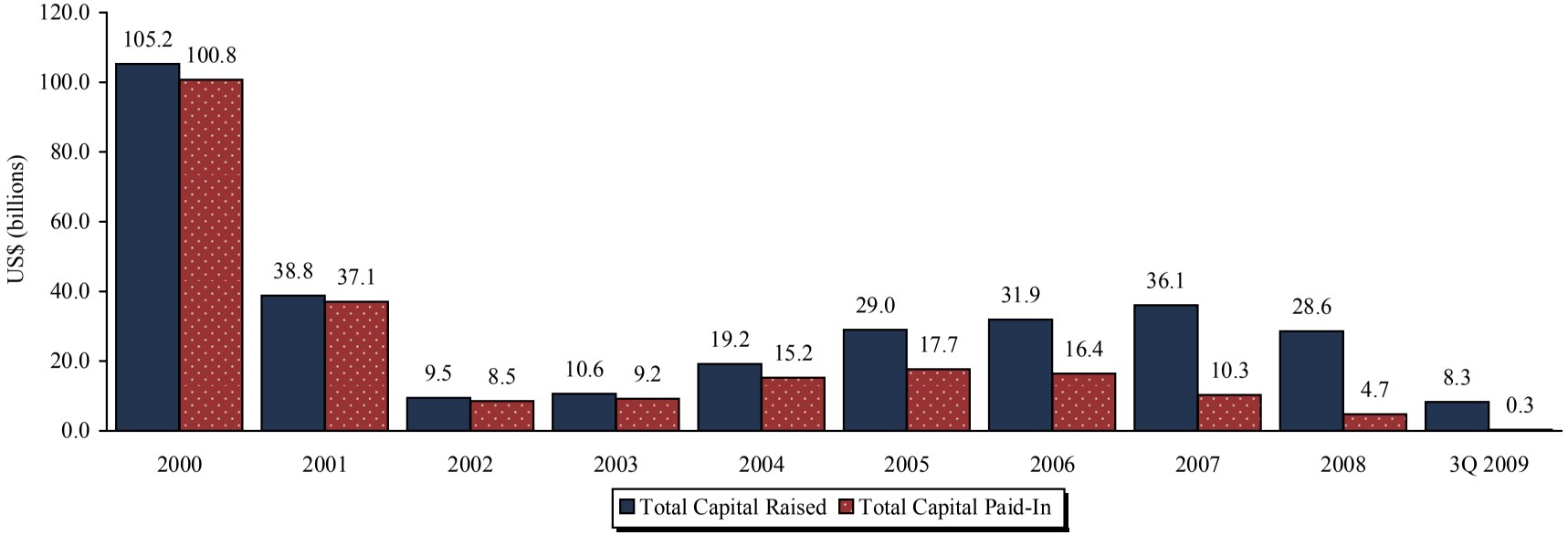
[1] Most of these funds are too young to have produced meaningful returns. Analysis and comparison of partnership returns to these benchmark statistics may be irrelevant.

219a (modified)

## Table C

## U.S. VENTURE CAPITAL ESTIMATED CAPITAL OVERHANG

### As of September 30, 2009




| | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 3Q 2009 | Cumulative |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Capital Commitments (US$) | 105.2 | 38.8 | 9.5 | 10.6 | 19.2 | 29.0 | 31.9 | 36.1 | 28.6 | 8.3 | 317.2 |
| *% Paid-In* | *96%* | *95%* | *90%* | *87%* | *80%* | *61%* | *51%* | *29%* | *17%* | *4%* | |
| Estimated Paid-In Capital (US$)[1] | 100.8 | 37.1 | 8.5 | 9.2 | 15.2 | 17.7 | 16.4 | 10.3 | 4.7 | 0.3 | 220.3 |
| Capital Uncalled (US$) | 4.5 | 1.8 | 0.9 | 1.4 | 3.9 | 11.3 | 15.5 | 25.7 | 23.9 | 8.0 | 96.9 |
| Remaining Fees (US$)[2] | 2.1 | 1.6 | 0.6 | 0.8 | 1.9 | 3.5 | 4.5 | 5.8 | 5.1 | 1.7 | 27.5 |
| **Total Uninvested (2000–3Q 2009)** | | | | | | | | | | | **$69.4** |

Sources: Cambridge Associates LLC Non-Marketable Alternative Assets Database and National Venture Capital Association.

