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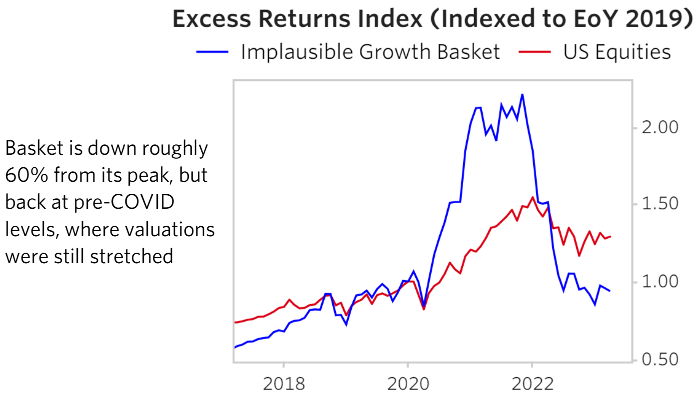
Stocks Down 60% Can Still Be in a Bubble

Prices for the frothiest segment of the US equity market have fallen significantly. But with cash flows deteriorating fast and time to prove out unprofitable business models shrinking, current pricing still looks optimistic.

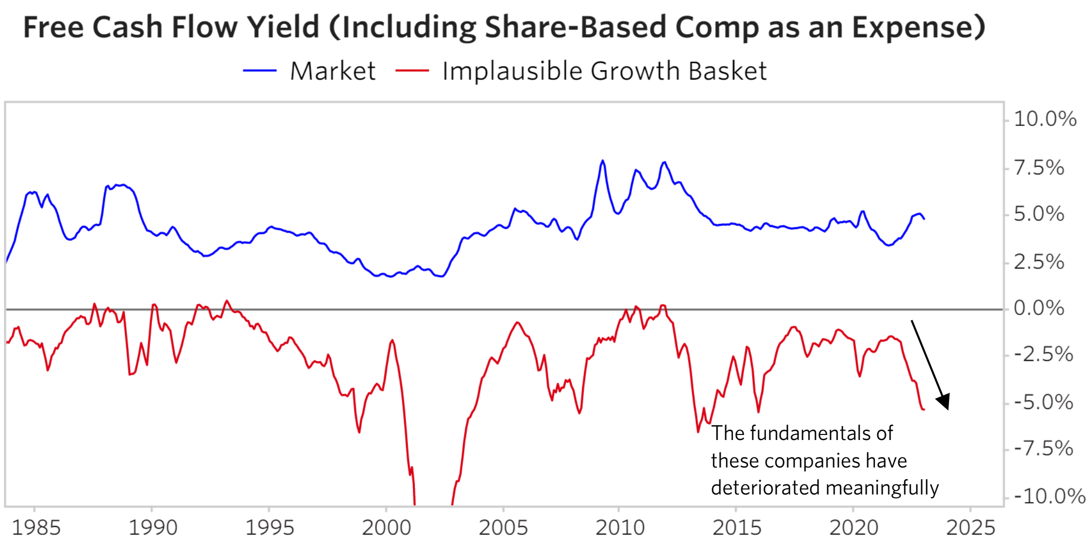
Coming out of COVID, a growing segment of the US equity market was in a bubble. A lot of the frothy dynamics stemmed from a realization over the prior decade that technological change would allow some companies to scale to unprecedented size at almost no marginal cost. Investors looking to find the next Google or Facebook were willing to give almost infinite runway for companies to figure out profitability, and the supply of early-stage companies chasing this dream mushroomed. And the post-COVID environment seemed at first to be structurally supportive for many of these companies. While some winners are still likely to emerge, it is highly unlikely that as a group these companies will turn out to be good investments while competing with each other and the existing mega-cap tech companies. The historical returns of buying a basket of companies priced to succeed so spectacularly has been poor, and even in the 2010s these stocks were only able to keep up with the broader equity market through expanding multiples (not actually achieving the fundamental growth that had been priced in).

Finding the winners among these types of companies early is always hard. But the risk/reward trade-off of trying to find winners is even more acute when companies start at high levels of valuation, as has been the case in recent years. We first discussed this dynamic a couple of years ago here. In this *Observations*, we provide an update by focusing on a group of companies we call "implausible growth" stories. Looking at how well stocks like this have done over time, and looking back to 2000 and the 2010s in particular, offers some useful insights on what to expect on average from here.

