Coming Full Circle

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Figure 1: The Return to Amsterdam of the Second Expedition to the East Indies by Vroom depicts the return of trade ships from the East Indies full of spices. These exact ships were part of the precursor to the Dutch East India Company, and this painting shows their triumphant return from their trading journey. The Dutch East India Company is generally thought to be the first ever public company. Anyone was able to buy shares trading publicly in open-air markets in Amsterdam, forming the first open outcry trading pits. This form of trading would be all but killed as a result of the electronification of markets in the 2000s.

1 Background

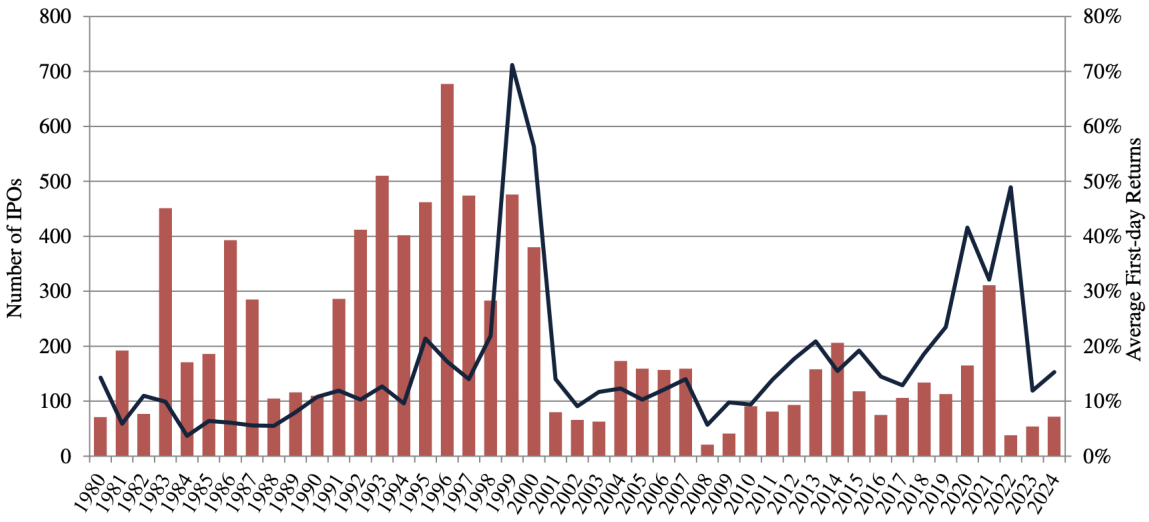
The IPO market forms the backbone of the US financial system. IPOs allow the public to access the next-generation of valuable companies in their infancy, allowing everyday Americans to benefit in the upside of the financial economy.

Companies also benefit from accessing public markets, especially at the earliest in their journey. Public companies are able to access cheap capital, benefit from marketing benefits of IPOs, and raise funds using equity financing instead of debt financing. IPOs also help the public understand where

value is flowing and help companies figure out what their customers and investors find valuable. Public markets are the ultimate prediction market.

Despite these benefits, the number of public companies has been decreasing since the 1990s.

Figure 5: The number of IPOs and average first-day returns per year, 1980-2024



The number of IPOs (bars) and equally weighted average first-day return, by year, for 1980-2024 for operating companies going public with traditional IPOs on major U.S. exchanges (ADRs, penny stocks, etc. are excluded. See Table 1 for details.)

Figure 2: Source: IPO Statistics from Jay Ritter

There are a lot of well-researched papers (1, 2, 3) about where all the new IPOs have gone, with most agreeing that it is not just one factor. Key issues include new credible alternatives for financing through private credit, the increased regulatory burden, and structural changes in how the economy works. Most of all the IPO market structure has barely changed since its inception in 1602 with the aforementioned Dutch East Indies Company.

In this short piece, I'll focus on the first reason, which is credible alternatives to financing. In future pieces, I will discuss the structural changes in how the economy works.

2 Paying your tithe

The IPO market is dead and we killed it.

