

Where Have All the IPOs Gone?

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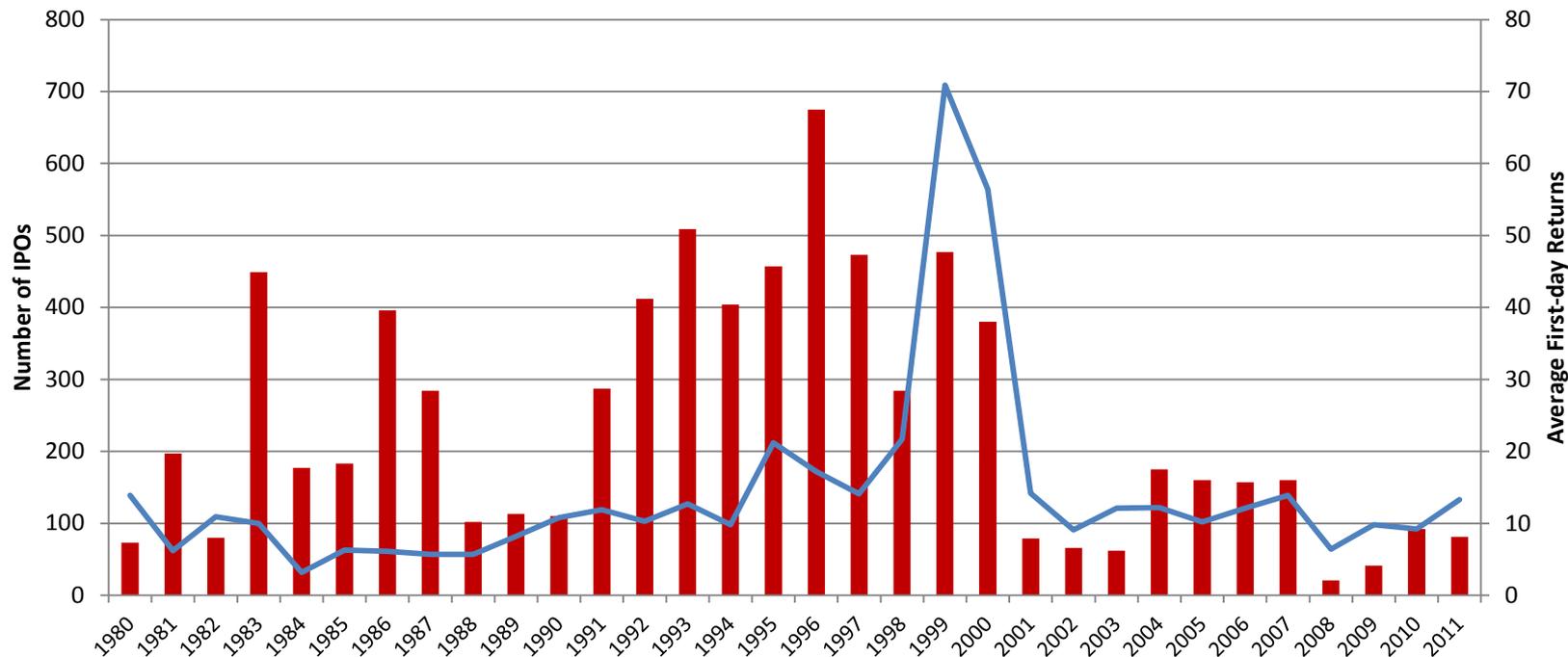
Chinese University of Hong Kong

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IPO volume has been very low in the U.S. since 2000

In 1980-2000, an average of 311 firms went public every year

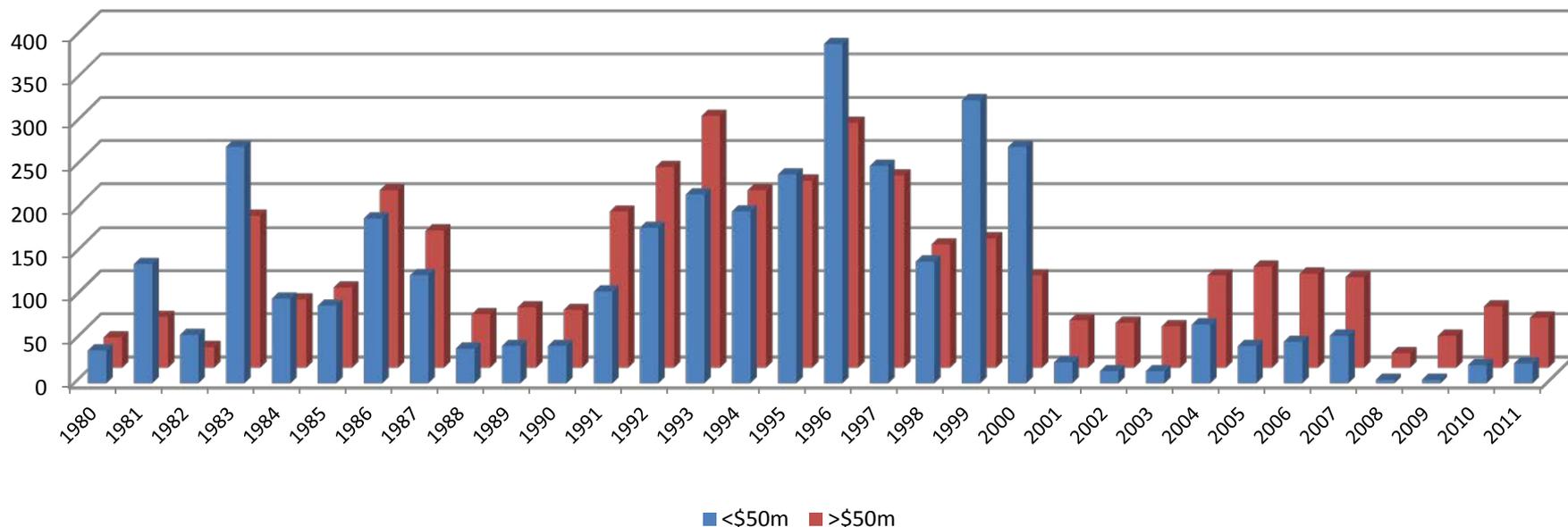
In 2001-2011, an average of 99 firms went public every year