Over the past year, as the Fed shifted toward tightening, some of the COVID tailwinds proved to be one-offs, and as concerns about economic prospects grew, the implausible growth companies saw a correction in prices of close to 60%. Even still, valuations are implying a set of outcomes that look unlikely to us. These companies are often relatively new and low-margin businesses that are priced for extremely rapid growth and margin improvement going forward. This cohort spans across sectors but is most concentrated in tech/cloud, with constituents in disruptive consumer service businesses, internet retailers, green energy, and biotech. Just because the prices of some of these stocks have fallen by more than half doesn't mean the bubble won't have a long way to go to unwind. Just as rising prices can sometimes be reflexive, lowering the cost of capital and attracting flows, the opposite can be true on the way down. Share-based compensation is a huge part of expenses for these companies that works less well when prices are falling, and the drop in prices compresses the time frame they have to prove their business models or adapt. Even with the price decline, cash flow yields look more negative today than a year ago. And as we scan the US equity market in aggregate, almost 5% still looks to us like expensive lottery tickets.



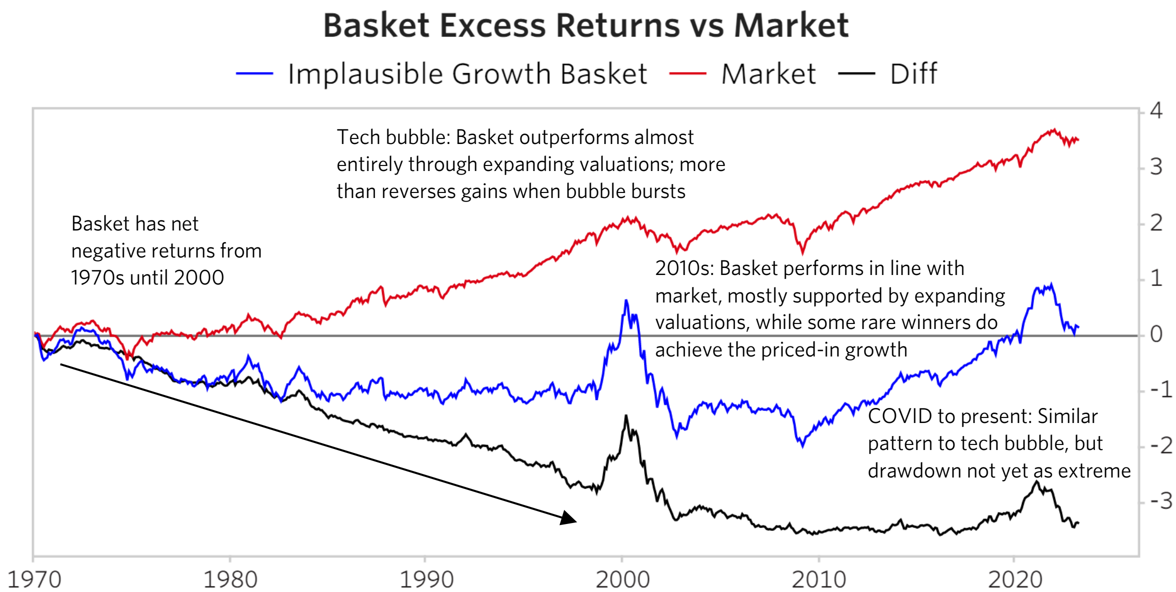
The implausible growth basket achieved its post-COVID returns despite remaining very unprofitable in aggregate. From here, if anything, the fundamentals are deteriorating rather than moving in the right direction to meet high expectations. A lot of the businesses in the basket today look unlike the archetypical high-margin software company that was able to sustain fast growth rates and high margins. Roughly 85% of the companies in the basket (closer to 50% in market cap terms) are outright unprofitable, and many of the business models are still unproven. On top of that, financing this cash flow gap is more challenging than ever in the current environment. Tightening has increased the cost of capital, and many of the newer companies were sustained by funding from past capital raises but are now running low as the startup ecosystem dries up. For our measure of cash flow below, we include share-based compensation as a cost. Falling share prices are making it obvious that this is a part of the cost structure that will need to be paid (versus attracting people on the hope that share prices will rise more).



Note that some of the decline in the cash flow shown above is due to changes in the composition of the basket, as some companies have fallen enough to make their pricing less unreasonable. But the current mix of about 100 companies has seen a material decline and is about as unprofitable as any such basket in the past.

