Some Thoughts on Initial Public Offerings

Antoinette Schoar and Michael Szeto

MIT Sloan School of Management
15.431

Spring 2011

Why do firms go public?

- Raise capital
- Achieve liquidity
  - Investors can be more diversified
  - Stock can be used for M&A activity
- Entrepreneurs regain control from venture capitalists when shares are distributed
- Signal stability to customers and suppliers

Costs of going public

- IPO creates substantial fees
  – Legal, accounting, investment banking fees are often 10% of funds raised in the offering
- Greater degree of disclosure and scrutiny
- Compliance with Sarbanes Oxley Act
  – Section 404: Assessment of internal control
- First day under-pricing

Step 1: Selecting an underwriter

- Criteria:
  - Valuation! (bait and switch)
  - Reputation of the analyst covering the firm
  - Performance of past IPOs
  - Not a criteria: fees! (7% of capital raised)
  - After market trading support, trading history
- Hi-Tech IPOs are often underwritten by a consortium
  - Technology specialist plus large underwriter, “bulge bracket”

Step 2: Tasks of the underwriter

- Due Diligence
- Determine the offering size
- Prepare the marketing material
- Prepare regulatory filings (S-1) together with the legal representation of the firm

Step 3: Marketing the offering

- Red Herring: Circulate a preliminary prospectus to potential investors
- Road-Show
- Book-building: Collect information about the demand from potential investors
  - "Firm commitment offerings": Investment bank commits to sell the shares at the set price

Step 4: The offering

- The underwriter buys the shares from the company at a fixed price and immediately sells it to investors at the IPO price
- "Green Shoe" option:
  - Clause in the underwriter agreement specifying that in case of exceptional public demand the issuer will authorize additional shares for distribution by the underwriter at the offering price (usual is an over-allotment option of 15%)

Step5: Aftermarket activities

- "Pure" stabilization bids
    - Underwriter posts bid in the open market not exceeding the offer price

- Penalty bids
    - Revoke selling concession if shares are "flipped"
    - Supposed to do this but do not do it!!

Empirical Regularities

- IPO markets are very cyclical
  - “Hot issue markets”
- First-day under-pricing
- Long-run under-performance

“Hot Issue” Markets

- High average initial IPO returns lead to higher volume in the IPO market
- Reasons?
  - Cycles in the quality and risk composition of firms that go public
  - Correlation in the fund inflow of large money managers, but this cannot explain under-pricing
  - “Animal spirits”

