



UNIVERSITY OF CALGARY
HASKAYNE SCHOOL OF BUSINESS

Corporate Finance

Raising Capital

René Wells

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Raising Capital

Raising Equity

- Initial Public Offering (IPO)
- Rights
- Dilution

Raising Debt

Chapter 20 of the textbook

Raising capital from public debt and equity markets

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To raise capital, a firm issues **securities** which are sold in the **bond** or **stock** markets (a **public offering**).

- Such debt and equity markets (aka the capital markets) are **heavily regulated**, in order to protect the investing public and insure 'fair and orderly markets'. Otherwise, investors would most likely be taken advantage of and then refrain to participate in capital markets.
- Almost all countries have one, or even several **regulators**.
 - ▶ Strangely enough, Canada is one of few countries **without a proper national regulator** (dead end since federal lacks power while Alberta and Québec do not want to share power);
 - ▶ The provinces, with the exception of Ontario, have put in place a so-called passport system to achieve some form of financial market integration.
- To issue securities that will be freely traded, the issuer must comply with regulations, notably in term of information faithfully and timely released to investors (at the time of issuance and periodically thereafter as non-compliance will result in trading be suspended by the regulator).

To access capital markets efficiently and avoid breaching regulations, inadvertently or deliberately, it is common practice for firms to retain an investment bank (or even several for large issues) and a law firm.

Prospectus, shelf prospectus and private placements

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To issue a security, a **prospectus** has to be approved by the security regulator.

- A first-time issuer (e.g. an IPO) usually has to use the traditional model of '**book building**' underwriting to establish compliance with various regulations and establish an investor base.
- Most jurisdictions then allow a firm that has already filed a long form prospectus, and is in good standing with the regulator, to issue securities using a simplified process.
- Such flexibility is taking many forms, for example a '**shelf prospectus**' that is filed ahead of any specific security being issued. It has given rise to the popular '**bought deal**' practice whereby the issuer sells securities at a fixed price to one or a few investment banks which then quickly resell them to investors at whatever price they can get.

Private placements (mostly for debt securities)

- Most jurisdictions allow firms to issue securities to 'sophisticated investors' (institutional investors and high-net worth individuals).
- Avoid the full prospectus requirements, but still need to inform adequately your investors.
- But your investors cannot resell freely such securities (i.e. some lock-in period and eventually only sell to other '**sophisticated investors**').

Terminology of public equity issues

Primary offering: newly issued shares sold by the firm to investors.

- IPO (**initial public offer**, typically through a 'regular underwriting')
 - ▶ The process by which firm's shares become available to the investing public and begin trading freely on public markets.
- Seasoned offering (aka SEO — often done through a bought deal)
 - ▶ Subsequent to the IPO, the firm issues further shares.
- **Rights offering**
 - ▶ Shares offered to existing shareholders in proportion to their existing shareholding (typically at a discount, leaving little alternative to the existing shareholders but to buy them).

Secondary offering

- A shareholder sell its shares (typically a large block made up of previously restricted shares).

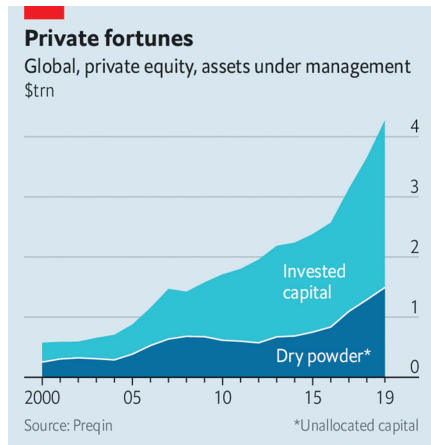
Going from being private to being public (i.e. doing an IPO)

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Traditionally, public equity markets provided deep capital pools as well as much larger valuation multiples than other forms of ownership, providing for a large incentive for existing shareholders to take a firm public.

But as the [private equity market](#) has developed (i.e. having substantially increased the depth of its capital pools and improved its valuation multiples), while the cost of compliance has increased for publicly-listed firm, the 'rush to IPO' has given way to more deliberate timing (more marathon-like, given rise to the '[Unicorns](#)').

Nevertheless, if the firm is envisioning significant growth and multiple acquisitions while some large block holders wish to diversify their holdings, going public is still the the logical choice.



The Economist

The process of going public

Upon approval by the Board of Directors, the firm retains investment bankers and lawyers.

- Those advisors assist the firm through the listing process and choice of venue;
- An underwriting syndicate is formed to acquire the shares from the firm, to be resold to the public ('firm commitment' or 'best efforts').