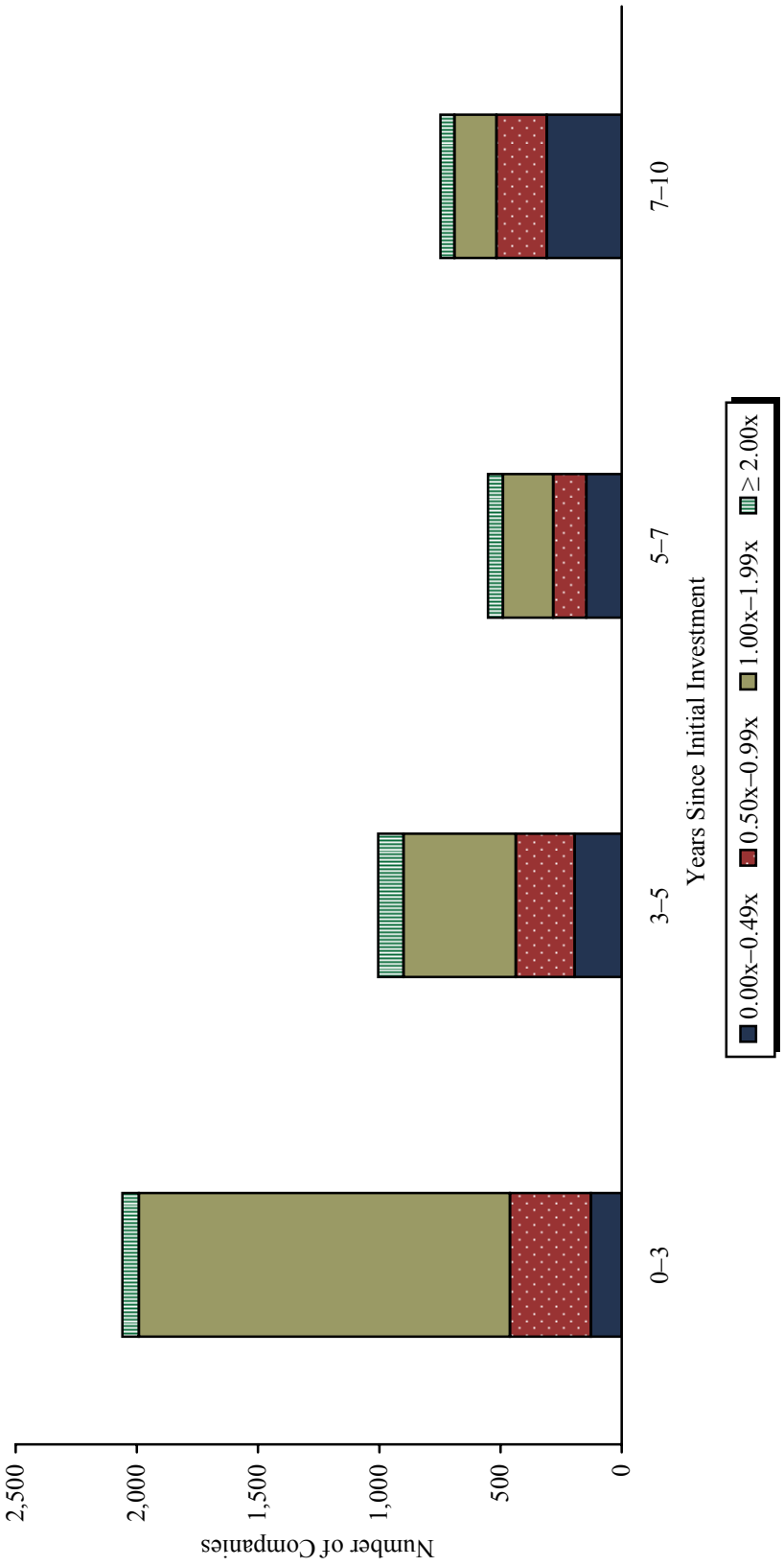
[1] Estimate based on the percent paid-in by funds tracked by Cambridge Associates LLC in each vintage year. Estimate for 2009 uses % paid-in as of June 30.

[2] Assumes a 2.0% management fee based on committed capital over ten years and assumes no recycling (re-investment) of capital.