Number of Offerings (bars) and Average First-day Returns (blue) on US IPOs, 1980-2011

IPO Volume has been particularly low for small firms

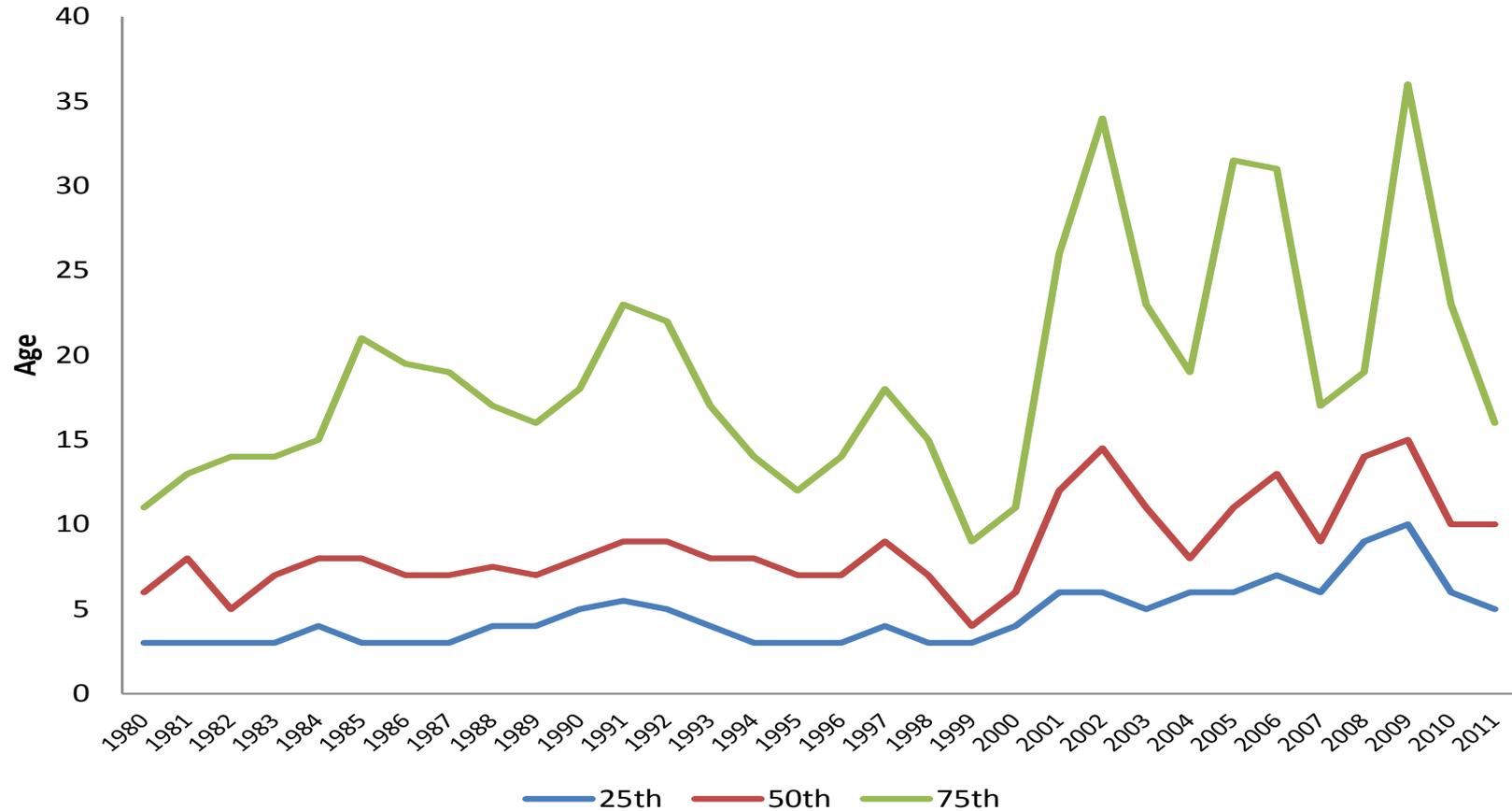
Small firm IPOs are defined as IPOs with less than \$50 million in LTM sales (\$2009)



Number of U.S. IPOs with pre-IPO Annual Sales less than or greater than \$50m/Year (\$2009)