IPO market is very cyclical

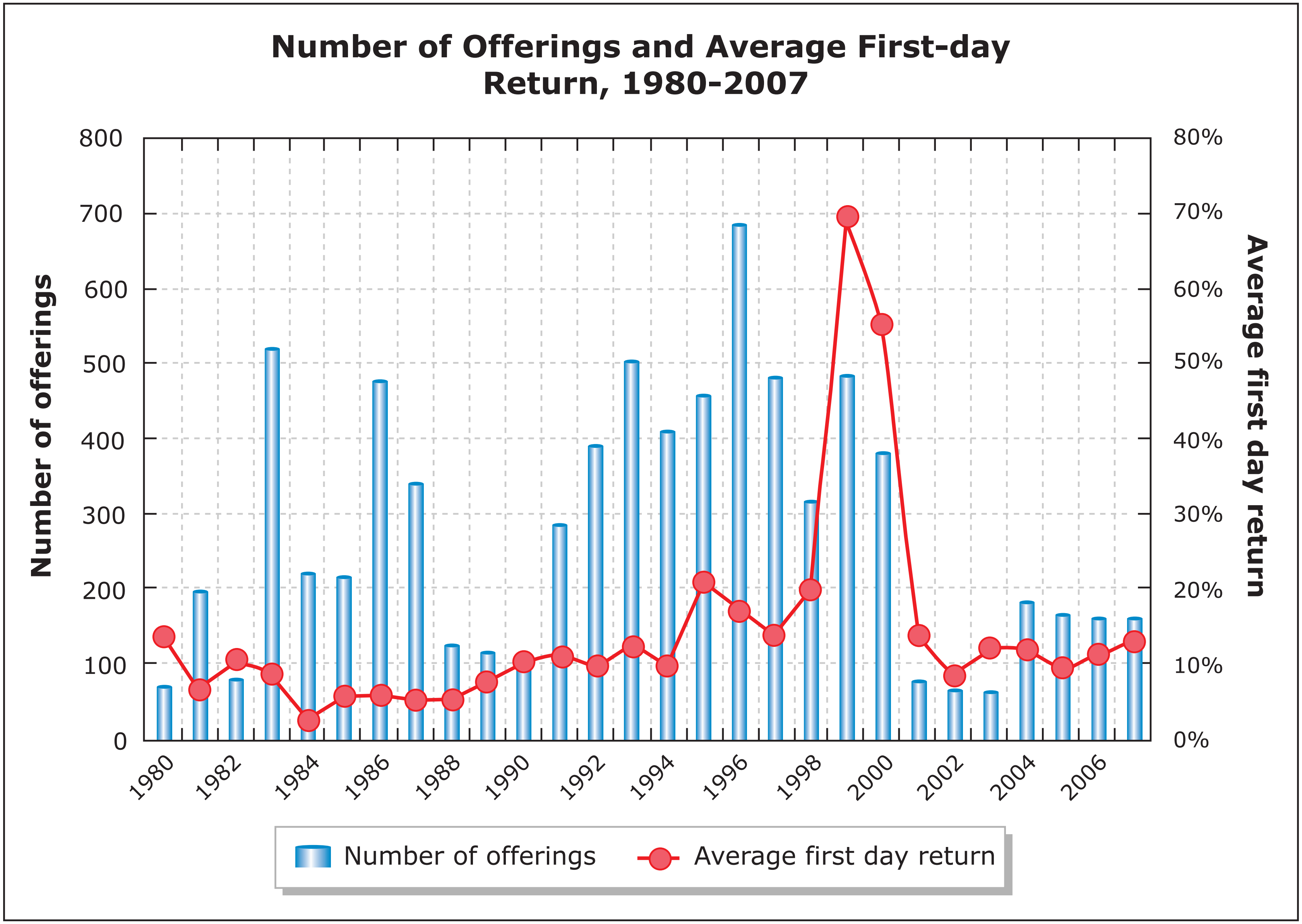


Image by MIT OpenCourseWare.

