Applied Corporate Finance

Initial Public Offerings

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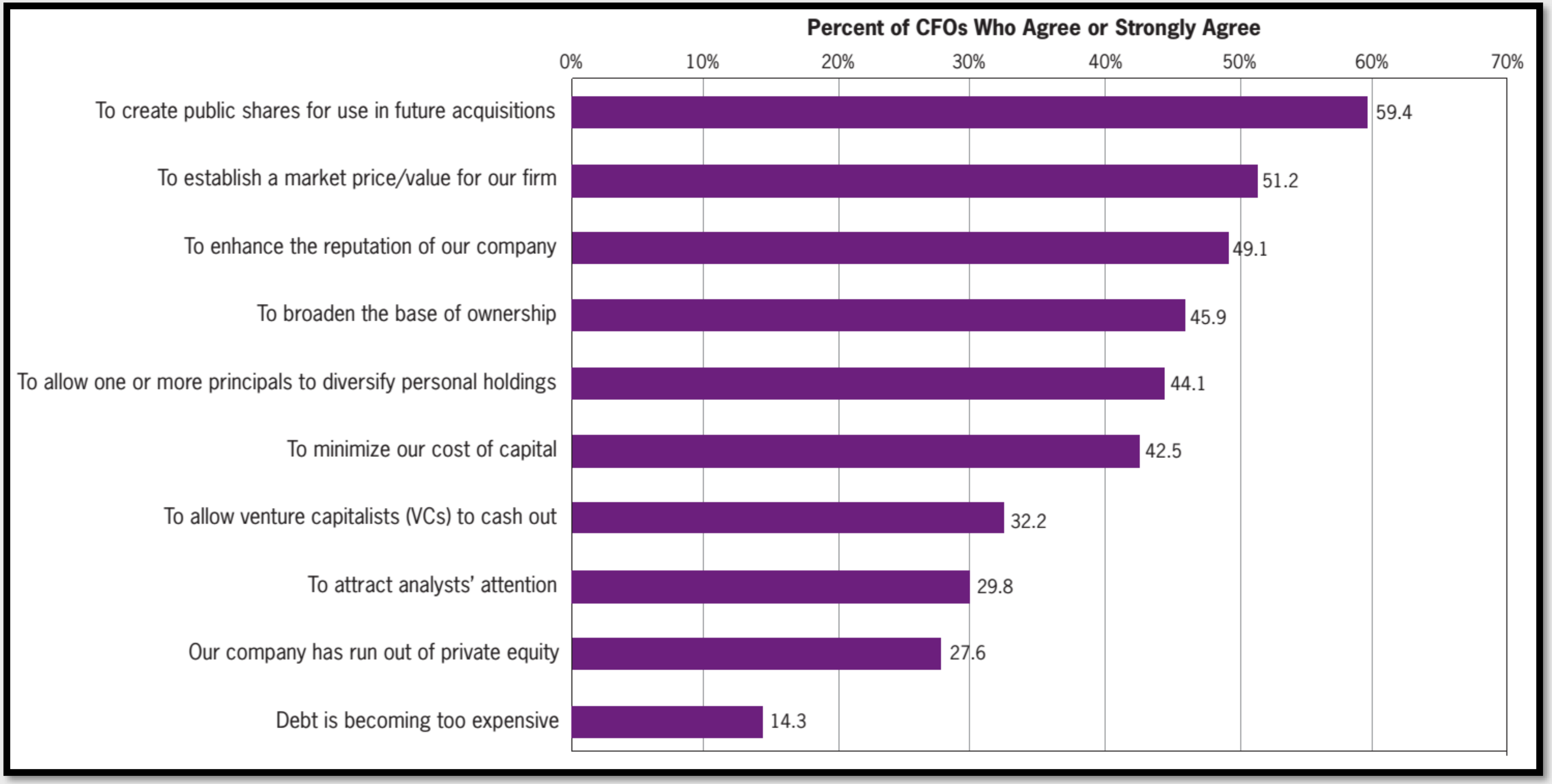
Plan of Attack

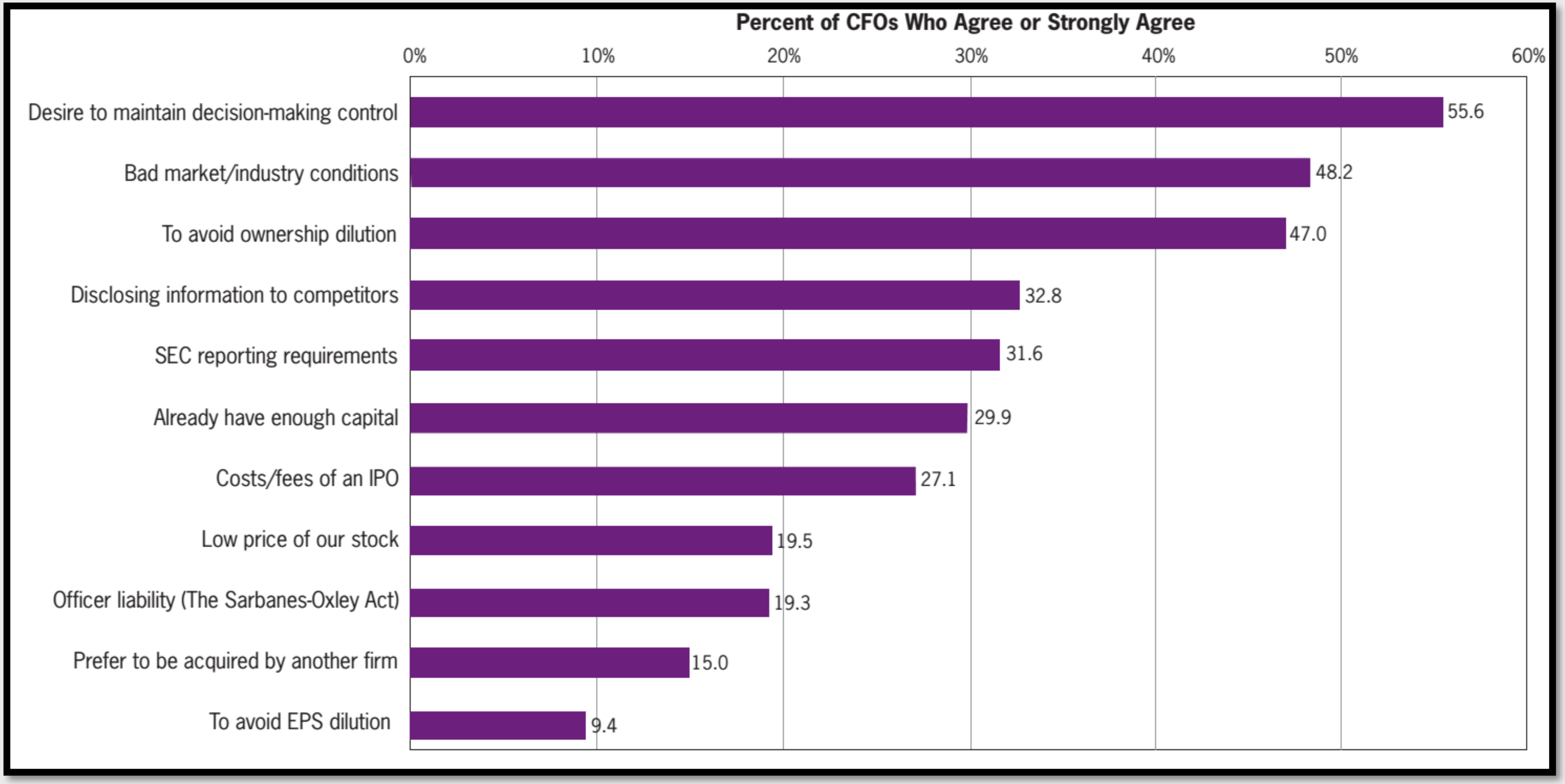
- Why, When, and How to Go Public
- IPO Underpricing
- IPO Long Run Performance
- IPO Cyclicality