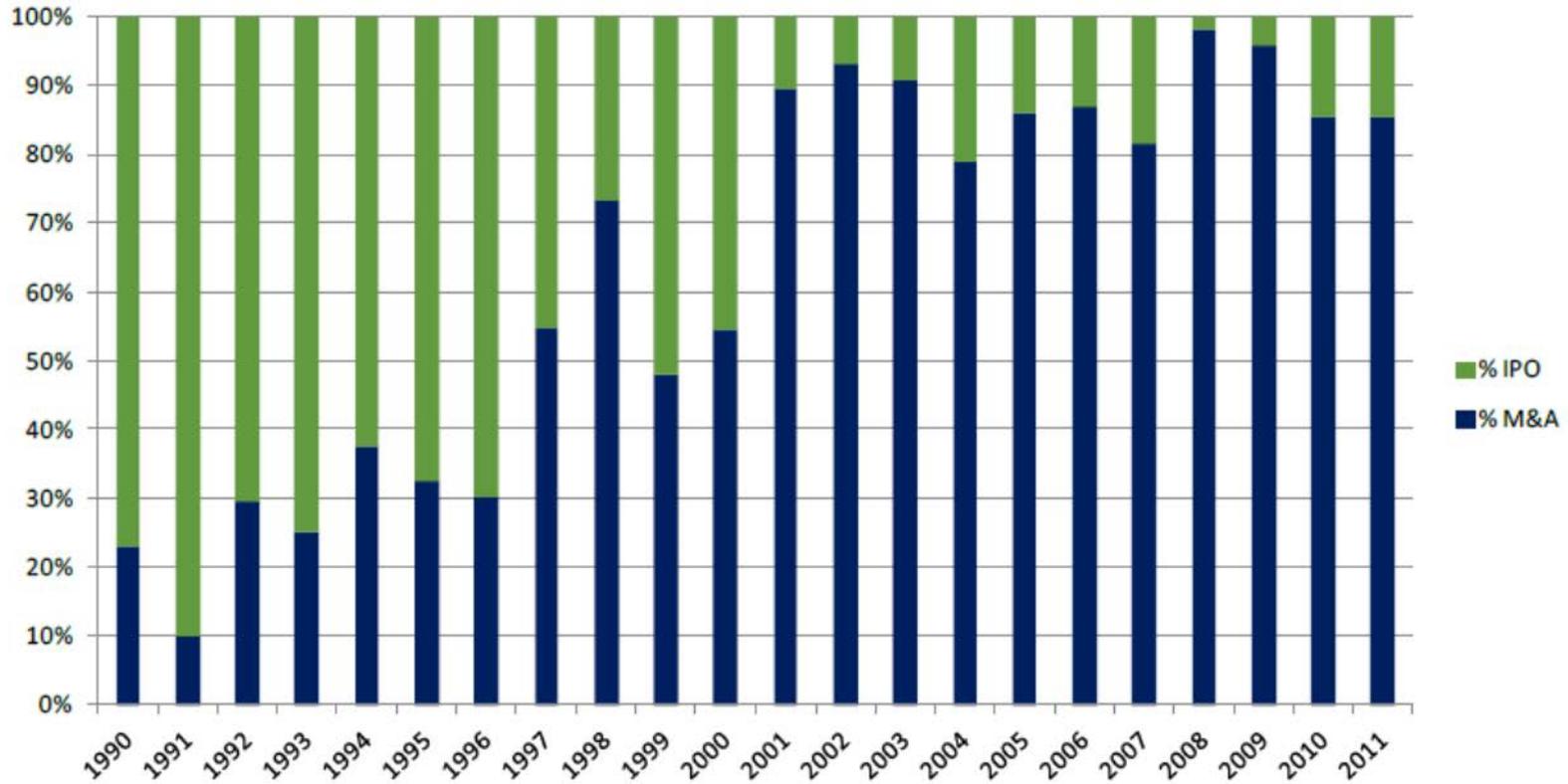
Firms going public have become older, too

Figure: 25th, 50th, and 75th PERCENTILES OF FIRM AGE AT TIME OF GOING PUBLIC BY YEAR OF IPO



IPO Exits for VC-backed firms have been limited

from IPO Task Force slides, October 2011



Source: Thomson Reuters/National Venture Capital Association (Based on number of exits per year; M&A exits are for private company sales only.)

Conventional Wisdom: The IPO Market Is Broken

Sarbanes-Oxley Act of 2002 (SOX) has imposed costs on publicly traded firms, especially small firms

Decimalization, Reg FD in 2000, and the Global Settlement in 2003 have led to a drop in analyst coverage for small firms, lowering their P/E ratios

