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Investment strategy insights

2019: The year of the "unicorn" IPO?

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- After years of anticipation, many "unicorns"—privately-financed start-ups valued at over USD 1 billion—could go public in 2019 through an initial public offering (IPO), raising close to USD 100 billion.
- IPOs can be attractive investments if you can get an allocation in the offering, but much less so when buying in the secondary market. Since 1980 the average first trading-day return is 18%, while in the six months and three years after the first day IPOs perform roughly in-line and below risk-adjusted market returns, respectively.
- These average returns mask huge variation between the winners and losers, and certain factors (e.g. age, size, and funding sources) help explain the wide return dispersion at different horizons.
- A strong performance by IPOs this year would likely positively impact overall equity market performance by lifting investor sentiment and attracting additional investors to the market.
- The "year of the unicorn" IPO may come to pass if economic and market conditions stay favorable. But the ultimate deciding factor will be whether these companies actually live up to expectations, which won't be determined on the first trading day. As a result, we believe this year in IPOs is more likely to be a slow burn than a hot market.

Fig. 1: Financial "unicorns" aren't rare or small
Largest US-based unicorns

Company	Est. Valuation (USD bn)
Uber	72.0
WeWork	47.0
Airbnb	29.3
SpaceX	21.5
Stripe	20.0
JUUL Labs	15.0
Epic Games	15.0
Pinterest	12.3
Samumed	12.0
Palantir Technologies	11.0
Infor	10.0
Coinbase	8.0
Instacart	7.6
Slack Technologies	7.1
Tanium	6.7

Source: CB Insights, UBS, as of 6 March 2019

After years of anticipation, over 100 "unicorns" could make their debut as public companies in 2019, led by Uber, Airbnb, and Pinterest, among others. These initial public offerings (IPOs) by companies with estimated valuations over USD 1 billion are already getting significant media and investor attention, which will only build if the first few are "successful"—i.e. their stock prices rise in their early trading days. Thus, IPOs are likely to be prominent events in financial markets this year.

Before deciding to directly participate, it's vital to understand the performance patterns for IPO companies, in addition to evaluating them on their own merits. For one, the IPO process for determining the offer price has a direct impact on potential returns. Moreover, with a limited history it can take a while for the market to properly price these companies. A review of academic research shows that their average first trading-day returns are in the mid-teens, while in the six months and three years after the first day IPOs perform roughly in-line and below risk-adjusted market returns, respectively.

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These average IPO returns mask huge variations between the winners and losers. There are very few losers on the first day, while after five years about 60% of all IPOs had negative total returns and a small percent had exceptionally positive returns. Distinguishing between potential winners and losers at any horizon is difficult, but there are issuer and IPO characteristics (e.g., age, size, and funding sources) that do correlate with performance. The take-away from this research: getting IPO allocations is highly rewarding, but after the first day performance depends heavily on which companies you buy.

Even for investors not partaking in IPOs, a strong collective performance by IPOs this year would likely positively impact overall equity market performance. IPOs are typically self-contained events, relevant only for the issuing company and maybe its closest competitors. But given the potential magnitude of IPOs this year—total offering proceeds could approach USD 100 billion, with the market capitalization for these companies approaching USD 600 billion—good IPO returns should buoy investor sentiment about equities in general, providing another market tailwind.

If such a "hot" IPO market materializes, comparisons will be made to the late 1990s dotcom era, a reason for pause given how that period ended. But there are important differences in company attributes and investor euphoria between the eras that suggest a much more benign outcome this time. Instead, investors should expect an active year for IPOs producing fairly typical returns, unless economic and market conditions turn unfavorably, in which case they best be prepared.

IPOs: The basics

An IPO is the process in which a privately-owned company sells shares to the public and starts trading on a stock exchange. An IPO is the actual event that culminates the lengthy process of going public. The timeline discussion below summarizes the main steps in the process, while pricing the IPO and its timing—two closely-related decisions—affect the returns investors can expect when buying shares, either in the IPO or secondary market. Investors participating in an IPO receive shares in the company, though for shorthand we say that they're investing in the "IPO".