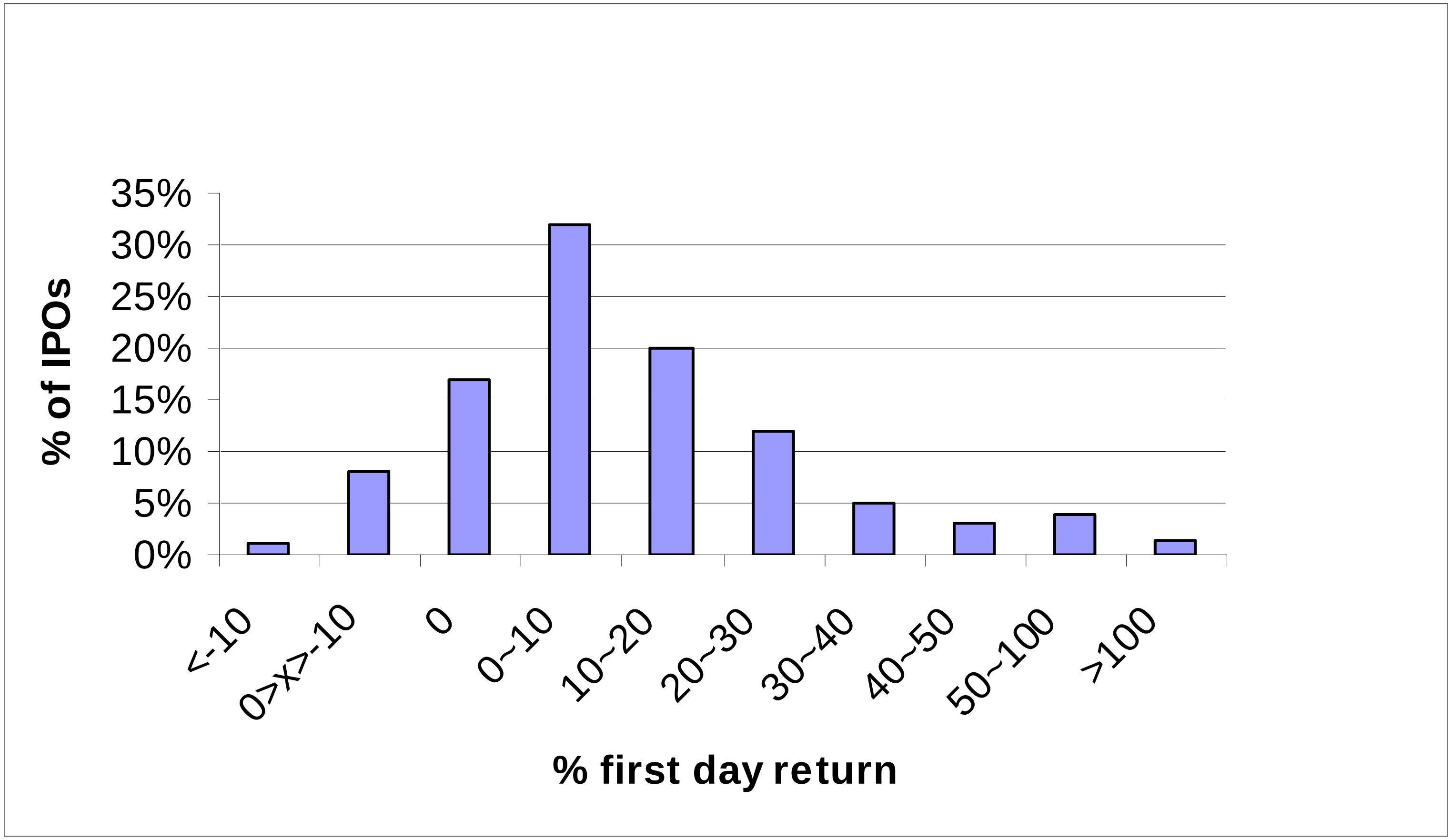
First day under-pricing

- On average the stock price jumps on the first day of trading
  - From 1990 to 1998 companies left over $27 billion on the table
  - The median firm has modest first day return, but a few firms have several hundred percent
- This pattern is found in most developed capital markets

Average First-Day Returns on IPOs

	1980s		1990s	
	Return	N	Return	N
Segmented by issue size				
Small	8.7%	944	12.9%	1,761
Large	6.7%	1,425	27.5%	2,280
Segmented by underwriter prestige				
Low-prestige	8.7%	1,889	14.5%	2,056
High-prestige	5.0%	663	26.8%	2,189
Segmented by venture capital backing				
NonVC-backed	6.7%	1,664	15.7%	2,293
VC-backed	7.8%	515	29.0%	1,637
All	7.8%	2,552	20.9%	4,245
All (excluding OP < $5.00)	6.8%	2,358	20.9%	4,129

First day returns of IPOs (1990-00)