We call these explanations

The regulatory overreach hypothesis

Our Explanation: A Long-term Structural Change

Increased economies of scope

Increased importance of speed to market

We call our explanation

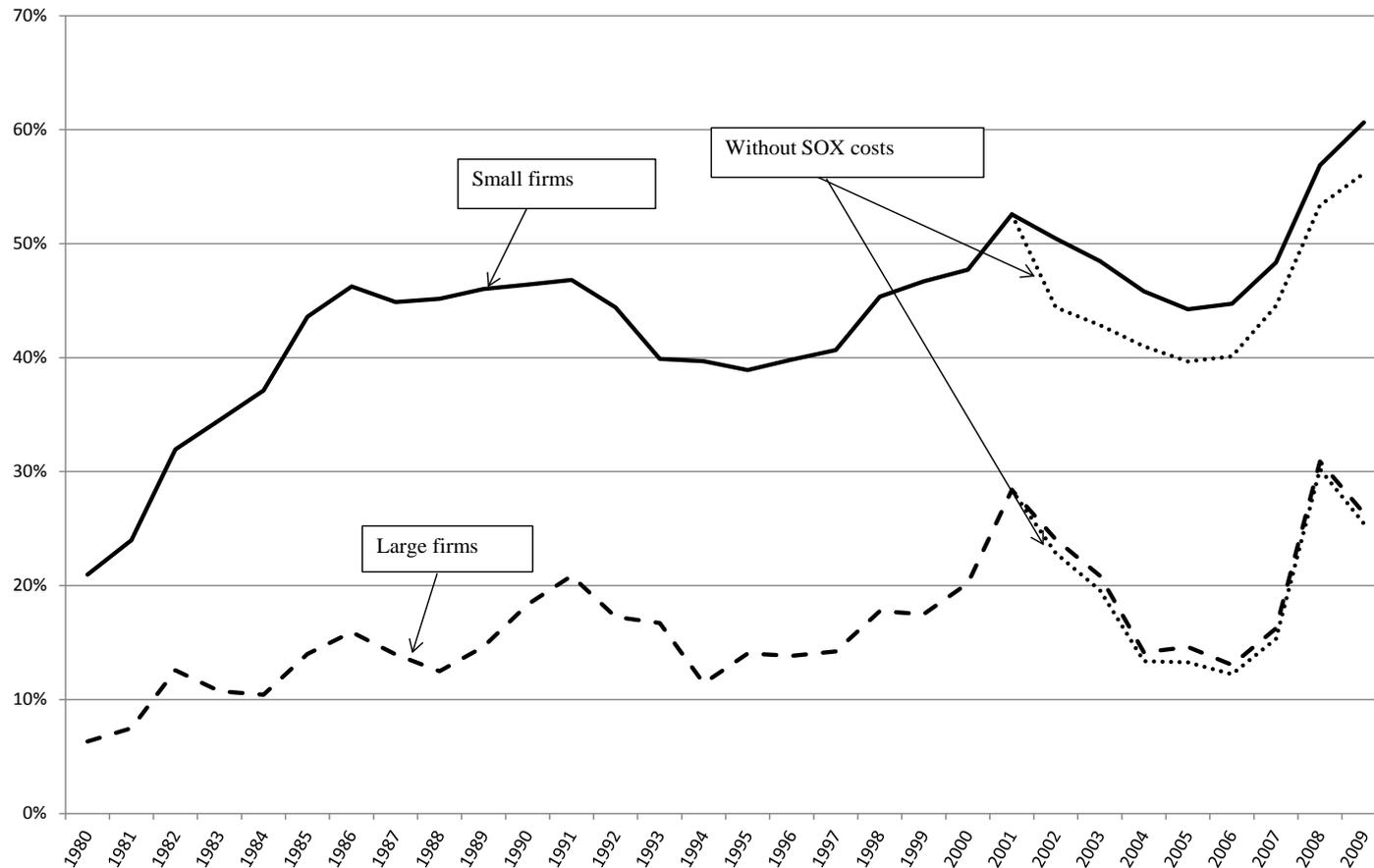
The economies of scope hypothesis

Structural Changes in the Product Market

The profitability of small independent firms has declined relative to the value created as part of a larger organization that can quickly implement new technology and benefit from economies of scope