Timeline: About four to six months pre-IPO the company hires investment banks to lead and prepare the offering (Fig. 2). About one to two months pre-IPO the company files a registration statement with the Securities and Exchange Commission (SEC) and applies to an exchange to list its shares. In the one to three weeks leading up to the IPO, the company resubmits an amended registration statement incorporating comments and feedback from the SEC. Around this time the company also provides investors with a preliminary prospectus and conducts a marketing roadshow. Once the SEC declares the final registration statement effective, the offer price is finalized the night before the shares start trading on the exchange. The bank then allocates shares based on investor interest.

Pricing the IPO: Offer prices are based on the company's estimated value, valuations of peer companies, and on investor feedback during the roadshow. An initial price range (e.g. USD 22-24) is provided in the preliminary prospectus. This range is not binding as the final offer price can be below, within, or above this range. The banks and the issuer also have to decide how much "underpricing" they'll tolerate. The offer price is almost always below the maximum attainable price, which leads to share prices rising on the first day of secondary market trading. Underpricing makes it look like companies willingly leave "money on the table", but that's not necessarily the case, as explained in the Appendix. The relevant point for investors is that the offer price is set to entice participation in the IPO.

Timing the IPO: Companies go public when the IPO "window" is open. This occurs when equity markets are generally rising, volatility is contained, and valuations are at or above long-term averages, with the same applying at the sector level. A 5-10% market correction or a spike in volatility usually delays IPOs until conditions improve. Investors also have to be receptive to IPOs, which depends on their investment appeal and the performance of recent IPOs. Successful offerings tend to induce similar companies to go public, while investors are drawn to the high return potential. The end result is that IPOs are often clustered together, sometimes as "hot" markets when returns are well into double digit levels.

Fig. 2: Timeline of events for US IPOs

Time relative **to offer date**	Event
4-6 months pre-IPO	· Hire investment banks to lead and prepare offering
1-2 months pre-IPO	· Files registration statement with SEC
	· Applies to an exchange to list its shares
1 month pre-IPO	· SEC issues letter of comment on registration statement
1-3 weeks pre-IPO	· Submits amended statement based on SEC comments
	· Provides investors with preliminary prospectus
	· Conducts marketing roadshow
Night before IPO	· SEC declares final registration statement effective
	· Offer price is finalized
Day of IPO	· Shares allocated
	· Trading begins

Source: UBS, as of 1 April 2019

Returns from investing in IPOs

Returns to IPO investments are typically measured in two ways. First, the initial return is the difference between the first-day closing price and the IPO offer price. Only investors who get an allocation in the IPO receive this first-day return, which is a proxy for the intentional underpricing. Second, medium- to long-term returns are measured starting from the first-day closing price until anywhere from six months to five years later. The purpose is to assess whether these companies provide returns in-line with risk-adjusted expectations, once the first-day return is excluded.

IPO returns have been the subject of extensive academic research over the past few decades. The main conclusions are reflected in the IPO data set maintained by University of Florida professor Jay Ritter. The return results reviewed below are based on this data, which includes about 8,500 IPOs in the US from 1980 to 2018.

First-day returns

Positive IPO first-day returns are one of the most consistent pricing patterns in financial markets. In the US the average first-day return has been 18% over the past 40 years. There's a wide range around this average, with some returns well in excess of 18%. At the low end of the distribution, many returns are right around 0% because investment banks stabilize the share price in the secondary market to keep it from falling below the offer price on the first day. First-day returns are typically lower outside the US, though there is large cross-country variation.

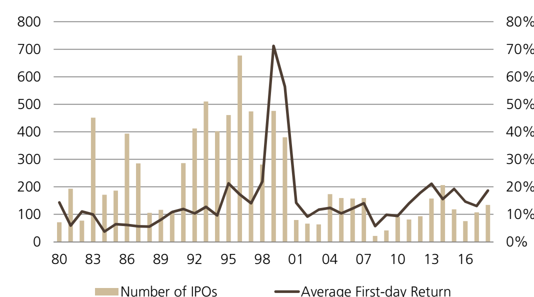
The average first-day return has been consistently in the 10-20% range since the early 1990s, but the volume of IPOs has experienced much larger swings (Fig. 3). The notable exception for returns occurred in 1999 and 2000, when they averaged 71% and 56%, respectively, though the volumes weren't unusual by 1990s levels. Over time there's been a modest positive correlation between the number of IPOs and first-day returns, with higher returns generally inducing more companies to go public.