Average Initial Returns for 38 Countries

Country	Source	Sample size	Time period	Avg. Initial Return
Australia	Lee, Taylor and Walter; Woo	381	1976-1995	12.1%
Austria	Aussenegg	76	1984-1999	6.5%
Belgium	Rogiers, Manigart and Ooghe; Manigart	86	1984-1999	14.6%
Brazil	Aggarwal, Leal and Hernandez	62	1979-1990	78.5%
Canada	Jog and Riding; Jog and Srivastava Kryzanowski and Rakita	500	1971-1999	6.3%
Chile	Aggarwal, Leal and Hernandez; Celis and Maturana	55	1982-1997	8.8%
China	Datar and Mao; Gu and Qin (A shares)	432	1990-2000	256.9%
Denmark	Jakobsen and Sorensen	117	1984-1998	5.4%
Finland	Keloharju; Westerholm	99	1984-1997	10.1%
France	Husson and Jacquillat; Leleux and Muzyka; Paliard and Belletante; Derrien and Womack	448	1983-1998	9.5%
Germany	Ljungqvist	407	1978-1999	27.7%
Greece	Kazantzis and Thomas	129	1987-1994	51.7%
Hong Kong	McGuinness; Zhao and Wu	334	1980-1996	15.9%
India	Krishnamurti and Kumar	98	1992-1993	35.3%
Indonesia	Hanafi	106	1989-1994	15.1%
Israel	Kandel, Sarig and Wohl	28	1993-1994	4.5%
Italy	Arosio, Giudici and Paleari	164	1985-2000	23.9%
Japan	Fukuda; Dawson and Hiraki; Hebner and Hiraki; Hamao, Packer, and Ritter; Kaneko and Pettway	1,542	1970-2000	26.4%
Korea	Dhatt, Kim and Lim; Ihm; Choi and Heo	477	1980-1996	74.3%
Malaysia	Isa; Isa and Yong	401	1980-1998	104.1%
Mexico	Aggarwal, Leal and Hernandez	37	1987-1990	33.0%
Netherlands	Wessels; Eijgenhuijsen and Buijs; Ljungqvist, Jenkinson and Wilhelm	143	1982-1999	10.2%
New Zealand	Vos and Cheung; Camp and Munro	201	1979-1999	23.0%
Nigeria	Ikoku	63	1989-1993	19.1%
Norway	Emilsen, Pedersen and Saettern	68	1984-1996	12.5%
Philippines	Sullivan and Unite	104	1987-1997	22.7%
Poland	Aussenegg	149	1991-1998	35.6%
Portugal	Almeida and Duque	21	1992-1998	10.6%
Singapore	Lee, Taylor and Walter	128	1973-1992	31.4%
South Africa	Page and Reyneke	118	1980-1991	32.7%
Spain	Ansotegui and Fabregal	99	1986-1998	10.7%
Sweden	Rydqvist	251	1980-1994	34.1%
Switzerland	Kunz and Aggarwal	42	1983-1989	35.8%
Taiwan	Lin and Sheu; Liaw, Liu and Wei	293	1986-1998	31.1%
Thailand	Wethyavivorn and Koo-smith; Lonkani and Tirapat	292	1987-1997	46.7%
Turkey	Kiymaz	138	1990-1996	13.6%
United Kingdom	Dimson; Levis; Ljungqvist	3,042	1959-2000	17.5%
United States	Ibbotson, Sindelar and Ritter	14,760	1960-2000	18.4%

Image by MIT OpenCourseWare.

Money left on the table

Company	Lead Underwriter	Offer Price	Pricing Valuation (mil.)	First Trade Price	First Trade Valuation (mil.)	Money on the Table (mil.)
Priceline.com	Morgan Stanley Dean Witter	$16	$160	$81	$810	$650
Ivillage Inc	Goldman Sachs	$24	$88	$95.88	$350	$262
Pacific Internet	Lehman Brothers	$17	$51	$88	$264	$213
MarketWatch.com	BT Alex Brown	$17	$47	$90	$248	$201
United Pan-Europe Communications	Goldman Sachs	$32.78	$577	$43	$757	$180
Covad Communications Group	Bear Stearns	$18	$140	$40.50	$316	$176
Delphi Automotive Systems Corporations	Morgan Stanley Dean Witter	$17	$1,700	$18.75	$1,875	$175
ZDNet Group	Goldman Sachs	$19	$190	$35.75	$358	$168
OneMain.com	BT Alex Brown	$22	$187	$38	$323	$136
Autobytel.com	BT Alex Brown	$23	$104	$52.75	$238	$134