**Table D**

**UNREALIZED U.S. VENTURE CAPITAL–BACKED COMPANIES BY YEARS SINCE INITIAL INVESTMENT AND TOTAL VALUE TO PAID-IN CAPITAL RATIO**

**As of December 31, 2008**

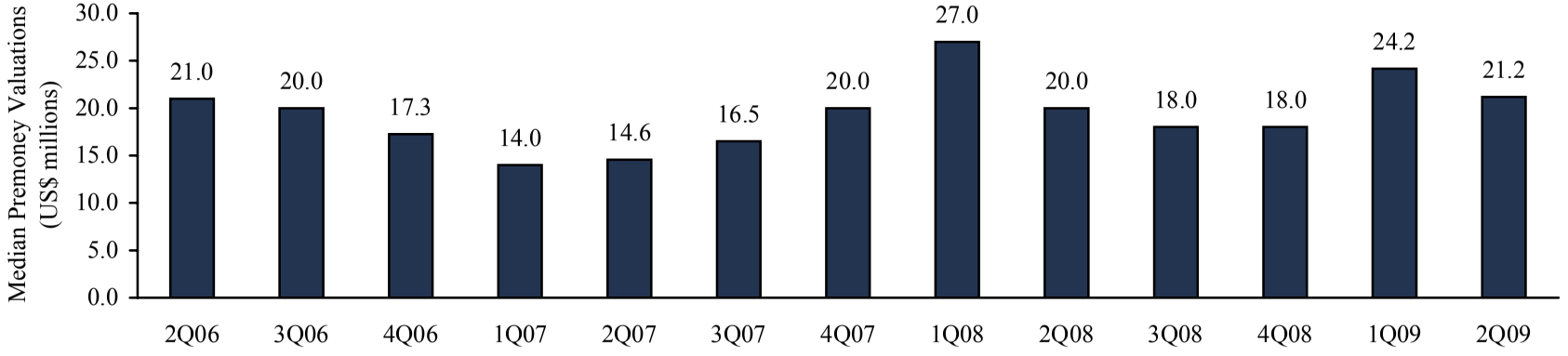



Source: Cambridge Associates LLC Non-Marketable Alternative Assets Database.