First-day returns do vary in statistically significant ways based on certain company and IPO attributes (Fig. 4). Returns have been lower for larger companies based on revenues in the pre-IPO year: 8.6% if revenues were greater than USD 1 billion, 18.6% otherwise. This is consistent with larger more established companies requiring less underpricing in their IPO. Similarly, the returns of companies that received growth capital funding were half of those with venture capital funding, which are usually younger, smaller, and at an earlier stage in their development than their Growth-backed peers. Interestingly, companies with negative earnings pre-IPO had higher returns, though since 2000 the average returns have been nearly identical regardless of whether earnings were positive or negative. Finally, IPOs in which the final offer price was revised above the initial range had far larger first-day returns, indicative of strong investor interest lifting the share price.

First-day returns are clearly attractive, but they really are exclusive to investors who received an IPO allocation. That's because the typical opening price already accounts for the bulk of the first-day return, about 90% on average. Thus, investors who buy at the opening should expect a minimal first-day return.

Fig. 3: IPO first-day returns are steady, the volume of offerings is volatile

US annual IPO volume and average first-day returns



Source: Jay Ritter (https://site.warrington.ufl.edu/ritter/ipo-data/), UBS, as of 31 March 2019

Fig. 4: IPO first-day returns vary by issuer characteristics

Return from offer price to first-day closing price, for IPOs listed from 1980-2018

Revenue	First day return
> $1bn	8.60%
< $1bn	18.60%
EPS	
< 0	25.60%
> 0	12.80%
Capital funding	
Growth	14.30%
Venture	28.60%
Offer Price	
In range	11.00%
Above range	50.00%

Source: Jay Ritter (https://site.warrington.ufl.edu/ritter/ipo-data/), UBS, as of 31 March 2019

Medium- and long-term returns

In contrast to mid-teen returns in a single day, an IPO buy-and-hold strategy starting at the first-day closing price hasn't fared nearly as well, especially as the holding period extends well beyond six months. In an efficient stock market, a portfolio of IPO stocks shouldn't consistently outperform the market, after controlling for differences in risk. But they also shouldn't underperform on average, which is what they've done over a multi-year period.

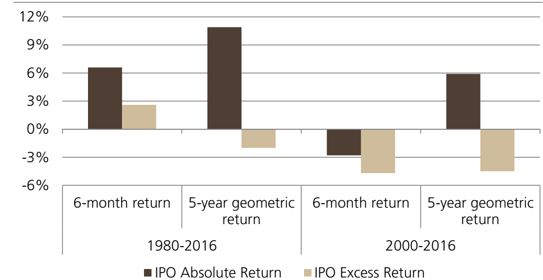
The absolute and excess average IPO returns over different horizons are shown in Fig. 5 (the excess return is the difference between the IPO returns and risk-adjusted benchmark returns). A six-month horizon is included because that's when lock-up agreements typically expire. These agreements prevent pre-IPO shareholders from selling shares during the lock-up period after the IPO. After lock-up expiration some investors, especially venture and growth capital investors, do start selling, which can put pressure on the stock price unrelated to fundamentals. Over the full sample period the average six-month return is about 6%, or about 2-3% excess, but from 2000 onwards both are negative. The absolute geometric average 5-year return was 11%, but the excess return fell to -2% and it was worse in the 2000-2016 period.

Similar to first-day return trends, there is wide variation in performance—whether over six months or three years—correlated with certain IPO characteristics. Companies with revenues over USD 1 billion and those backed by growth capital performed far better over three years, absolute and excess, compared to smaller and venture capital-backed companies (Fig. 6). This superior performance, coupled with smaller first-day returns, suggests that larger established companies are safer IPO investments.

Yet investors often prefer higher risk stocks because they have "lottery-ticket" investment preferences, meaning that they will pay for the small chance of a very large gain. The distribution of 5-year buy-and-hold absolute returns illustrates the point (Fig. 7). Over 60% of IPOs had negative absolute returns during those five years, but a very small handful produced total returns over 1000%. The prospect of investing in one of these extreme winners may contribute to the market overvaluing newly public companies in general, thus leading to the subpar average long-term returns.