Filings with primary regulator

- The choice of listing venue determines the regulator with which filings and approvals will be required (notably the 'prospectus').

Pricing (for a 'fully marketed deal', i.e. not a bought deal)

- The firm and the underwriters decide a price range, an indication to the market of the likely price;
- Buying intent from the investing public is gathered through a book building exercise (typically more than enough to insure a 'positive response' from the market);
- Then, quickly, the final price is agreed upon, shares are placed (sold) and the stock starts trading;
- Typically the stock price jumps on its first day of trading (but drops the day a SEO is announced);
- The underwriters then buy and sell stock for their own account to 'stabilize the market'.

Costs of issuing equity through an IPO

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Explicit costs

- Spread (underwriting discount) ~7% (depends on size of issue)
 - ▶ The difference between the price the issuer receives from the underwriting syndicate and the price paid by investors;
 - ▶ Compensate the syndicate for the risk of loss from having to sell to investors at less than expected price.
- Other direct expenses ~3% (depends on size of issue)
 - ▶ Mostly various legal and regulatory costs (e.g. lawyers).

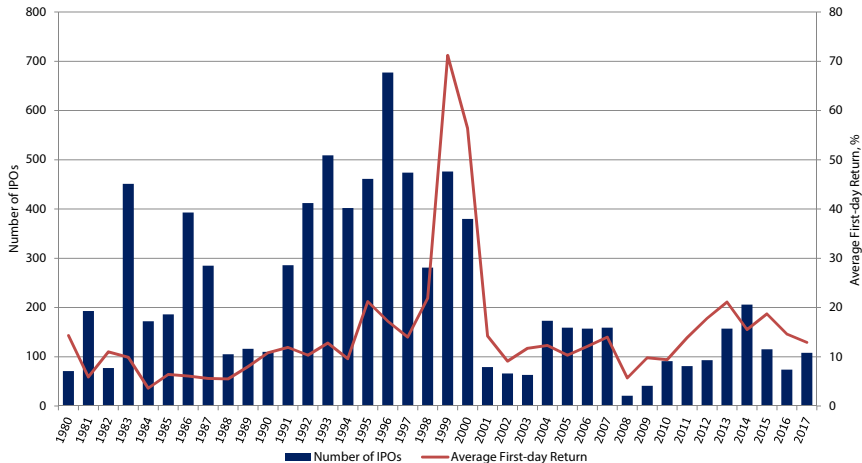
Implicit costs

- Time of management and staff to ensure a successful new issue.
- Underpricing and abnormal returns ~10 to 20% !
 - ▶ On average, common shares in an IPO are sold at a discount from fair value since the first trading day typically delivers a large positive return.
- Green Shoe provision (10% over allotment given to the underwriters)

The IPO pricing puzzle (less IPOs → less discount?)

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Number of U.S. Offerings and Average First-day Return, 1980-2017

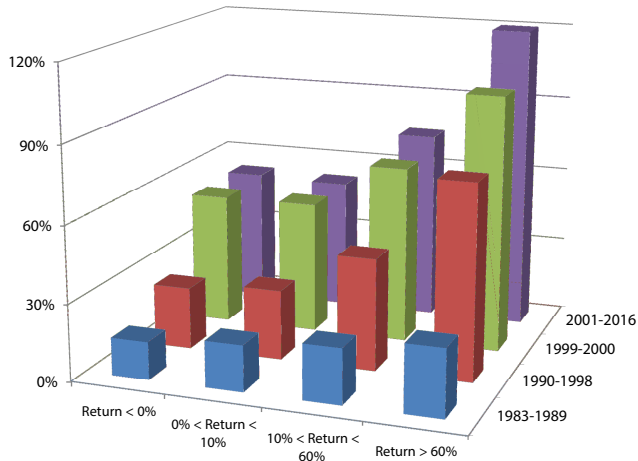


Source: <https://site.warrington.ufl.edu/ritter/ipo-data/>

The IPO pricing puzzle (or more arbitrage?)

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IPO Turnover Categorized by Time Period and First-Day Return, 1983-2016



Source: <https://site.warrington.ufl.edu/ritter/ipo-data/>

The IPO pricing puzzle (many possible explanations)

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Winner's curse

- Uninformed investors invest in good and bad IPOs;
- Informed investors invest in good IPOs;
- Since uninformed investors are getting a higher allocation in bad IPOs than in good IPOs, they can only get on average a normal return if all IPOs are priced at less than fair value.