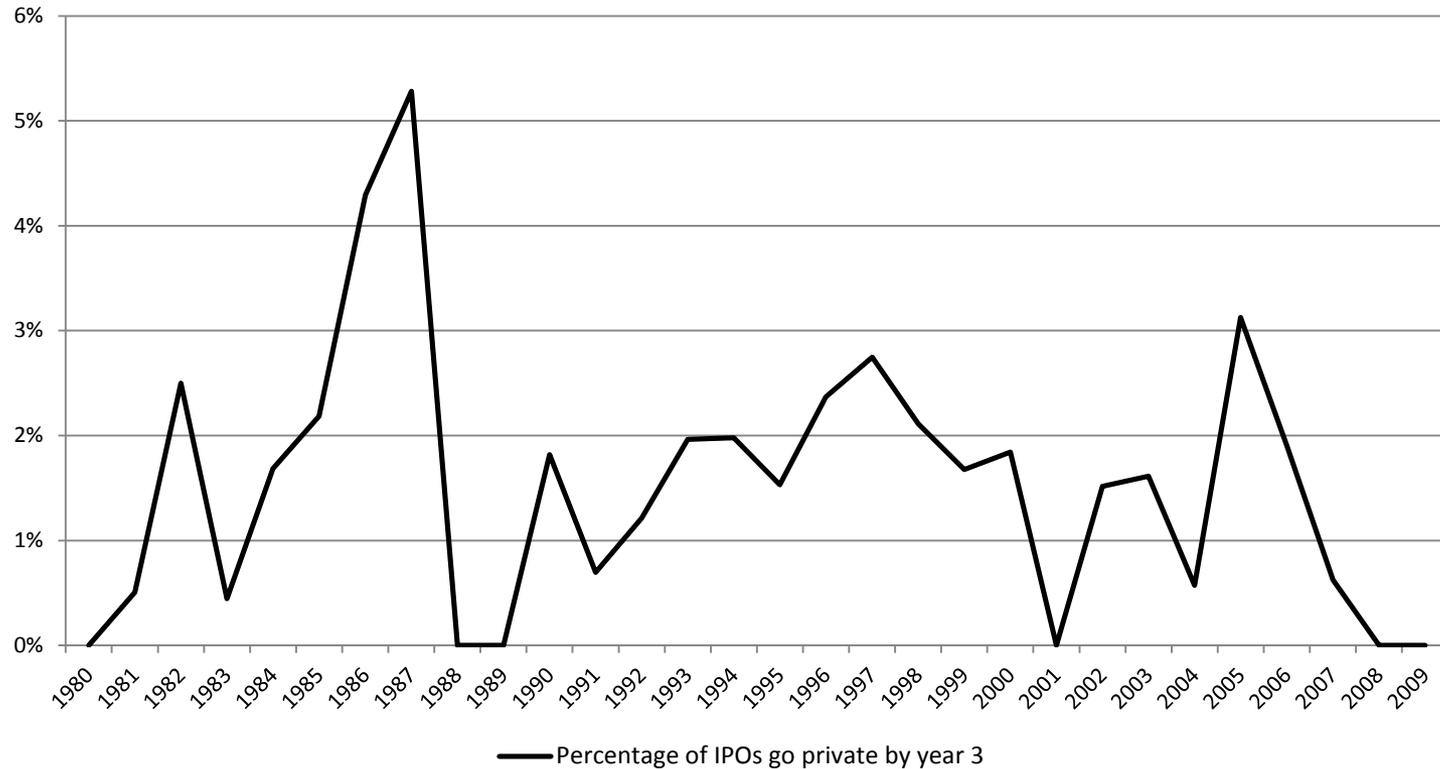
Our Evidence

The percentage of small firms that are unprofitable has increased



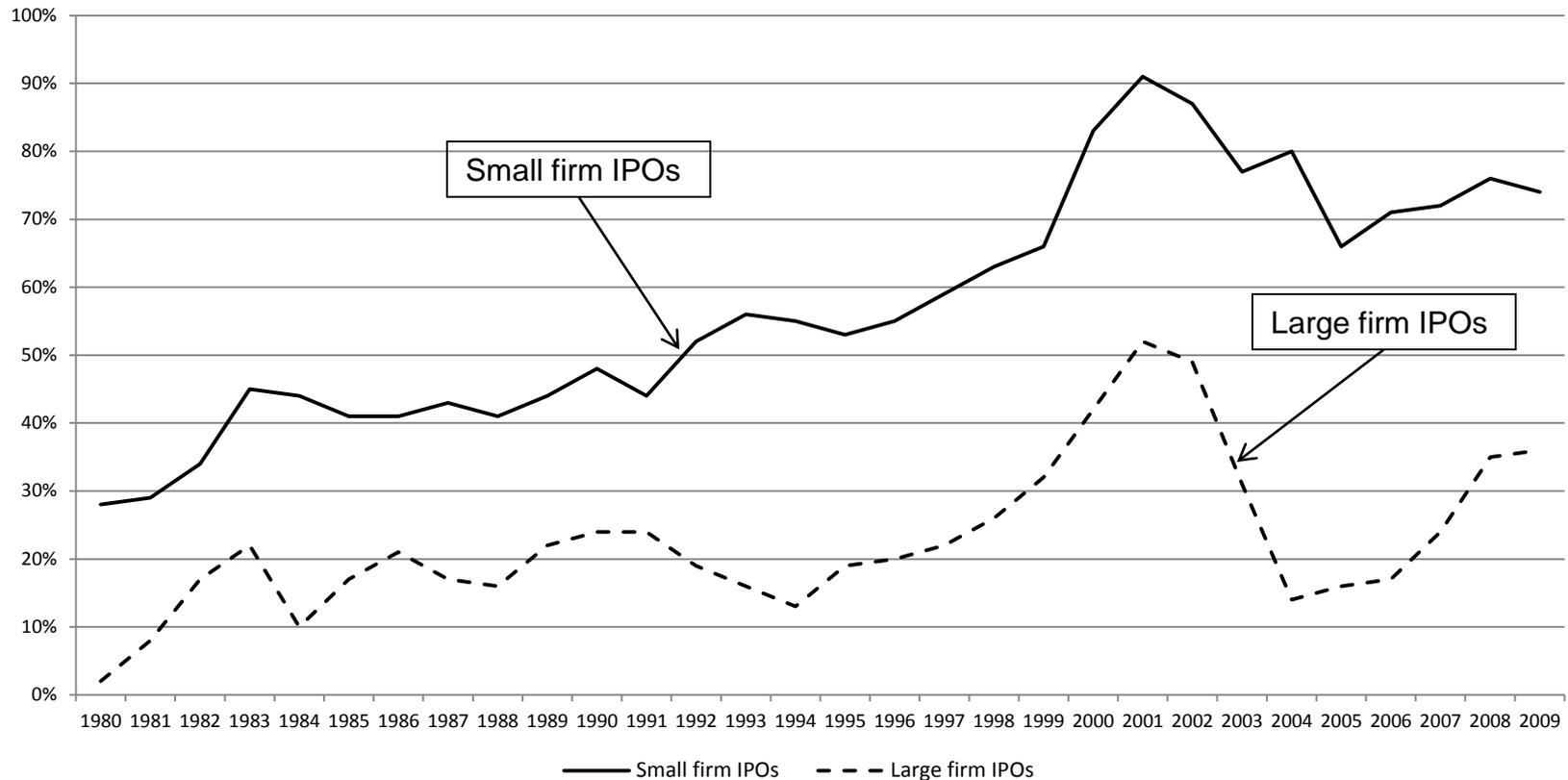
Percentage of seasoned public companies with negative EPS, 1980-2009

Are recent IPOs going private more frequently?



Source: Table 7 (both LBOs and acquisitions by private firms)

Small firm IPOs have become less profitable



Percentage of IPOs from the prior 3 years with negative EPS in fiscal year t

Source: Table 2, columns 2 and 4

Industry effect?