Fig. 5: IPO returns hold up for six months, but tend to underperform thereafter

Absolute and excess six-month and five-year geometric returns 1980-2016



Source: Jay Ritter (https://site.warrington.ufl.edu/ritter/ipo-data/), UBS, as of 31 March 2019

Fig. 6: IPO long-term returns vary by issuer characteristic

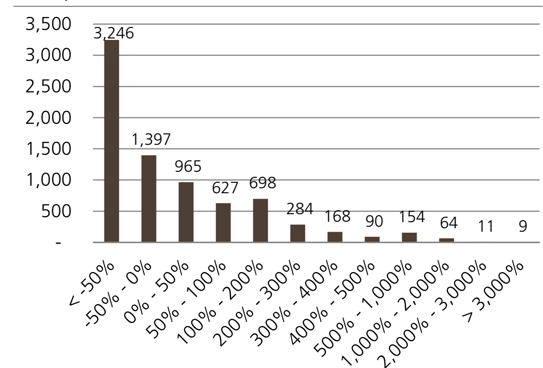
Three-year buy-and-hold returns from 1st day close, 1980-2016, absolute and in excess of risk-adjusted benchmark

	Absolute	Excess
Revenue		
> $1bn	42.70%	8.40%
< $1bn	20.20%	-8.90%
Capital funding		
Growth	55.40%	15.50%
Venture	20.30%	-3.00%

Source: Jay Ritter (https://site.warrington.ufl.edu/ritter/ipo-data/), UBS, as of 31 March 2019

Fig. 7: Five years after IPO, a handful of extreme positive returns, a majority of negative returns

Five-year buy-and-hold absolute returns from 1st day close, 1975-2011



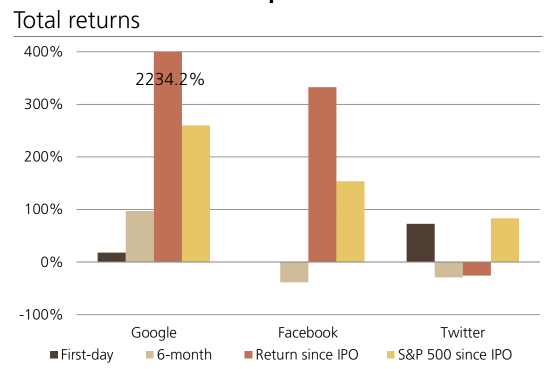
Source: Jay Ritter (https://site.warrington.ufl.edu/ritter/ipo-data/), UBS, as of 31 March 2019

The bottom line: IPOs can be attractive investments if you can get an allocation, but much less so if you're buying in the secondary market. Certain factors help explain the wide return dispersion at different horizons, but ultimately returns hinge on company-specific factors. This is why dispersion is high in the early months and years after these companies go public when the market is still learning how to value them. It's also partly why first-day returns aren't predictive for subsequent returns.

Google, Facebook, and Twitter collectively illustrate the dispersion of IPO performance and that the first-day return isn't a good indicator of future returns (Fig. 8). Twitter had the highest first-day return at 73%, but its total return since the first-day close is -25.5% versus 83.4% for the S&P 500. Facebook's experience is nearly the opposite. Its opening day suffered from technology glitches that contributed to a flat first-day return and six months later its price was down -38.4%. But from the first-day close Facebook has returned 333% versus 154% for the S&P 500. Google's first-day return is completely average at 18%, but its price has shot up ever since, with a total return of 2234% compared to 260% for the S&P 500. These results show the limitations of using average returns to draw conclusions about IPO performance.

Fig. 8: Google, Facebook, and Twitter IPO returns cover the full spectrum

Total returns



Source: Bloomberg, UBS, as of 31 March 2019

Assessing the 2019 IPO market

Expectations are high for the IPO market in 2019. A number of companies with estimated values greater than USD 10 billion have already filed to go public. This is less than 25% of the total number of unicorns in the US, but over 60% of the value. Based on these companies' potential offer sizes the total amount of IPO proceeds could be near USD 100 billion this year, a record amount in nominal terms. Assuming US and global growth improves throughout the year, as we expect, equity markets should continue to move higher, thereby keeping the IPO window open and the supply coming.

In 2013 the term unicorn was first applied to privately-financed start-ups with estimated valuations greater than USD 1 billion. At the time such companies were uncommon, but that's not true today. According to CB Insights there are 162 US companies that surpass the billion dollar threshold, with a combined estimated value of USD 572 billion. Globally the numbers double: 333 unicorns with a total valuation of USD 1.1 trillion.