Why Go Public?



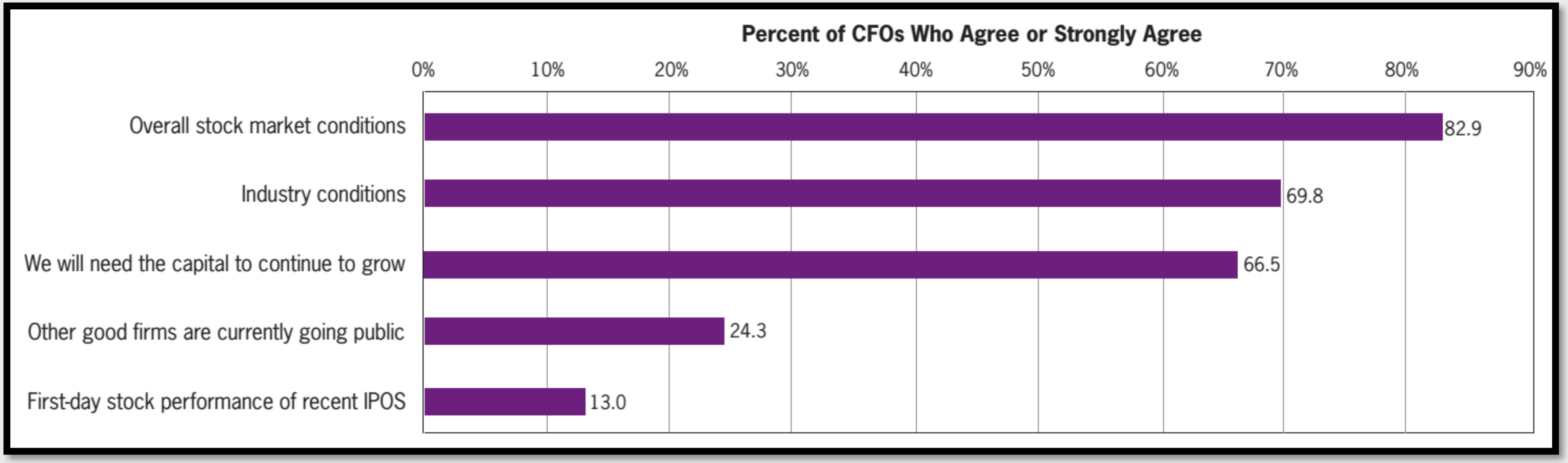
Source: Brau & Fawcett (2006)

Why Stay Private?



Source: Brau & Fawcett (2006)

When Do Firms Go Public?