Underwriters' oligopoly

- For a given industry and amount raised for an IPO, there is a limited number of potential underwriters who act like an oligopoly.
- The underwriters (mostly investment banks) have a conflict of interest between their duty to the firm raising capital and the on-going business they have with the investors providing the capital.

Avoidance of lawsuits

- Underpricing is a form of insurance against disgruntled investors who could sue the issuing firm for misrepresentation subsequent to an initial loss.

Reputation

- Building a good reputation with investors facilitate access to capital markets in the future.

The IPO pricing puzzle (many possible explanations)

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Underwriters' price stabilization efforts

- To protect/enhance their reputation, underwriters might spent time and money to stabilize stock price in the first few days of trading, therefore skewing the distribution of returns.

Bandwagon and herd/bubble mentality

- If underpricing is expected and there is surplus demand (i.e. overall investor demand is more than number of shares available) and investors mimic each other, then excessive demand might create abnormal returns for some time.

Divergence of opinions

- Normally investors having a pessimistic view of a given stock would short the stock, but this requires borrowing the stock, which is difficult just after an IPO (and not built into the IPO process).
- Post IPO, pessimistic views are incorporated into the stock price with a lag.

Marketing and selling

- It is easier to market and sell something that is underpriced than if it was fairly priced (or overpriced).

Relative valuation estimates the value of a firm by comparison with the value assigned by market to similar firms while adjusting for difference in size using average/median multiples (share price and/or enterprise value).

- Earnings multiples;
- Book value multiples;
- Revenue multiples.

Relative valuation assumptions

- Market is pricing the peer group fairly (on average);
- Accounting methods and assumptions are consistent throughout the peer group (if not, the analyst must adjust accounting data accordingly, which is usually technically challenging);
- The firms in the peer group are of similar risk, same life-cycle stage and similar cash flow patterns ('true comparables' are tricky to find).

Discounted cash flow valuation is doing exactly what it implies (share price and/or enterprise value).

$$\text{Value of equity} = \sum_{t=1}^n \frac{\text{Cash flows to equity}}{(1 + r_e)^t}$$

$$\text{Value of firm} = \sum_{t=1}^n \frac{\text{Cash flows to firm}}{(1 + \text{WACC})^t}$$

It could be an analytical challenge to forecast the level and pattern of growth for the cash flows while also translating that into potential changes in the risk profile of the firm.

Investors might express some skepticism regarding the DCF provided to them in support of an IPO (somewhat less 'tangible' than comparables).

Example: auction IPO pricing

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Fleming Educational Software Inc. is selling 500,000 shares of stock in an auction IPO. At the end of the bidding period, the following bids have been received.

Price (\$)	Number of Shares Bid	Cumulative Demand
8.00	25,000	25,000
7.75	100,000	125,000
7.50	75,000	200,000
7.25	150,000	350,000
7.00	150,000	500,000
6.75	275,000	775,000
6.50	125,000	900,000

The winning auction price is \$7 per share for all bidders at \$7 and higher.

Example: valuing an IPO using comparables

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During the most recent fiscal year, Wagner Inc. had revenues of \$315 million and earnings of \$15 million. After the IPO, Wagner will have 20 million shares outstanding.

Company	Price/Earnings	Price/Revenues
Ray Product Corp.	18.0X	1.2X
Byce-Frasier Inc.	19.5X	0.9X
Fashion Industries	24.1X	0.8X
Recreation Intl.	22.4X	0.7X
Mean	21.2X	0.9X

IPO share price

- Equity valuation = \$15 million \times 21.2 = \$318 million (\$15.90/share)
- Equity valuation = \$325 mil. \times 0.9 = \$292.5 million (\$14.63/share)

Word of caution when using comparables

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When using a multiple extracted from a panel of comparables for valuation, there is a built-in assumption that the growth rate of the firm being valued is similar to the peer group.

If there are sufficient indications that the firm will experience a growth rate significantly different from its peer group, then using a peer-group multiple will lead to overvaluation or undervaluation of the firm.

One approach is the **PEG ratio** (aka the growth-adjusted PE), which consist in modifying the P/E ratio according to the differential in expected growth between the firm and its peer group.

- the PEG is the PE divided by the expected growth rate;
- compare the PEG with the average/median PEG of the panel;
- a PEG less than 1 or less than peer group suggests undervaluation;
- adjust the PE of the firm accordingly.

Example: pricing an IPO using fundamentals (14-7)

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You want to price shares ahead of an IPO.