Whether the IPO market fulfills the supply expectations depends on more than good economic and market conditions. There are legitimate concerns about high valuations and earnings potential for some companies, while there also has to be sufficient investor demand to absorb the supply of shares. The forecasted issuance may also not come to pass because companies simply choose a different path than going public.

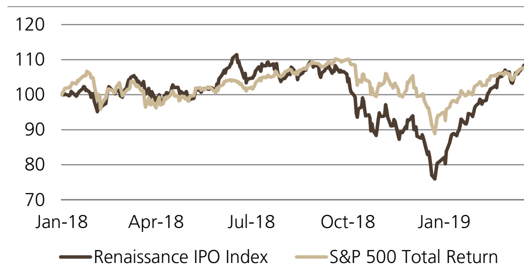
High valuations are a risk, but these aren't dotcom IPOs
Time will tell if current unicorn valuations are warranted, but they shouldn't be compared to dotcom IPOs because the companies differ in significant ways. The unicorns valued at over USD 10 billion have an average age of 10 years. In comparison, in 1999 and 2000 the average tech company was 4 and 5 years old, respectively, at their IPO. With age typically comes size, and most of the larger unicorns have annual revenues over USD 1 billion. In addition, many of today's unicorns have accessed growth capital in order to stay private longer. All of these attributes are consistent with moderate first-day returns and above average long-term returns, the exact opposite of the dotcom bubble experience.

Investor demand shouldn't be a constraint
Despite concerns, the market should handily absorb even a record supply of IPO issuance, for a few reasons. First, USD 100 billion of IPO supply is only 10% of the expected share buybacks this year. Add over USD 500 billion in dividends by US companies and investors won't lack for cash to purchase IPO shares. Second, active fund managers have an incentive to participate in IPOs because the large first-day returns can boost performance relative to their benchmarks and to ETFs, which are very limited buyers of IPOs in the offer. Finally, IPOs that offer compelling returns will attract buyers. The volume of IPOs this year will ultimately depend on the quality of supply, not on the amount of demand.

IPOs aren't the only option
Most unicorns, at least those for whom an IPO is a possibility, can still access growth capital in the private market, while M&A has become a much more common exit strategy than an IPO. Thus, two benefits to going public—raising capital and providing an exit event for current shareholders—are still available if these companies stay private. Given the time, effort, and cost of going and remaining public, fewer unicorns may complete an IPO than initial forecasts project.

For now the US IPO market is off to a good start in 2019. An index of recent IPOs is up 33% year-to-date versus 15% for the S&P 500, albeit after underperforming in the fourth quarter (Fig. 9). The average first-day return for IPOs this year is 14.7%, near the long-term average. Overall investor sentiment appears positive, but cautious and far from the euphoria that helped enable the dotcom bubble. All of this bodes well for the good start to continue into this year.

Fig. 9: Recent IPOs have far outperformed the S&P 500 in 2019
Renaissance IPO Index vs. S&P 500, base 100 on 1 Jan. 2018



Source: Renaissance Capital, Bloomberg, UBS, as of 1 April 2019

Market implications of an IPO wave

A strong IPO market is unlikely without good overall equity market performance, but there could be a positive feedback loop this year whereby a strong IPO market provides another tailwind for equities. This channel could work through two means. First, if the public markets validate the lofty unicorn valuations, it can help support valuations in general and specifically among unicorns.

Second, successful IPOs could attract more investors to equities, which is a small but positive technical factor supporting the market. It's notable that retail equity fund flows have been consistently negative this year despite the strong rally, as fears about the end of the cycle continue to weigh on sentiment. A shift in this mindset, helped by successful IPOs, could result in money flowing back into the funds, which should be a positive for the market overall.

A unicorn IPO wave could be a boon for equities overall, but the biggest impact should be sector-specific. While technology is central to the unicorns' business models, they operate in a number of industries across the tech, consumer discretionary, and communication services sectors, with some in healthcare and financial services (Fig. 10). As with the overall market, successful IPOs could support valuations. There is the possibility of "crowding out", in which investors sell existing holdings in these industries in order to buy the IPOs. If this happens, it's unlikely to be due to insufficient demand. Rather, investors may just prefer the newly public companies.