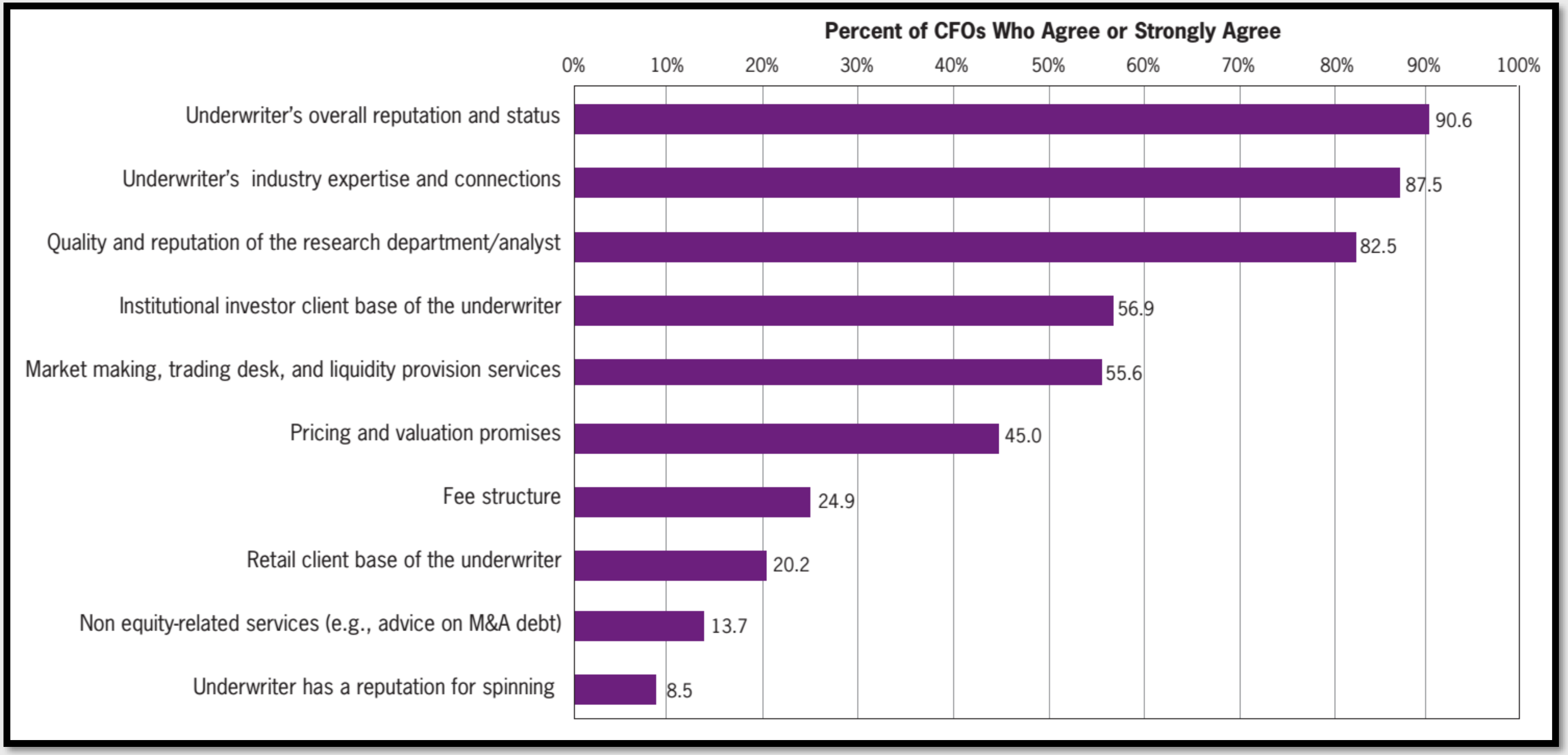
Source: Brau & Fawcett (2006)

The IPO Process (1)

1. Select Underwriter

- This is a function of the reputation and expertise of the investment bank, particularly in firm's industry.
- A letter of intent is written
  - protects the underwriter against uncovered expenses in the event that the offer is withdrawn
  - Specifies the gross spread (typically 7%) and overallotment option.
  - Remains in place until the Underwriting Agreement is executed at pricing
- Investment bank
  - Performs due diligence
  - Offering size analysis
  - Prepares marketing material
  - Arranges the syndicate

The IPO Process (2)



Source: Brau & Fawcett (2006)

The IPO Process (3)

2. Registration Process

- Company files a registration statement to the regulating authority which is transformed into a preliminary prospectus.
  - E.g., Securities and Exchange Commission, state bodies.
- Meant to make sure that the public has all relevant information for their protection
- Forms the basis of the marketing material
- Also called the “Red Herring.”

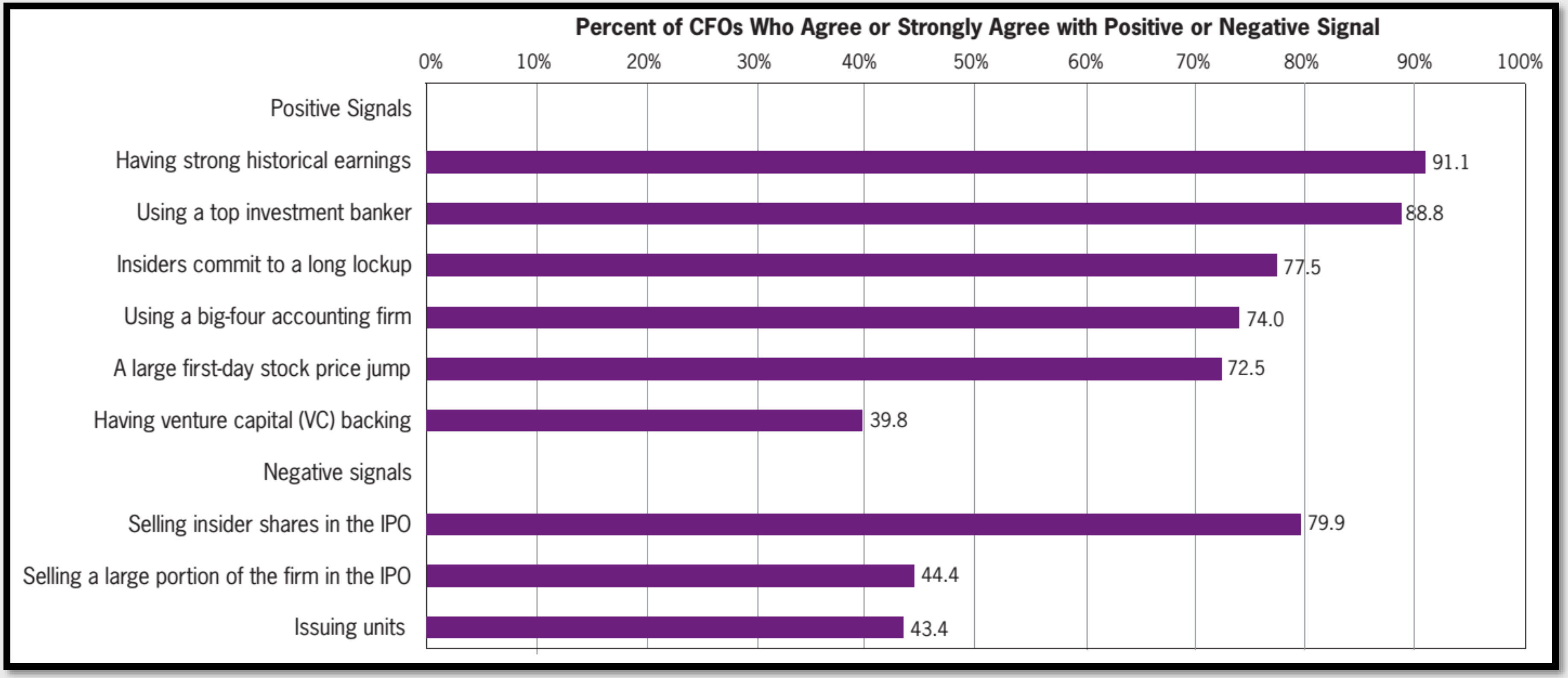
The IPO Process (4)