- This year's annual EPS is \$3.50, expected to grow by 6% thereafter;
- Will begin to pay dividend based on a 20% payout ratio;
- Beta of competitors range from 1.7 to 2.1;
- The risk-free rate is 3% and the market-risk premium is 4%;
- Inflation expected to be 1.5%.

IPO price = \$15.22

- $R_e = 3\% + \frac{1.7+2.1}{2} (4\%) = 10.6\%$
- $P_0 = \frac{\$3.5 \times 0.2}{0.106 - 0.06} = \15.22

Rights give shareholders the option to buy newly-issued shares at a specified price for a specified time.

- To comply with **pre-emptive rights** enjoyed by existing shareholders, they receive typically one right per share owned (but it might take more than one right to buy a new share).
- Usually the specified price (aka the subscription price) is well below the market price, to ensure all rights will be exercised and the sought equity capital will be raised.
- Upon receipt and thereafter a shareholder can sell its rights to other investors (prior to expiry).

$$R_0 = \frac{M_0 - S}{N + 1} \quad (\text{rights} - \text{on})$$

$$R_e = \frac{M_e - S}{N} \quad (\text{ex} - \text{rights})$$

R : theoretical value of a right

M : share price

S : subscription price

N : number of rights required to buy a new share

Example: Dilution from a seasoned offering (14-5)

Will the SEO dilute EPS? If so, by how much? (shareholders are concerned with [stock dilution](#))

- Firm has sales of \$30 million and net profit margin of 5%;
- Project to growth sales by 8%, but requires \$4 million of new equity;
- Current stock price is \$14.75, but SEO advised for \$14.00 per share;
- Underwriting costs are 5.5%; firm has 3 million share outstanding;
- The risk-free rate is 3% and the market-risk premium is 4%;
- Inflation expected to be 1.5%.

EPS before SEO = \$0.5; EPS after SEO = \$0.491

- $EPS_0 = \frac{\$30 \times 0.05}{3} = \0.50
- Proceeds to be raised = $\frac{\$4}{1 - 0.055} = \4.232804
- New shares = $\frac{\$4.232804}{\$14} = 302,344 \text{ shares}$
- $EPS_1 = \frac{\$30 \times 1.08 \times 0.05}{3 + .302344} = \0.491

Raising debt

Debt has more characteristics than equity - so debt design can be fancy...

- Bank debt or corporate bonds - even private debt;
- Short, medium or long term maturity; with or without amortization;
- Fixed or floating interest rate; In various currencies (US, Euro, ...);
- Could have embedded options (e.g. convertible into equity);
- Often graded by credit rating agencies (or internal bank grading).

It is a fixed obligation (default risk for both the issuer and the investors)

- Often firms repay existing debt at maturity by issuing new debt, creating a rollover risk.
- To mitigate such risk, it is useful to match debt with the assets through time, to the extent possible (i.e. duration matching).
- Matching other characteristics of debt with the assets also make sense, if possible, cost-efficient and reasonable to do so.
- But as debt issued is more exotic, it might be less liquid.

Chapter 20 of the textbook

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Textbook sections covered

- 20.1 to 20.8

Worked examples

- Three worked examples are provided in chapter 20 of the textbook.

Exercises

- 15 exercises are provided in chapter 20 of the textbook.
- You should practice your Excel skills with a few of those.
- Suggest 20.9 and 20.10
- Hints
 - ▶ 20.9: \$40.00; \$36.95; \$35.42
 - ▶ 20.10: a) \$53.75; b) \$14.25

20.9 Solution

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Shares	50,000
Market price	\$40.00
Valuation	\$2,000,000.00
New shares	9,000
Total shares	59,000

Issue price	Valuation	Share price
\$40.00	\$2,360,000.00	\$40.00
\$20.00	\$2,180,000.00	\$36.95
\$10.00	\$2,090,000.00	\$35.42

Market price	\$68.00
Nb. Shares	3
Holding value	\$204.00
Pay + 3 rights	\$11.00
New value	\$215.00
Nb. Shares	4
New price	\$53.75
Right value	\$14.25

The price drop will occur on the ex-rights date, even though the ex-rights date is neither the expiration date nor the date on which the rights are first exercisable. If you purchase the stock before the ex-rights date, you will receive the rights. If you purchase the stock on or after the ex-rights date, you will not receive the rights. Since rights have value, the stockholder receiving the rights must pay for them. The stock price drop on the ex-rights day is similar to the stock price drop on an ex-dividend day.