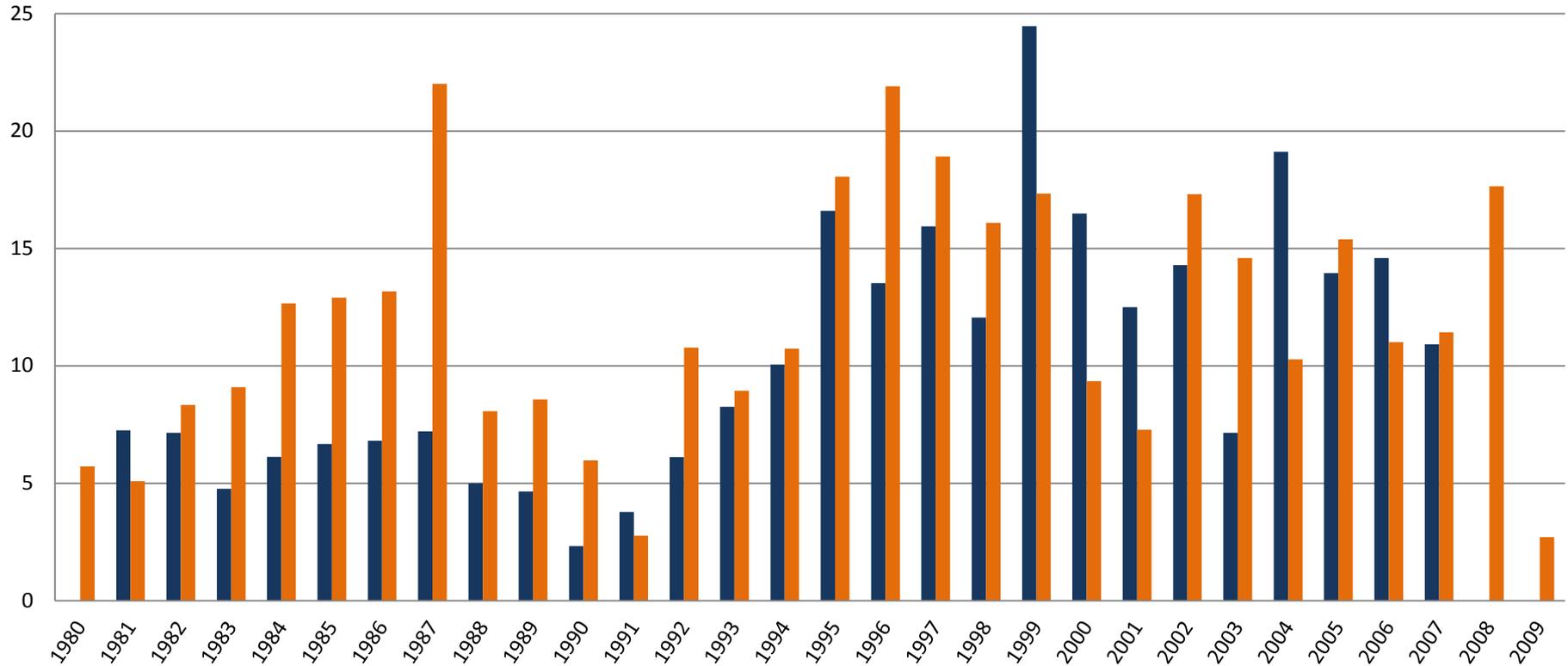
IPO year	Small firm IPOs (sales < \$50m)				Large firm IPOs (sales > \$50m)			
	No.	EPS ≥ 0	EPS < 0	% < 0	No.	EPS ≥ 0	EPS < 0	% < 0
Panel A: All IPO firms								
1980-2000	3,462	3,733	5,177	58%	3,057	6,218	1,890	23%
2001-2009	272	192	512	73%	645	1,281	403	24%
Panel B: Tech and Biotech IPO firms								
1980-2000	1,959	1,791	3,332	65%	699	1,221	664	35%
2001-2009	192	103	382	79%	186	304	155	34%
Panel C: IPO firms in all other industries								
1980-2000	1,503	1,942	1,845	49%	2,358	4,997	1,226	20%
2001-2009	80	89	130	59%	459	977	248	20%

The decline in the profitability of small firm IPOs is **not** entirely driven by the tech and biotech industries

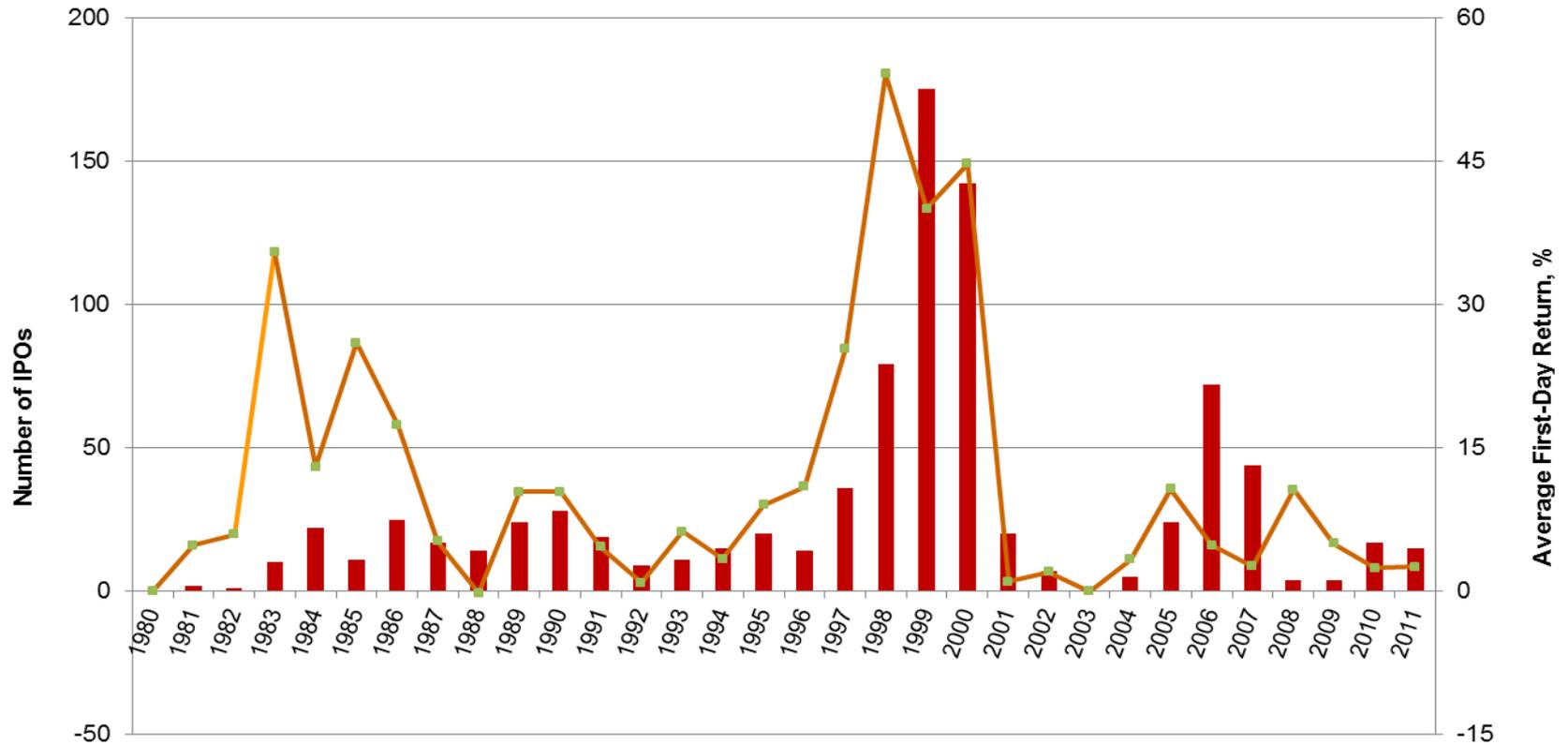
Source: Table 3, using the three fiscal years after the IPO

Are small firm IPOs being acquired more frequently?