3. Marketing and Road Show

- Firm's senior management and underwriters travel to visit potential investors to promote and explain their firm (2-3 weeks).
  - Mostly to institutional investors (e.g., mutual funds, pensions)
  - see http://www.retailroadshow.com/

- Underwriter engages in "bookbuilding."
  - Get preliminary indications from investors about their demand for shares at different prices
  - These "orders" are only indications – not legally binding.
  - The road show is as much about gathering information from investors (their demand) as about disseminating informational about the firm.

The IPO Process (5)



Source: Brau & Fawcett (2006)

The IPO Process (6)

4. Pricing and Allocation

- Bank combines all the demand information from bookbuilding process.
- Firm managers and bankers discuss the final offer price and size.
  - The deal is usually "underpriced" (more on this later)
    - About 75% of firm see price increase on offering date.
- "Firm Commitment" offerings (as opposed to "Best Efforts")
  - Bank commits to sell the shares at a set price (the night before the offering)
- Allocation decisions are made and the deal is executed.

The IPO Process (7)

5. Post-Offering Activities

- Bank implicitly assumes responsibility for providing price support, buying shares if order imbalances arise
  - Support period usually lasts about 20 days.
- Banks usually exercise over-allotment “greenshoe” option.
  - Allows the underwriter to issue more stock
  - Usually 15% of the original offer size
- Banks can manage risk by short-selling the greenshoe allotment size.
  - If issue is a success (and prices rise)
    - Underwriter exercises greenshoe option, covering their short
  - If the issue is not a success (and price falls)
    - Underwriters covers the short position by repurchasing the greenshoe allotment size in the open market (at a lower price that the short), thus supporting the price.

The IPO Process (8)

6. Post-Offering Relationship

- The firm-bank relationship often continues after the issuance.
- Future interactions include:
  - Analyst coverage
    - After “quite period” of 25 days ends
  - Market making
  - Financial advising

The Auction IPO Process

- Auction IPO basics
  - All bidders submit the number of shares they want to buy (quantity) and the price offer
  - The Underwriter aggregates all the information.
  - All shares are sold for the same price
  - That price is the highest bid that allows the underwriter to sell all the shares being offered.

- Examples:
  - Google’s $1.67 Billion IPO in 2004 was done this way.
  - Morningstar also did an IPO auction.

- This method quite theoretically appealing, but still not common.

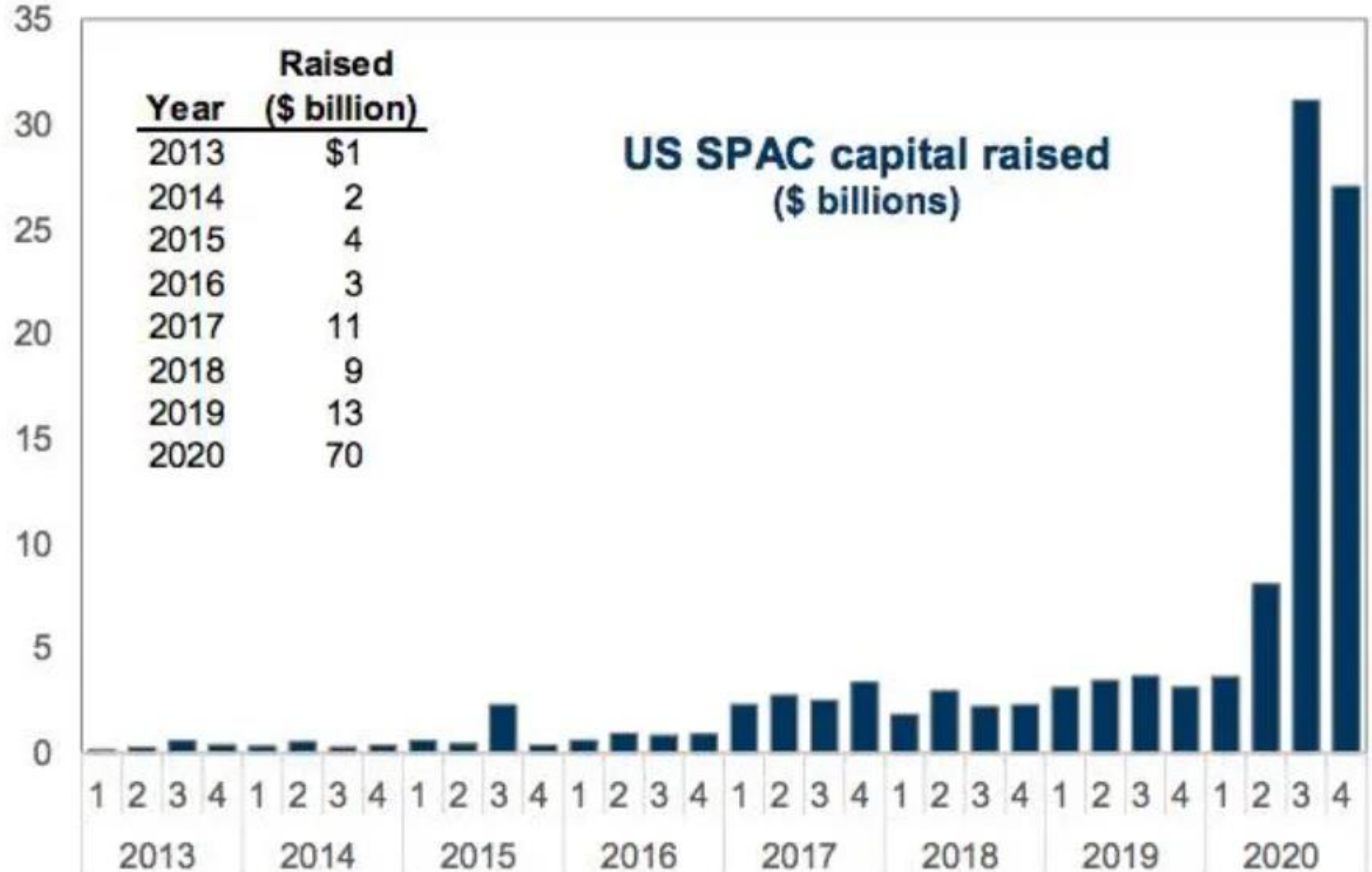
Special Purpose Acquisition Company (SPAC)