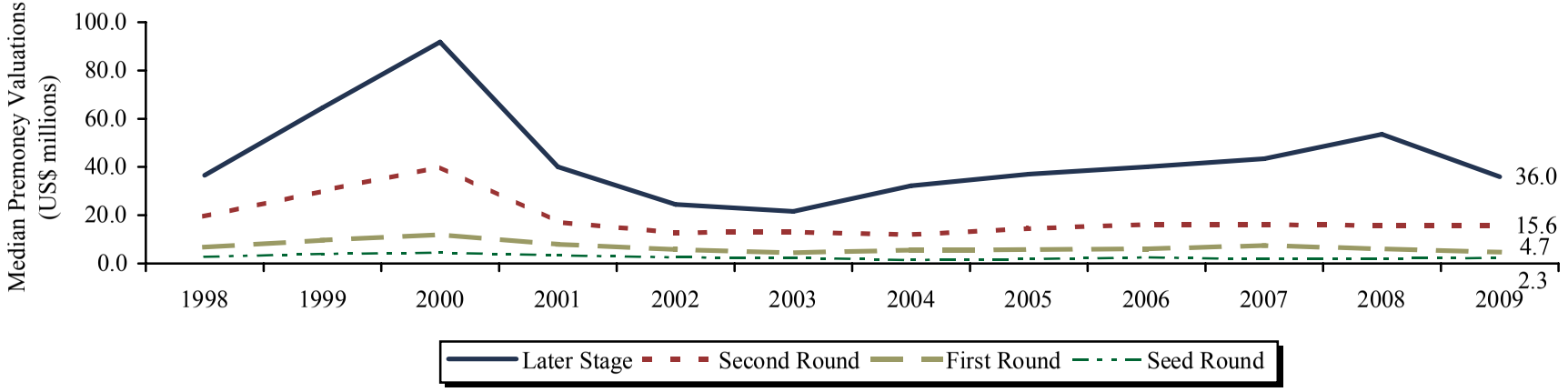
## Table E

## MEDIAN PREMONEY VALUATIONS FOR U.S. VENTURE CAPITAL–FUNDED COMPANIES

### As of October 31, 2009




**By Funding Round**



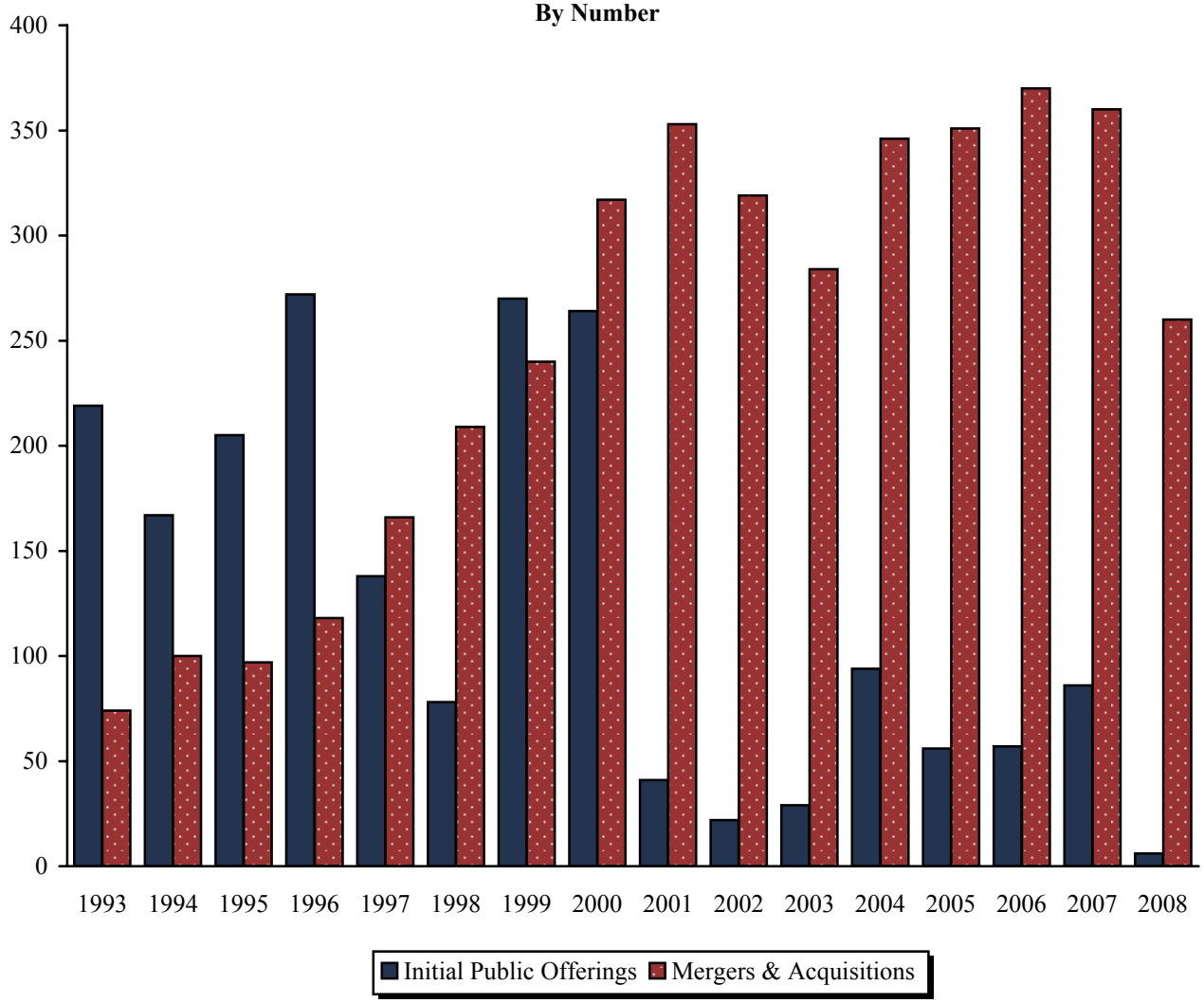

Sources: Cambridge Associates LLC Non-Marketable Alternative Assets Database and Dow Jones VentureSource.