Possible reasons for under-pricing

- Herding effects
  - Demand by institutional investors induces less informed investors to “rush in”
- Winner’s Curse
  - Uniformed investors fear that they will only be allotted shares in bad IPOs
- “Leave a good after taste”
- Market power
  - Underwriter has control over the order book

Flipping and spinning

- **Flipping:** Investors that are allocated shares in the IPO sell these at the first day of trading at a significant profit
  - A way for investment banks to reward their institutional clients?
- **Spinning:** Underwriters offer shares in hot IPOs to executives in companies, whose business the bank is looking to attract

Flipping of IPO shares

Institution	Shares allocated in the IPO	Shares bought on the first day	Shares sold on the first day	% of Allocation bought/sold
Fidelity Management	150,000	0	150,000	100%
AIM Capital Management	60,000	0	60,000	100%
Alliance Capital Management	60,000	0	60,000	100%
American Express	60,000	0	60,000	100%
Morgan Stanley Asset Mgt.	60,000	0	60,000	100%
Delaware Inv. Advisers	60,000	470,000	0	783%
Weiss Peck & Greer	30,000	180,000	0	600%
Columbia Management	25,000	25,000	0	100%

Why don't issuers get upset about leaving money on the table?

- Issuers believe the reasons their investment bankers present to them
- Issuers are very risk averse and want to make sure that IPO succeeds
- Since the issuers get rich themselves in the IPO, they do not mind the under-pricing
- Some of them do!
  - WR Hambrecht's OpenIPO, Google

Open IPO

Criticisms of the IPO Process

- Underpricing
- Concentration of Bulge Bracket Underwriters
- Power of Large Institutional Investors
- Lack of access for Investing Public
- Lack of Transparency
- Lack of “Fairness”
- Potential for Abuses

Examples of Abuses

- Frank Quattrone & CSFB (2003)
  - Convicted, sentenced to 18 mos (conviction later overturned)
  - CSFB paid $100M to settle
- Henry Blodget & Merrill Lynch (2003)
  - Blodget paid $4M to settle
  - ML paid $100M
- Jack Grubman and Citigroup (2003)
  - Grubman paid $15M to settle
  - Citi paid $2.65B to WorldCom shareholders
- Top 10 Wall Street Firms (2002)
  - Paid $1.4B in fines
  - Agreed to separation of research, additional regulations

Open IPO

- "Dutch Auction" approach
- Offering listed on Internet – access to all
- Investors bid for shares
  - Number of shares
  - Price
- Bids collected from Highest Price down, until you get enough shares for the offering.
- The lowest price that clears the offering is the clearing price.
- Issuer has the right to set price below the clearing price.
- All investors buy at the price set by the Issuer, regardless of their bid.
- Oversubscription:
  - Allocation by price, and by time priority

Benefits of Open IPO

- **Open:** Access for all, not just the big institutional investors
- **Transparent:** Issuer sees the buildup of demand by price, and can set the IPO price accordingly
- **Fair:** Allocation of shares to the highest and earliest bidders
- **Improved Book Building:** Incentive to bid early and high
- **Lower Fees:** 4% instead of 7%

Open IPO – The Record

Issuer	Date	Underprice
Ravenswood	4/99	3.6%
Salon.com	6/99	(4.2%)
Andover.net	12/99	252%
Nogatech	5/00	(22%)
Peet's Coffee	1/01	17%
Briazz	5/01	0.4%
Overstock.com	5/02	0.2%
redEnvelope	9/03	3.9%
Genitope	10/03	11%
New River	8/04	(11%)
Google	8/04	18%

Why Open IPO has not been widely Adopted?