- A new (shell) company is formed with no assets
- The firm issues public shares with the goal of using the proceeds to acquire a target company
- The identity of the target company is typically known or not disclosed at the time of the IPO
- Therefore, this is sometimes also referred to as "blank check company"
- After the issue, the proceeds are deposited in a trust fund until an acquisition is made
- If no acquisition within two years, money is returned to investors
- Investors can range from large institutions to retail investors
- This structure has gained tremendous popularity recently

Special Purpose Acquisition Company (SPAC)

Exhibit 1: SPAC equity IPO issuance

as of December 10, 2020



Source: Dealogic, Goldman Sachs Global Investment Research

Some famous SPACs

- Virgin Galatic was taken public via a SPAC
- Bill Ackman’s Pershing Square Tontine Holdings ($5B – $7B)

Pershing Square Tontine Holdings

Pershing Square Tontine Holdings, Ltd. (“PSTH”), a Delaware corporation, is a newly organized blank check company formed for the purpose of effecting a merger, capital stock exchange, asset acquisition, stock purchase, reorganization or similar business combination with a private company. PSTH’s sponsor is 100% owned by the Pershing Square Capital Management, L.P. (“PSCM”) funds.

Bill Ackman is PSTH’s Chairman and CEO. He will work closely with the PSCM investment team and the other employees of PSCM to fulfill PSTH’s corporate mission. Mr. Ackman has spent 28 years in the investment management industry, the last 16 years as CEO of PSCM.

PSTH has not yet selected any specific business combination target. PSTH intends to pursue merger opportunities with private, large capitalization, high-quality, growth companies. PSTH will use PSCM’s substantial experience in identifying, analyzing, and determining business quality and the sustainable competitive advantages of a target company, as well as PSCM’s due diligence and negotiation expertise in executing a transaction. PSTH will seek targets in four principal market segments: high-quality IPO candidates, mature unicorns, private equity portfolio companies, and family-owned companies.

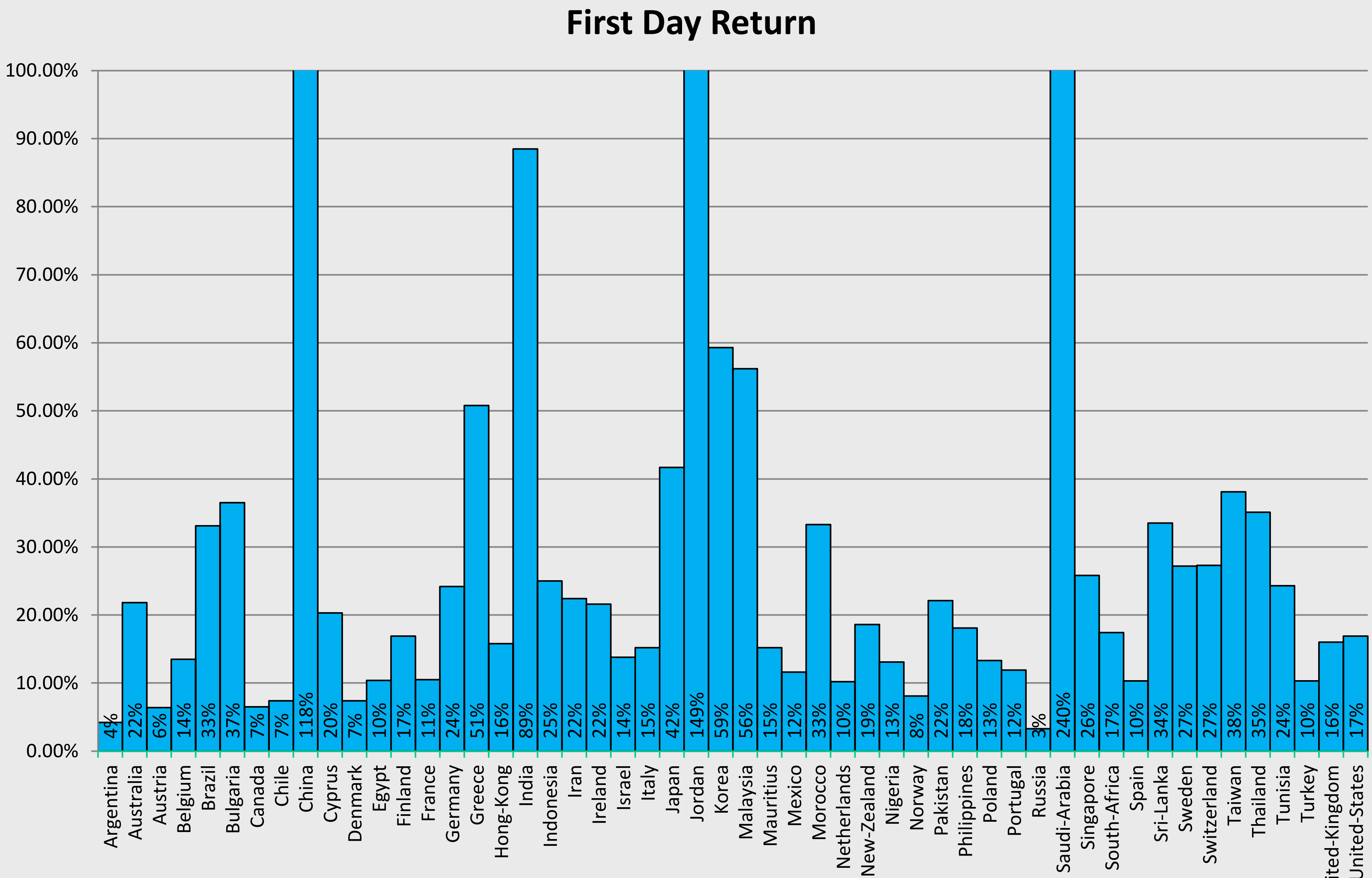
Pros and Cons of SPACs

- Cons:
  - As an investor you don’t know what you are investing in
  - In the past, these vehicles got a bad image due to sponsors profiting from investors money