Another possible implication is that the unicorn IPO market goes global. The focus is currently on US-based companies, but a strong US market could induce unicorns elsewhere to follow suit. There are 333 unicorns globally, representing 27 countries and with a total estimated valuation of about USD 1.1 trillion (Fig. 11). After the US, China is next on the list with 91 unicorns, followed by the UK (16) and India (14). For this to become a global phenomenon equity markets in other regions would have to remain supportive.

Fig. 10: Unicorns operate in a number of industries

Category	Unicorns
Internet Software Services	82
E-Commerce	44
Fintech	32
Healthcare	30
On Demand	23
Hardware	14
Data Analytics	12
Auto Tech	11
Social	10
Media	9
Cybersecurity	7
Travel Tech	7
Other	44

Source: CB Insights, UBS, as of 6 March 2019

Fig. 11: Unicorns are geographically dispersed

Country	Unicorns	Est. Valuation (USD bn)
United States	162	572
China	91	326
Rest of world	27	38
United Kingdom	16	40
India	14	40
Germany	9	18
South Korea	6	24
Indonesia	4	20
Switzerland	3	9
Singapore	1	11

Source: CB Insights, UBS, as of 6 March 2019

Conclusion: A warm, not hot, IPO market

There have been suggestions that rather than boosting sentiment, a wave of unicorn IPOs could be a sign of a market top. The argument is that with the end of the cycle getting closer these companies are going public before a recession starts and their investors' ability to exit becomes challenged. But this assumes that the insiders running the unicorns have a better idea of the economy's health than the rest of the market, which is unlikely. The concern is also likely a by-product of the dotcom bubble, in which many of those companies went public at the tail end of a long expansion. Yet as mentioned, market euphoria and valuations aren't anywhere near the levels of that period, and therefore equity markets are less vulnerable.

It's too soon to say whether this year of the unicorn IPO will come to pass. Overall economic and market conditions have to remain favorable, which they should for a while. But the ultimate deciding factor is if these unicorn companies can actually live up to the hype. This won't be determined on the first trading day, as past high profile IPOs have demonstrated. As a result, we believe this year will probably play out as a slow burn rather than as a hot market.

Appendix: The Underpricing "anomaly"

Mid-teens average first-day returns to IPOs have long looked puzzling, implying that companies consistently "leave money on the table" by underpricing their shares in the offering. Since it's unlikely that so many companies would continually make this mistake, there are many theories for why underpricing is a rational outcome for issuers and investors:

- **It's compensation to investors for providing information and participating.** Banks engage the same institutional investors repeatedly when underwriting IPOs. In return for these investors providing their assessment of the company and regularly buying new offerings, the banks intentionally underprice IPOs as a form of compensation. Evidence on the pricing and allocating of shares is consistent with this underwriter-investor dynamic.
- **It's compensation for issuer uncertainty.** Investors in IPOs take on the risk that the offering won't be successful and that the price falls once shares start trading. The greater the uncertainty about the company and its value, the larger the necessary underpricing to entice investors to participate. Studies regularly find that measures of uncertainty about the companies are positively correlated with first-day returns, consistent with the issuer using underpricing to pay an IPO insurance premium to investors.
- **It's compensation for the "winner's curse".** This is a phenomenon whereby winning bidders in an auction overpay because their estimated value for the item was higher than those of everyone else. For IPOs, the implication is that investors who successfully bid for shares risk overpaying, and therefore the offer price has to be lowered to reduce this risk.
- **It's a marketing cost for the issuer.** Very large first-day returns tend to get significant media and investor attention, which can also raise general public awareness of the company. Thus, part of the underpricing can be thought of as an implicit marketing cost that is incurred to help build brand awareness. This is most applicable for companies with a large retail consumer base.

Another reason why underpricing is tolerated is that it doesn't actually result in much money left on the table. Only about 20% of a company's shares are sold in a typical IPO and relatively few of those are shares sold by current shareholders. Instead, when current shareholders sell months later, they're likely doing so at the higher market price. Underpricing does lead to current shareholder dilution, but this cost is far less than a simple measure of the underpricing suggests.

Rather than equate the entire first-day return with rational underpricing, it's possible that the first-day closing is "overpriced" relative to the issuer's fair value. This can happen if investors are irrationally optimistic about the company, but it's also possible with perfectly rational investors. They just have to differ in what they think the company is worth and short selling has to be constrained, which is the case for new IPOs. Then the initial secondary market price is set by investors with the highest valuations, without incorporating pessimistic investor views.

Appendix

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