- Collapse of the Technology IPO market
- Resistance of Bulge Bracket underwriters
- Resistance of Big Institutional Investors
- Resistance of Issuers:
  - perception of prestige
  - insensitivity to fees
  - view on underpricing

The Future

- Trends favoring Open IPO
  - More regulation
  - More transparency
  - Compensation Caps
  - Popular sentiment
- However, wider acceptance will depend on
  - Market rally
  - More enlightened issuers

Additional Material:
Long Run Underperformance

Quiet Period

- During the first 25 days after the IPO the firm and its underwriters have to remain silent about the firm's financial prospects
  - Prevent insiders from "hyping up" the price
- After 25 days underwriters release their (usually favorable) reports about the firm
- On average stock price rises at the end of the quiet period

Quiet Period End

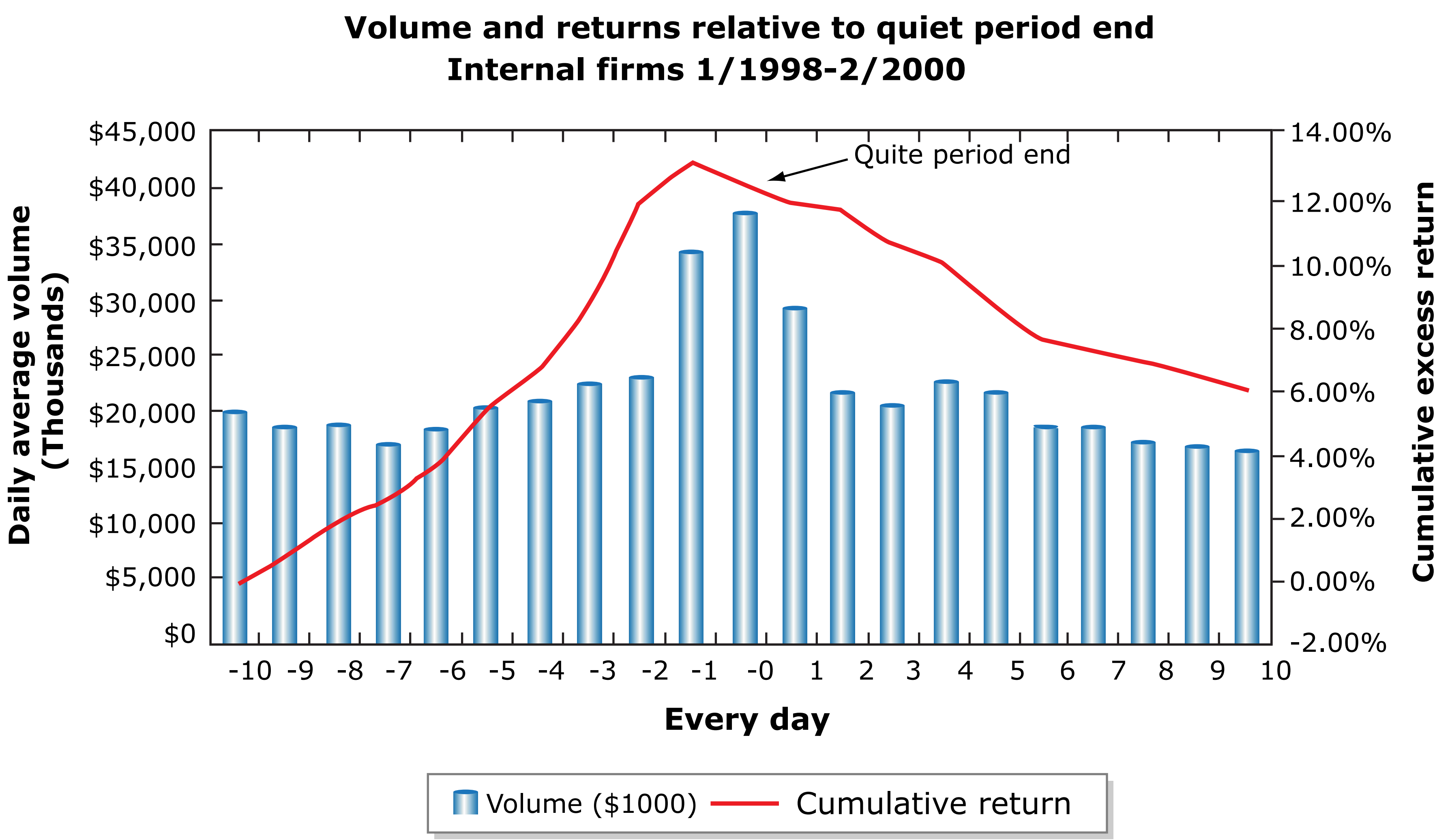


Image by MIT OpenCourseWare.