- Pros:
  - Faster than a roadshow (less risk for the company with respect to changes in the market as the issue is being marketed)
  - Only has to deal with an acquirer, not many potential investors
    - Maybe exponentiated due to COVID (?)
    - Maybe especially valuable for non-consensual companies
  - Lower risk of public failure for the company
  - Lower IPO regulatory and administrative burden (as the company that goes public is a simple “shell”)

IPO Underpricing

IPO Underpricing Around the World



Source: Loughran, Ritter, & Rydqvist (2014)

Underpricing: Adverse Selection

- Informed and uninformed investors (Rock, 1986)
  - There are two classes of investors:
    - "informed investors" that know the true value of the IPO
    - "uninformed investors" that do not know the true value
  - There are not enough informed investors to buy all the shares in the market
    - both types need to participate.
  - Informed investors only buy when
    - Offering price $\leq$ true value
  - Uninformed investors buy always, but get more shares of bad IPOs because good ones are oversubscribed.

- For uninformed investors to break even there must be underpricing on the average IPO.

Underpricing: Adverse Selection Example (1)

- Goldman Sachs offers you the opportunity to participate in every IPO.

- You must commit to buying 2000 shares.

- If the deal is oversubscribed, you get rationed. Suppose:
  - the typical deals which are oversubscribed are 16 to 1.
  - 80% of deals are oversubscribed
  - Leads to first-day return of 20%

- For deals that aren't oversubscribed:
  - You get your full allotment
  - Shares experience a 5% first-day drop

Underpricing: Adverse Selection Example (2)

- What is the average first-day return? Can you actually earn this?
  - 0.8(20%) + 0.2(-5%) = 15%
- Suppose the IPO price is $15 per share. What is your profit?
  - Successful IPOs:
    - 20% return
    - Only receive 2000/16=125 shares
    - Profit = $15 * (125 shares) * (20% return) = $375
  - Unsuccessful IPOs:
    - -5% return
    - Receive full 2000 shares
    - Profit = $15 * (2000 shares) * (-5% return) = – $1,500
  - Average profit: 0.80 * ($375) + 0.20 * (– $1,500) = 0
    - Less than 15% underpricing would make uninformed investors unwilling to participate.

Underpricing: Adverse Selection Takeaway

- Takeaway from the Adverse Selection model:
  - Some investors are more informed than others
  - To induce investor participation average underpricing must prevail.
  - Informed investors take advantage of underpricing.
  - Uninformed investors only breakeven.

Underpricing: Information Acquisition (1)

- Information Transmission (Benveniste & Spindt, 1989)
- Investors have information about the true value of the IPO firm
- The firm and the underwriter want to collect this information from the investors
- If you were the investor with superior information, would you share it with the underwriter? Why?

Underpricing: Information Acquisition (2)

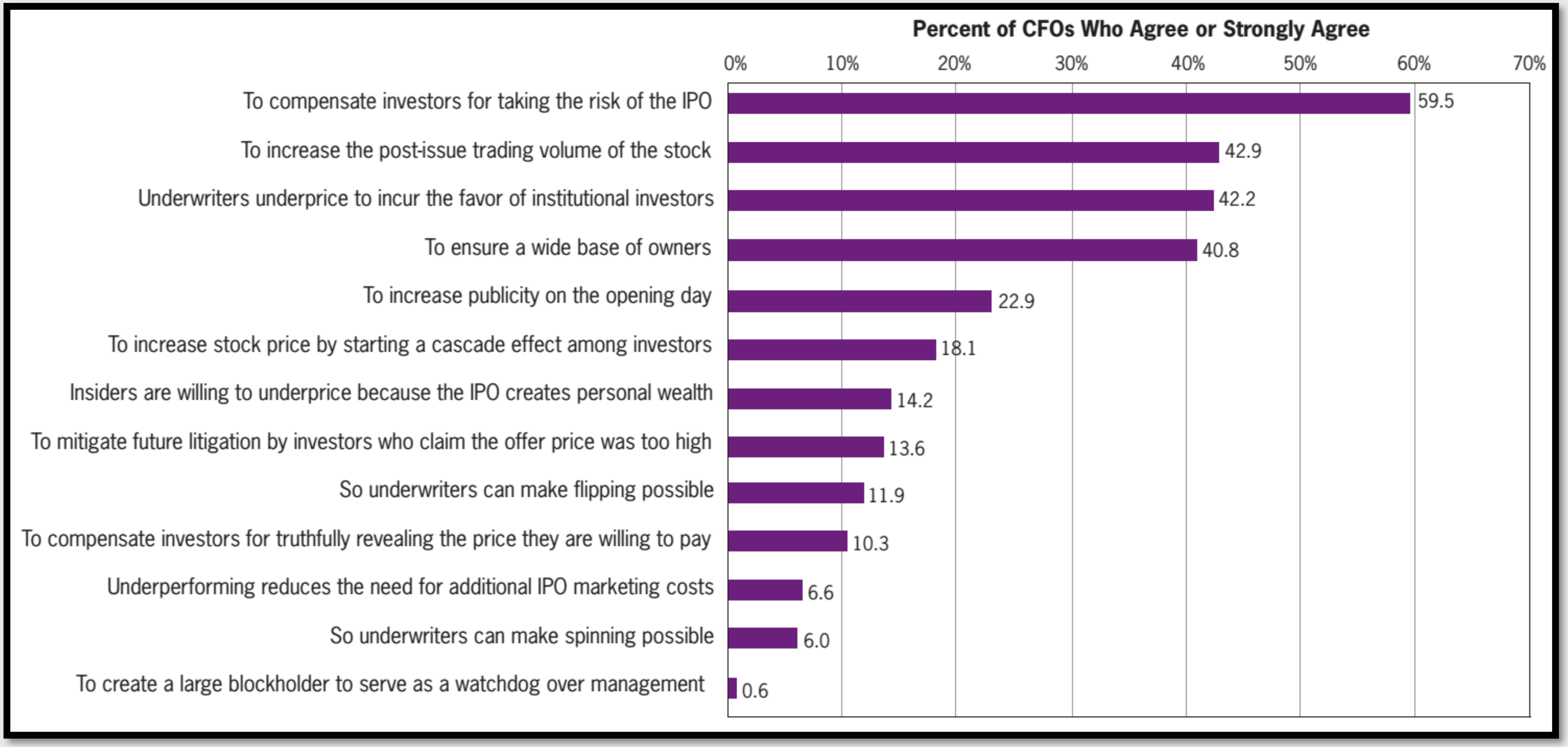
- In order for the investors to share their information, underwriter must promise to reward them for it.
- How can they do it?
  - One way is to keep shares (relatively) cheap and allow those that provided the information to buy shares at the cheap price.