Percentage of Small Firm (blue) and Large Firm (orange) IPOs that Are Acquired or Bought Out Within 3 Years

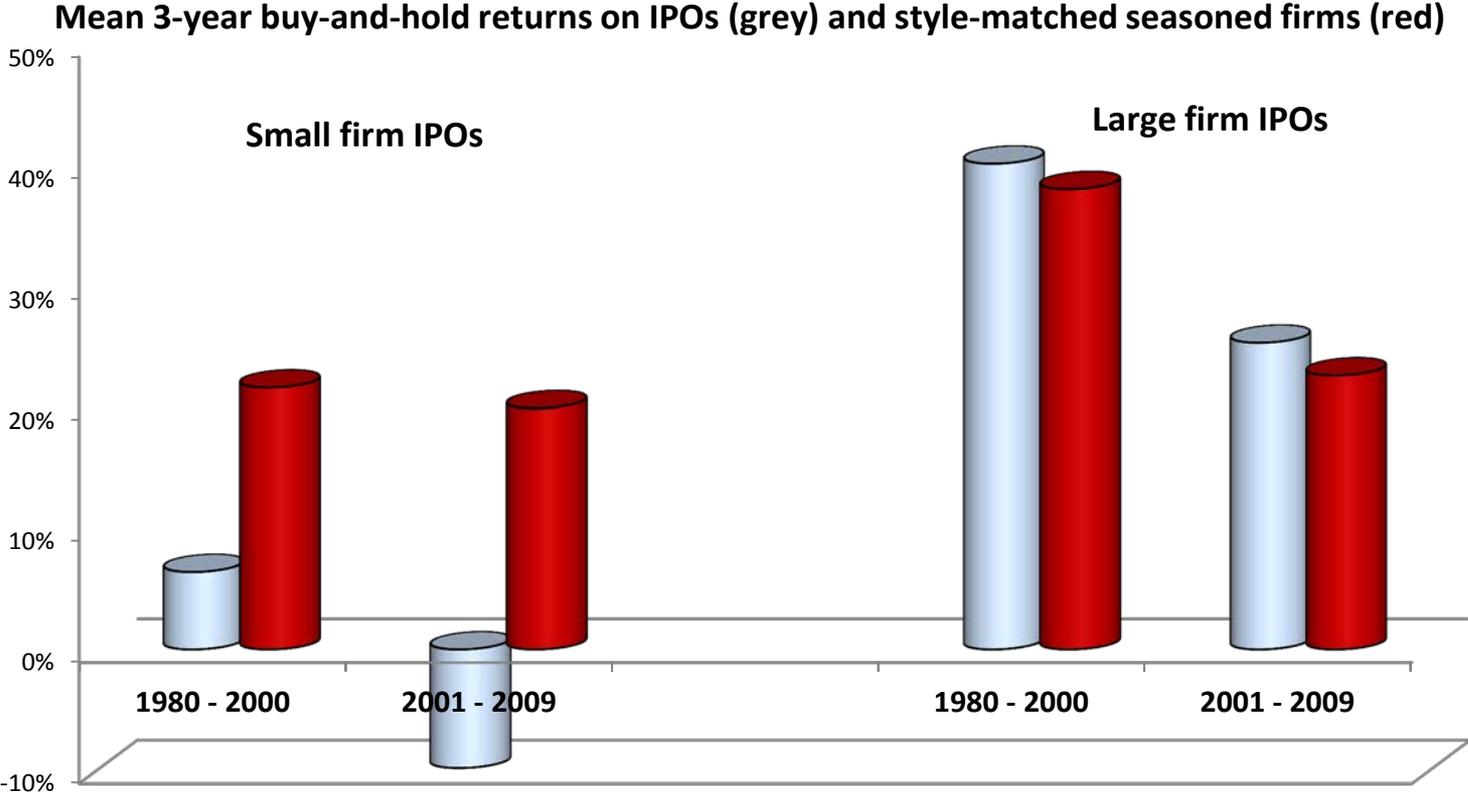


IPO activity has been modest in other developed countries



Number of Offerings and Average First-day Returns on German IPOs, 1980-2011

Small firm IPO returns have been disappointing



Summary of Evidence

Small firm IPOs become less profitable post-IPO

- Dramatic decline in profitability after 2000

- Decline in profitability is not limited to tech firms

- Mergers have become more common

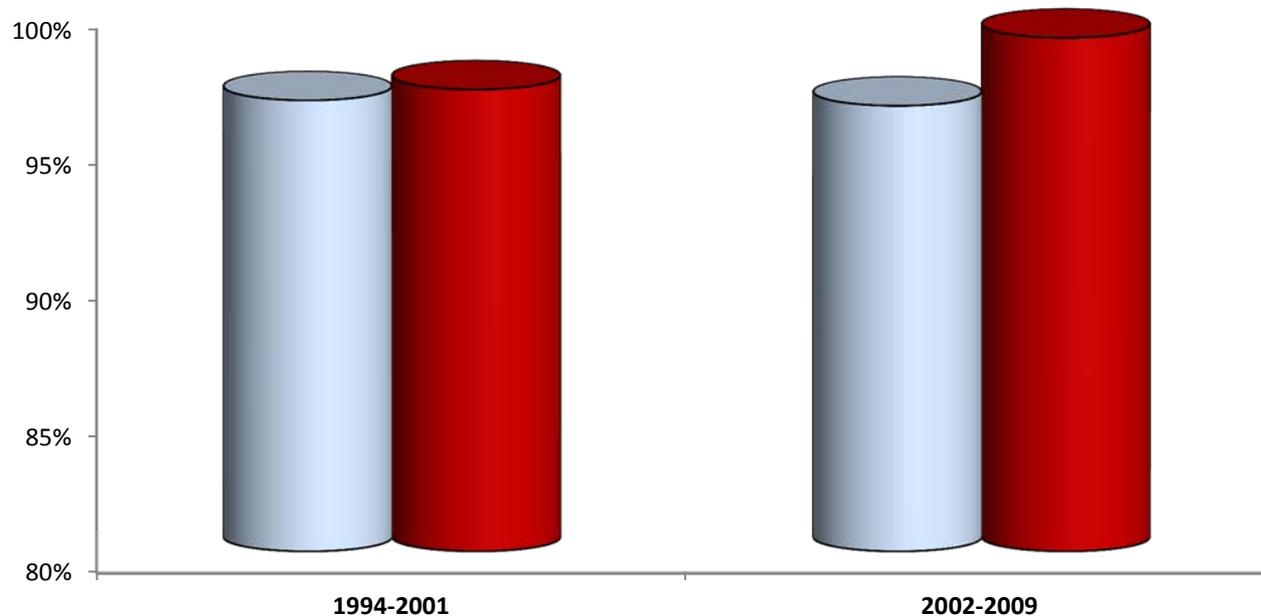
Small firm IPOs generate disappointing returns

Eat or be eaten: Many IPOs either make acquisitions or are acquired themselves

Evidence on post-IPO analyst coverage

There is near universal analyst coverage on IPOs in 1994 to 2009

The percentage of small (grey) and large (red) firm IPOs with analyst coverage from at least one lead underwriter within one year of the IPO



Source: Table 5, column 3

Tick size and stock prices

Bid-ask spreads have declined for small company stocks

25-50 cents per share pre-1994

1-10 cents per share now

How does a larger spread boost a stock's price?

Wide bid-ask spreads are profitable for market makers

Profitable market-making creates an incentive to generate trading volume

Analyst coverage generates trading volume, so a securities firm that makes markets has an incentive to have an analyst cover these stocks

Analyst coverage increases the demand to own the stock, boosting the stock price

How much does analyst coverage boost a stock's price?

Answer: 5%

Source: 2010 *Financial Management* article by Demiroglu and Ryngaert “The First Analyst Coverage of Neglected Stocks” covering 549 initiations from 1997-2005, with 88% of these stocks having a market cap below \$250 million

Tradeoffs

Wider bid-ask spreads increase the cost of trading, resulting in lower liquidity and a lower stock price

Tradeoff: wider bid-ask spreads boost analyst coverage, boosting price, and lower liquidity, lowering the price

Which effect dominates?

What is the optimal bid-ask spread? Is it 5 cents? Is it 25 cents? Is it \$2 per share?

Wider bid-ask spreads are a tax on small traders

Why have an implicit tax, rather than an explicit tax with the proceeds paid directly to analysts?

Why should traders pay for increased analyst coverage for a company, rather than the company?

Independent Research Network

In 2005-2007, Nasdaq and Reuters created the Independent Research Network to boost coverage of microcap stocks