Lock-up Period

- Underwriters require that initial pre-IPO shareholders do not sell their stock for a pre-determined period (usually 180 days)
  - Keep incentives aligned
  - Prevent pressure on stock prices, if demand curves are downward sloping
- Stock price drops after the expiration of the lock-up period

Lock-up Period End

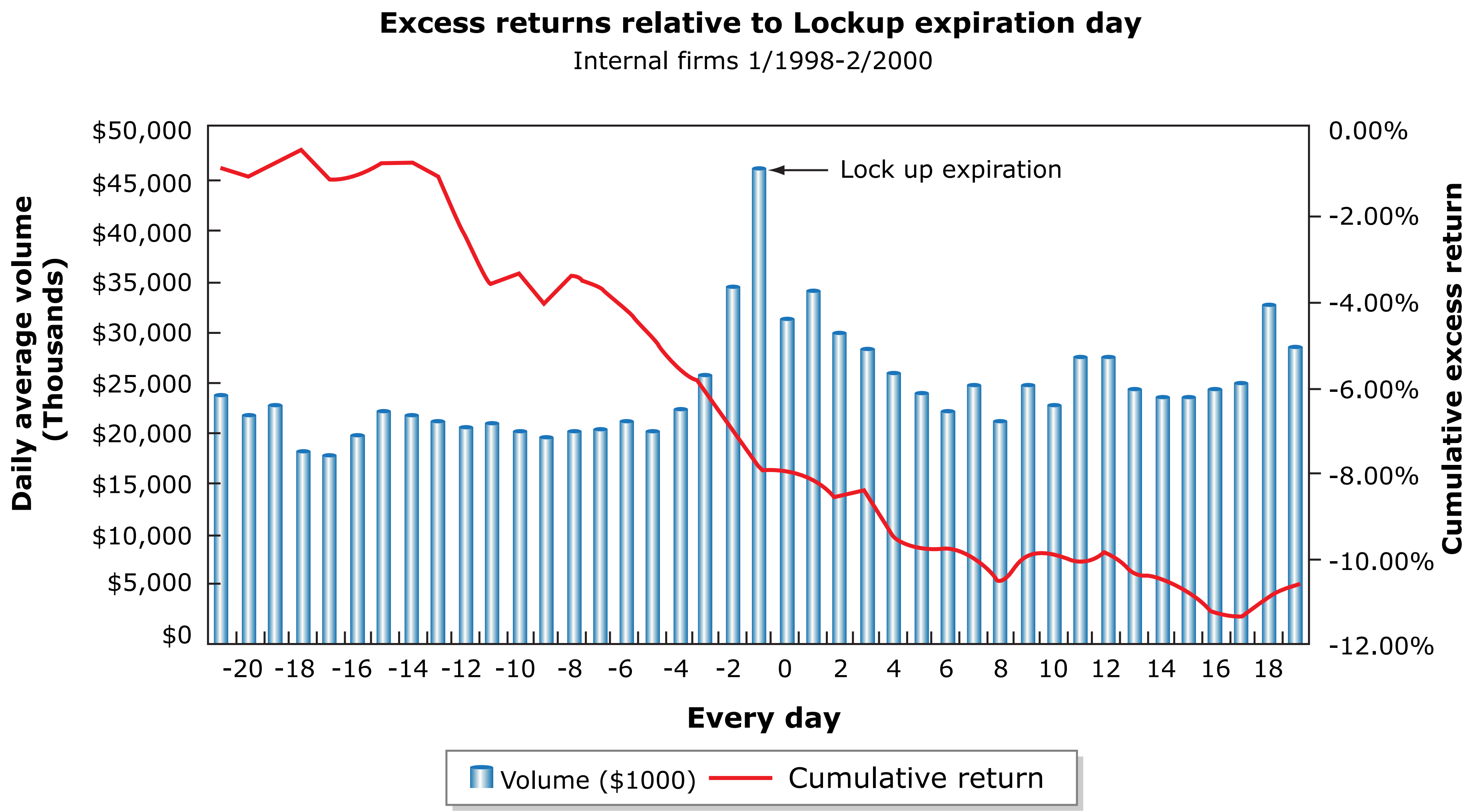


Image by MIT OpenCourseWare.