- Takeaways from the Information Acquisition model:
  - Information acquisition during IPO process is key
  - Book building may be an efficient way to extract information from investors

Another great model studying IPO pricing relates the size of the offering to the price:

- When insiders retain a larger share of the equity, this can serve as a signal of high quality (Leyland & Pyle 1977).

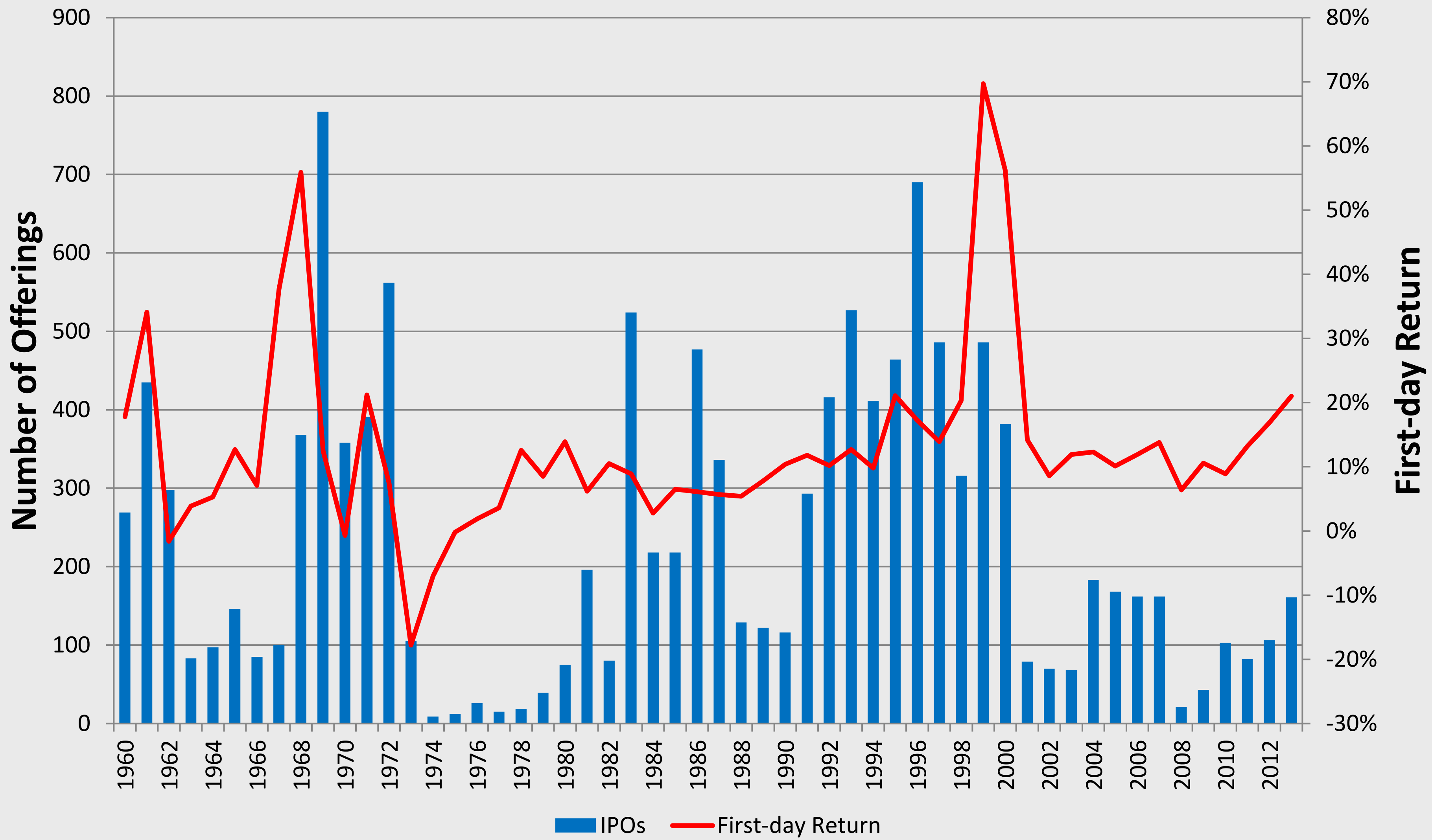
Underpricing: What Do CFOs Say?



Source: Brau & Fawcett (2006)

IPOs: Some Empirical Facts

Cyclicality (1)



Source: Ritter (2014) Initial Public Offerings: Updated Statistics

Cyclicality (2)

- Is the existence of cyclicality surprising?
  - When investment opportunities are good there should be more demand for funds.
- What is surprising is the magnitude of the swings.
- It is hard to imagine that the difference in growth opportunities would lead to a decline of 48% in the dollar volume of IPOs from 2000 to 2001.