## Table F

## VENTURE-BACKED INITIAL PUBLIC OFFERINGS AND MERGERS & ACQUISITIONS

### January 1, 1993 – December 31, 2008

**By Number**



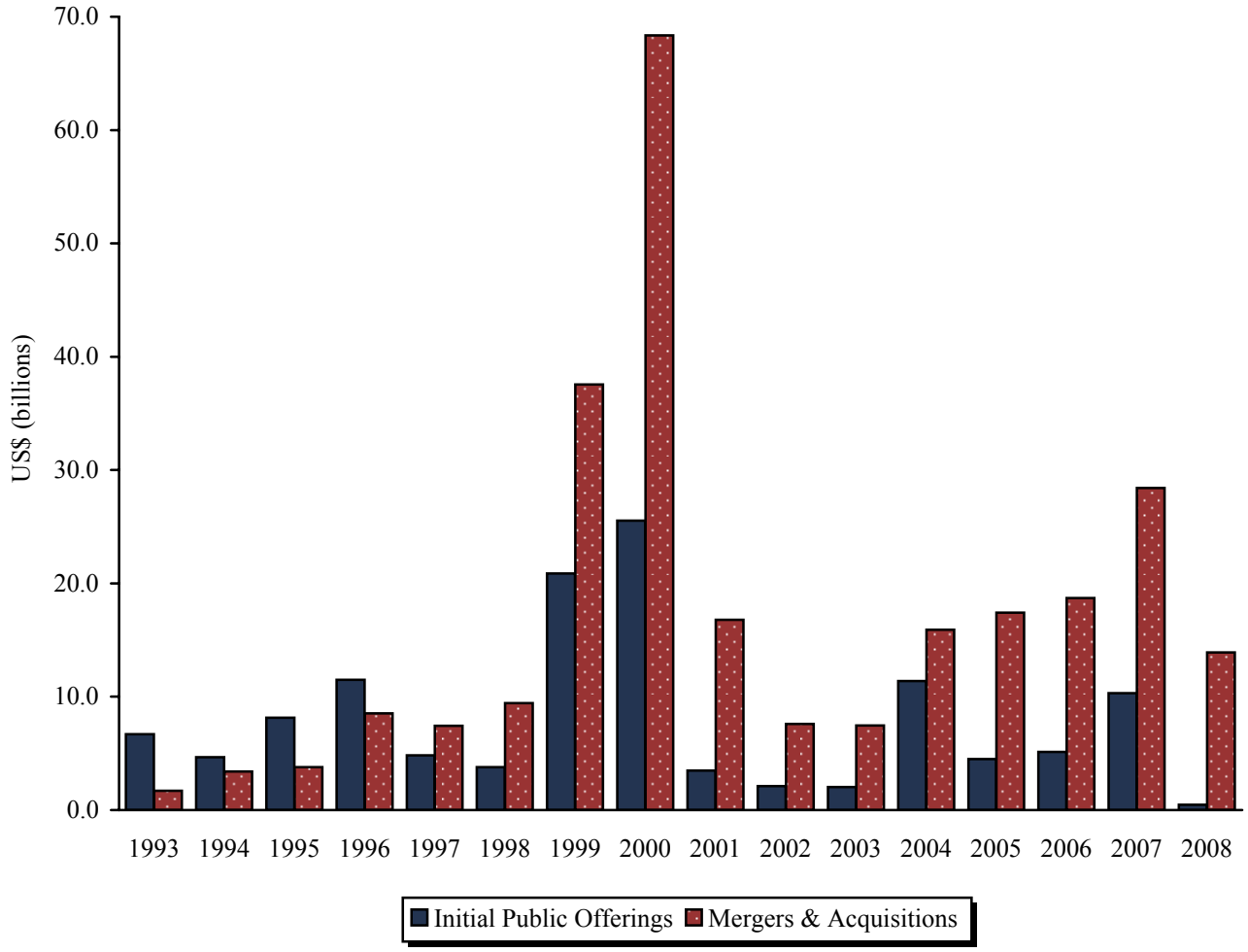

| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Venture-Backed IPOs | 219 | 167 | 205 | 272 | 138 | 78 | 270 | 264 | 41 | 22 | 29 | 94 | 56 | 57 | 86 | 6 |
| M&As of Venture-Backed Companies | 74 | 100 | 97 | 118 | 166 | 209 | 240 | 317 | 353 | 319 | 284 | 346 | 351 | 370 | 360 | 260 |
| **Total** | **293** | **267** | **302** | **390** | **304** | **287** | **510** | **581** | **394** | **341** | **313** | **440** | **407** | **427** | **446** | **266** |

**Table F (continued)**

**VENTURE-BACKED INITIAL PUBLIC OFFERINGS AND MERGERS & ACQUISITIONS**

**January 1, 1993 – December 31, 2008**

**By Dollar Value (Total Offer Size)**




| | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Venture-Backed IPOs | 6.7 | 4.7 | 8.1 | 11.5 | 4.8 | 3.8 | 20.9 | 25.5 | 3.5 | 2.1 | 2.0 | 11.4 | 4.5 | 5.1 | 10.3 | 0.5 |
| M&As of Venture-Backed Companies | 1.7 | 3.4 | 3.8 | 8.5 | 7.4 | 9.4 | 37.6 | 68.4 | 16.8 | 7.6 | 7.5 | 15.9 | 17.4 | 18.7 | 28.4 | 13.9 |

Sources: National Venture Capital Association, PricewaterhouseCoopers, and Thomson Reuters.