Very few companies were willing to pay \$120,000 per year to have the IRN subsidize coverage from three independent analysts

NPV of analyst coverage

For a \$200 million market cap stock, a 5% increase in price adds \$10 million to the market cap

At a 10% cost of capital, a firm should be willing to pay up to \$1 million per year to get and maintain analyst coverage

But even at \$120,000 per year, very few firms were willing to pay for analyst coverage

Other Possible Explanations for Fewer Small IPOs

Consolidation of underwriters

Demise of “Four Horsemen”

Depressed stock market

But 1996 was the peak of IPO volume

Litigation environment

But is it worse now than in 1990s?

Patent “trolls”

Affects private and public firms

Policy Implications

The stock exchanges and VC industry have argued that structural changes (e.g., subsidizing analyst coverage, lowering regulatory burdens) are needed to boost IPO activity

Our analysis indicates that these will not be very effective at generating IPO activity

Policy Implications

Our analysis suggests that companies are not going public because they have less value as a small independent company than as part of a larger organization

Implications for Employment

Sample: 1,245 U.S. Emerging Growth Company IPOs
from June 1996-December 2010

Pre-IPO Employment: 437,934 jobs

Employment 10 years after the IPO: 1,142,200 jobs

Post-IPO growth of 161%

*Source: Post-IPO Employment and Revenue Growth for U.S. IPOs, June 1996-2010
Kauffman Foundation Report by Martin Kenney, Donald Patton, and Jay R. Ritter*

Conclusions

No one explanation explains all of the prolonged drought in small firm IPOs in the U.S.

SOX and Analyst Coverage explanations are of the category “The IPO market is broken”

Our **economies of scope explanation** focuses on increased economies of scope and the importance of speed to market

We focus not on public vs. private, but small vs. large firm as the profit-maximizing organizational form

Analogy: The Decline of the Family Farm

For many thousands of years, most farms were passed from father to son. In the last 150 years, technology and the relative costs of farm equipment and inputs such as fertilizer have been changing. Now, when a farmer retires, most farms are split into pieces and sold to adjacent farmers, who then combine the operations, and average farm size grows. The number of family farms has been falling.

Analogy (continued)

The decline of the small family farm is not because inheritance law is flawed. It is because the optimal scale of a farm has increased.