The Performance Track Record of Companies with Implausible Growth Stories Reinforces How Rarely What Is Now Priced In Occurs

When we look at the returns of a basket of stocks that are discounted to both grow revenue at an exceptional pace and meaningfully expand profitability (typically off of a low base) through time, they are quite poor. The only periods of significant outperformance were the tech bubble and the more recent COVID bubble run-up. But it is also interesting that the basket roughly matched the strong market returns in the decade prior to COVID.

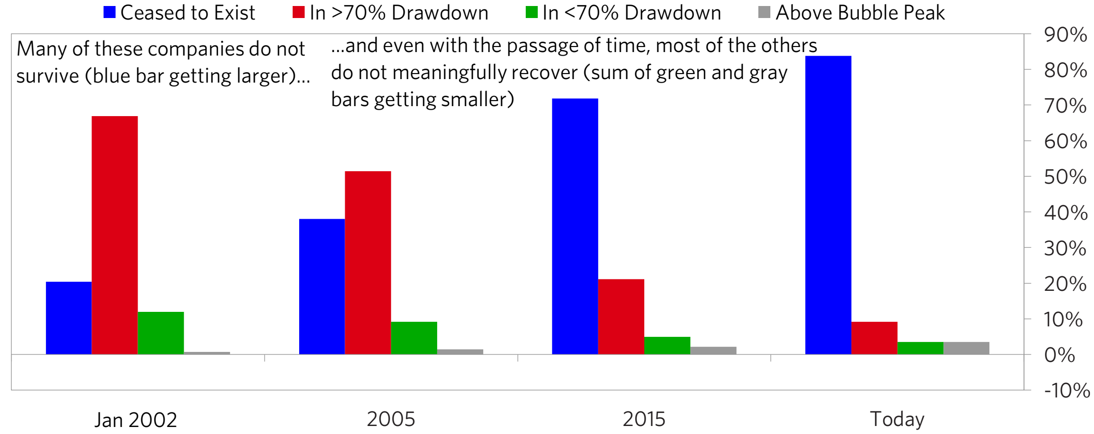


Catching Falling Knives: Buying Stocks Down 70% Following the Tech Bubble

As an analogue for where we could be today, we looked at what happened to the companies in this basket during the tech bubble. The chart below illustrates the range of outcomes at various points in time for the constituents at the heart of the tech bubble (i.e., the beginning of 2000). The key observation is that **even after these companies were in 70%+ drawdowns (even larger than the drawdown today), enough of them went under, fell further, or traded sideways to make them a bad bet**. For example, in 2005, five years after the bubble burst, the portion of the starting basket that was recovered or in a smaller drawdown was roughly the same. Many of the companies then likely just had unprofitable business models or simply ran out of rope in an unfriendly capital market environment. Of course, there are differences between the tech bubble and today. The bubble was much larger then, and even fewer of the companies were profitable even during the run-up—but the similarities are still striking.

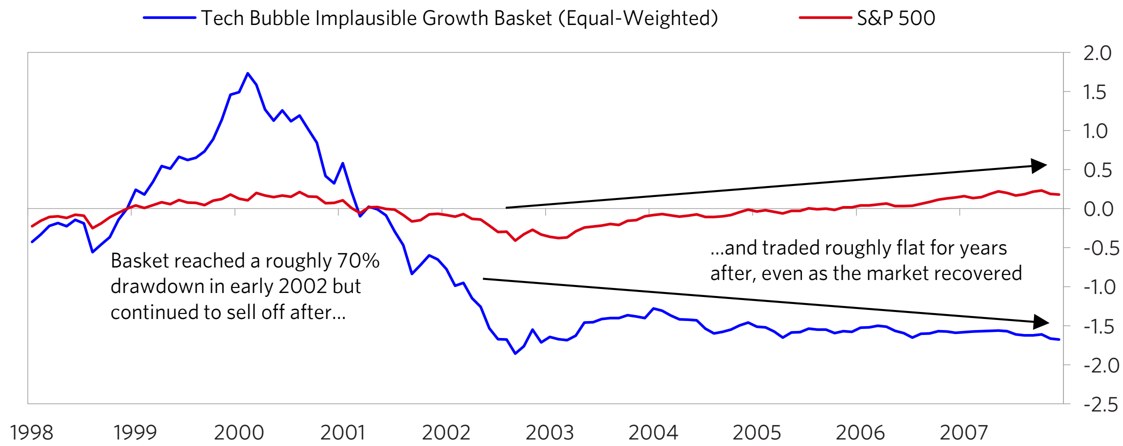
Looking further out, of the tech bubble implausible growth names that still traded in the mid-2010s and/or trade today, more than half stayed in substantial drawdowns. There is a strong right tail (e.g., Amazon falls in the 3.5% of the companies that are trading above their tech bubble peaks today), but **the dispersion of outcomes shows how the aggregate basket is a bad bet when the individual companies are all priced to be in this right tail**.