Long-run under-performance

- IPOs under-perform the market in the first five years after the IPO
- Reasons:
  - “Clientele effects”: Only optimistic investors buy into an IPO, but believes converge when more information is released about the firm
  - “Window of opportunity”: Valuations of IPOs is subject to fads so issues try to go public in “hot markets”

Long-Run Under-Performance

Percentage returns on IPOs from 1970-1998 during the first five years after issuing

	First six months	Second six months	First year	Second year	Third year	Fourth year	Fifth year	Geometric mean years 1-5
IPO firms	6.2%	2.6%	9.2%	8.5%	10.4%	13.7%	12.1%	10.7%
Size-matched	4.5%	5.9%	10.8%	14.1%	14.2%	17.2%	14.0%	14.1%
Difference	1.7%	-3.3%	-1.6%	-5.6%	-3.8%	-3.5%	-1.9%	-3.4%
Number	6,226	6,215	6,226	6,113	5,327	4,400	3,704	6,621
IPO firms	6.8%	2.9%	10.1%	11.5%	11.4%	12.6%	9.7%	11.0%
Style-matched	2.2%	4.4%	6.7%	12.4%	11.2%	13.1%	10.8%	10.8%
Difference	4.6%	-1.5%	3.4%	-0.9%	0.2%	-0.5%	-1.1%	0.2%
Number	5,967	5,957	5,967	5,676	4,911	4,010	3,348	6,081

Long-run performance of VC-backed IPOs

- VC-backed IPOs show much less under-performance than non-VC-backed IPOs
  - Relative to their **industry benchmarks** VC-backed IPOs have no under-performance
  - VCs are better able to time industry cycles?
  - Deal Flow!
- Most of the under-performance in the aggregate is driven by the smaller offerings

VC-Backed IPOs

Panel A: Five year equal-weighted buy-and-hold returns

Benchmarks	Venture-Backed IPOs			Nonventure-Backed IPOs		
	IPO Return	Benchmark Return	Wealth Relative	IPO Return	Benchmark Return	Wealth Relative
S&P 500 index	44.6	65.3	0.85	22.5	71.8	0.71
NASDAQ composite	44.6	53.7	0.94	22.5	52.4	0.80
NYSE/AMEX value-weighted	44.6	61.4	0.90	22.5	66.4	0.75
NYSE/AMEX equal-weighted	44.6	60.8	0.90	22.5	55.7	0.79
Size and book-to-market (5x5)	46.4	29.9	1.13	21.7	20.8	1.01
Fama-French industry portfolio	46.8	51.2	0.97	26.2	60.0	0.79

Panel B: Five year value-weighted buy-and-hold returns

Benchmarks	Venture-Backed IPOs			Nonventure-Backed IPOs		
	IPO Return	Benchmark Return	Wealth Relative	IPO Return	Benchmark Return	Wealth Relative
S&P 500 index	43.4	64.5	0.87	39.3	62.4	0.86
NASDAQ composite	43.4	50.4	0.95	39.3	51.1	0.92
NYSE/AMEX value-weighted	43.4	60.0	0.90	39.3	57.6	0.88
NYSE/AMEX equal-weighted	43.4	56.4	0.92	39.3	47.7	0.94
Size and book-to-market (5x5)	41.9	37.6	1.03	33.0	38.7	0.96
Fama-French industry portfolio	46.0	45.0	1.01	45.2	53.2	0.95