Despite all the traditional indicators for the IPO window being positive, there have continued to be fewer and fewer IPOs. The reasons are somewhat obvious if you lay them out. IPOs are a huge and costly undertaking, especially when compared to continually raising private rounds.

Venture funds have largely adapted to this reality and shifted from being small bespoke shops focused on finding new tech companies to mega-funds which are able to finance the mega-rounds required for these billion dollar private companies to meet their capital requirements.

At the same time, the IPO market has only gotten more toxic for new companies. Companies are able to get 20-30% higher offers from raising in private rounds when compared to public rounds, so they continue to do so. Why would they not? 20-30% could be years of growth culled by going public. This 20-30% haircut is generally referred to as "IPO underpricing".

This underpricing was very public in the Circle IPO. Rapid shifts in the political and economic landscape caused the price found by Circle underwriters to collapse. Instead of repricing the IPO, the Circle underwriters decided to pick the top of the range and kick off trading. The very next day, the Circle shares opened up 150% higher than the IPO price, resulting in a loss of $1.72 billion in one day for Circle shareholders.

For those who don't know, Circle sells shares to underwriters at the IPO price ($31) and then underwriters (generally) sell those shares to banks immediately. I will note that IPO flipping rules do stop these large investors from immediately selling their shares, which is beneficial. However, this difference in first day returns generally is thought to flow to the underwriters as a form of indirect compensation.

Generally, companies that IPO want a price increase on the first day to signal demand for their assets at the offering price, known colloquially as the IPO pop. However, one can imagine a market where this IPO pop value flows to the company and not underwriters, removing this principal-agent problem baked directly into the structure of IPOs.

On the IPO pop, we see many issuance events in crypto have an early pop as a result of latent demand and price discovery. The key issue however is capturing that early latent demand for issuers, instead of the earliest buyers. This type of loss is known as sniping. In current static bonding curve designs, the value of the latent demand goes to early buyers instead of issuers, which is why we created dynamic bonding curves to address this value loss with new token issuance.

Why is Circle not up in arms about their loss? There is an entire paper written about this question. It's because they just made a lot of money from the IPO and it's very hard for insiders to know what was fair ahead of time. Generally participants in the IPO are only selling a small amount of their shares, meaning they see the rest of their shares skyrocketing and as a result, they are happy.

3 Improving Price Discovery

As I've previously stated in earlier pieces, spreads (and cost in general) for trading has collapsed since the dawn of electronic trading - a decrease of almost 85%. However, during this time, the cost of entering the public markets via IPO has stayed the same (or even gone up!).

Trading these days is almost entirely done by algorithms at speeds faster than any human, effectively meaning that price discovery is mostly completely automated. One important note is that this type of trading is generally more akin to micro price-discovery as it is optimizing on a shorter time frame. However, if you squint only a little bit, you can see application of these (or new types) of algorithms to longer-term asset pricing.

Market designers can enable global price discovery by giving a profit incentive to traders to price assets. This would open up pricing up to a global marketplace of actors, with profit flowing to those who are the best at pricing new assets, but with improved pricing for all asset issuers.

Creating a profit incentive for pricing assets is traditionally difficult with central limit order books, as the same traders are generally both pricing the assets and providing the liquidity. However, with automated market makers, this relationship is desynced. There is one class of users who provide

liquidity (LPs) and another who price it (arbitrageurs). LPs pay arbitrageurs for their pricing power in the form of losses from arbitrage, but LPs greatly benefit from the accurate pricing through in trading fees.

This is the same relationship for IPOs. The company or the current asset owners put up funds that need to be priced, and market makers can price them. While the company will leak value via "arbitrage" to price discovery, the mechanisms can be designed to limit this loss, similar to limiting losses for LPs in traditional AMM markets.

This is what we have built with Doppler Protocol. By creating a price discovery auction powered by the global market, price discovery both gets more accurate, cheaper, flows to the issuer, and can power the long-tail of assets.

The IPO market is dead. Long live the IPO market.