Costs of Executing an IPO

- Typical underwriter gross spread is 7% of the issue price in the US, and around 3.75% in Europe
- The spread is not very sensitive to issue size. Why?
  - This is still a puzzle in the literature.
- Collusion?
  - Perhaps, but it does not seem to change much when market structure changes.
- Signalling?
  - Charging a lower fee could lead firms to believe the underwriter is of lower quality.
- This is a high cost relative to SEOs or bonds.

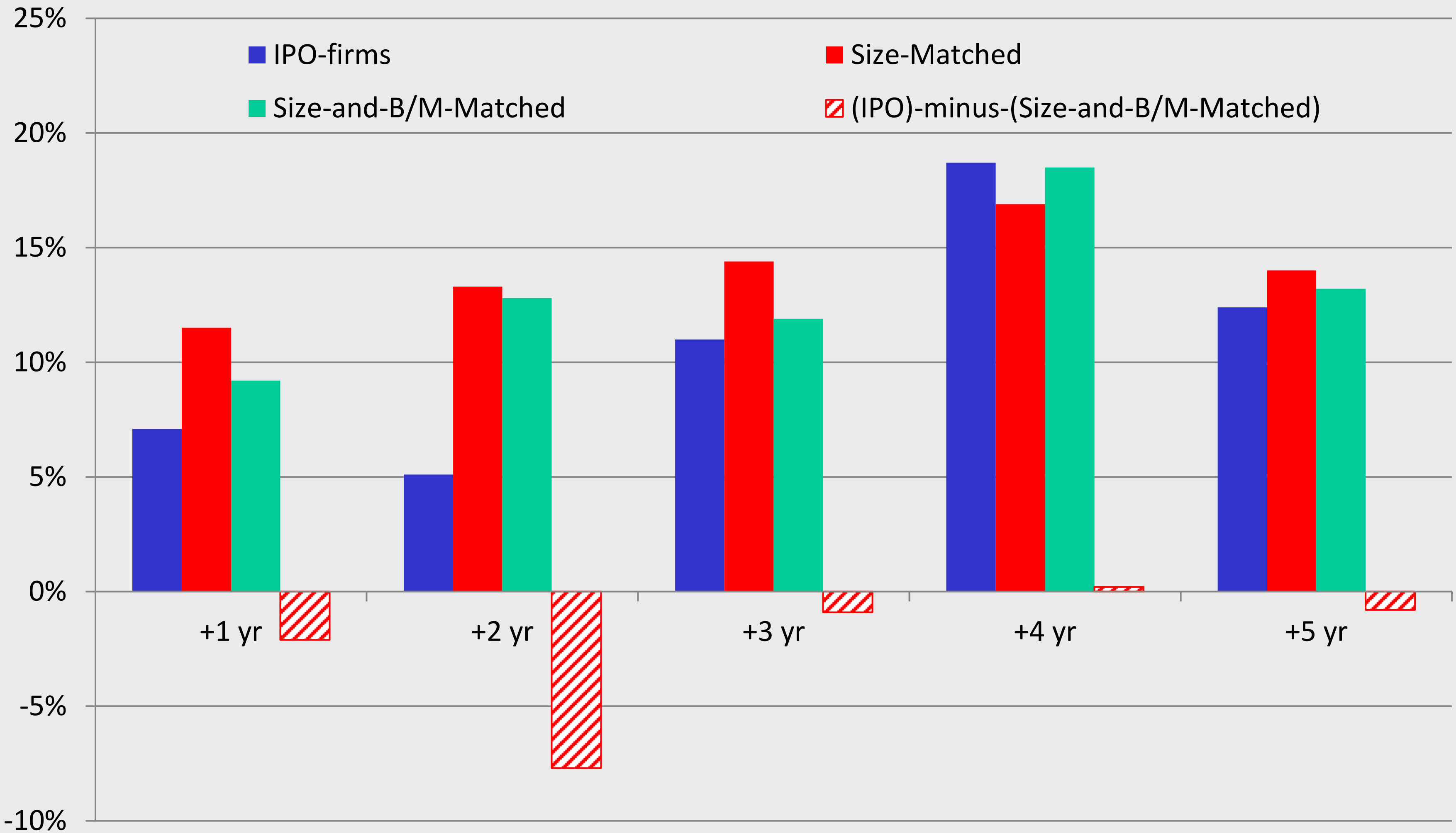
Long Run (under-) Performance

- A well-documented empirical fact is that IPO firms underperform in the long run.

- Ritter (2014) finds that from 1970-2012, IPO firms experience a 5-year annualized return of 10.8-11%
  - (not including the first-day return)

- 3.2 percentage points lower than similarly-sized matched firms.
- 1.9 percentage points lower than similarly-sized, similar style matched firms.

Long-Run (under-) Performance: 1970-2012



Source: Ritter (2014) Returns on IPOs during five years after issuing, for IPOs from 1970-2012
http://bear.warrington.ufl.edu/ritter/IPOs2013-5years.pdf

Closing Comments about Going Public (1)

- Advantages:
  - Greater liquidity for owners -- typically done a while after IPO; liquidity can increase firm valuation
  - Better access to capital -- e.g., follow-on equity offerings
  - Helps with interactions with customers and suppliers -- credibility
  - Creates currency for acquisitions and paying employees
  - Establishes observable price signal for contracting (e.g., CEO pay)
- Disadvantages:
  - Legal, accounting, investment bank fees are often high – up to 10% of amount raised
  - Dispersed shareholders -- lower incentive/ability to monitor
  - Loss of control/potential for takeover
  - Information asymmetry could mean undervaluation.
  - Legal requirements regarding information disclosure
    - Costly, both in terms of dollars and potentially competitive position.

Closing Comments about Going Public (2)

- IPOs are a relatively expensive way to raise money
- Most IPOs are done through an underwriter that uses bookbuilding to establish the offering price for the firm.
- Underpricing -- average first-day returns of (Ritter 2014):
  - 18-19% between 1980 and 2013
  - 12-13% between 2001 and 2013
- There is significant cyclicality in the IPO market (still a puzzle)
- Even when matched to similar firms, IPO firms seem to underperform in the long run.