Outcomes of Implausible Growth Basket in Tech Bubble (Share of Starting Basket)



Below, we show the returns of holding this basket versus the market in the tech bubble and for a few years after. Even if you waited to buy until mid-2001, when this basket had been selling off for almost a year and a half and was in a drawdown comparable to the basket today, your returns would have sharply underperformed the market, because the companies continued to sell off and then traded roughly flat for years as the market recovered.

Log Price Returns (Indexed to EoY 1998)



For additional context, we show some of the largest companies in the basket during the tech bubble. Companies like Amazon and eBay are the outliers, and even those winners took a meaningful amount of time to recover from their drawdowns. And the table below doesn't include many of the smaller names that didn't make it.

Outcomes of Largest Names in Basket in 2000

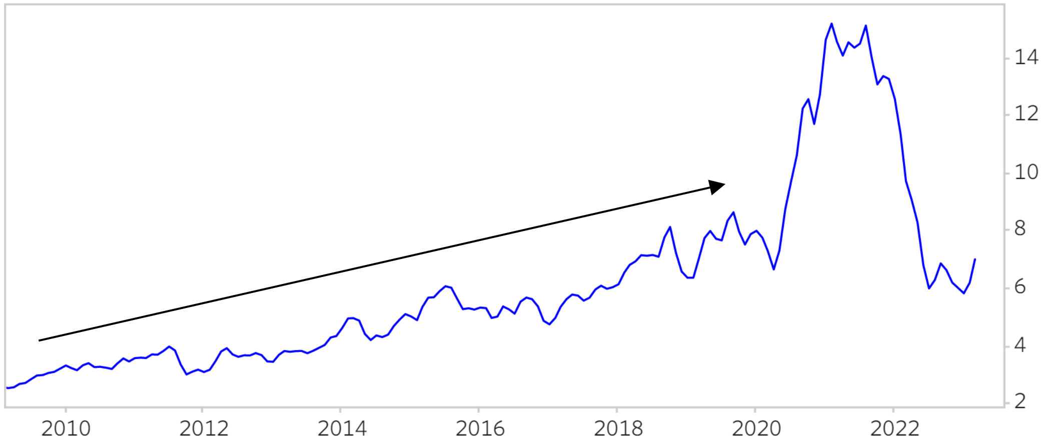
Company	Mkt Cap in Jan 2000 (USD, Bln)	Price Change from Tech Bubble Peak in: 2002	2005	2015
Qualcomm Inc	116	-75%	-58%	-29%
Altaba Inc	114	-92%	-67%	-59%
Starz	73	-56%	-65%	-95%
Viavi Solutions Inc	56	-95%	-98%	-99%
Nextel Communications Inc	37	-89%	-61%	-
Veritas Software Corp	37	-70%	-82%	-
Sprint PCS Group	35	-75%	-	-
Steel Connect Inc	34	-99%	-99%	-100%
Infinity Broadcasting Corp	31	-	-	-
Broadcom Corp	28	-83%	-87%	-75%
Amazon.com Inc	26	-84%	-50%	312%
Verisign Inc	20	-88%	-90%	-78%
eBay Inc	16	-43%	57%	104%
Exodus Communications Inc	15	-100%	-	-
i2 Technologies Inc	15	-92%	-99%	-
At Home Corp	15	-100%	-	-
Liberty Digital Inc	15	-96%	-	-
Telephone & Data Systems Inc	15	-35%	-38%	-81%
Gemstar-TV Guide Intl Inc	14	-80%	-94%	-
DoubleClick Inc	14	-91%	-94%	-
BroadVision Inc	13	-97%	-100%	-100%
Conexant Systems Inc	13	-87%	-98%	-
NetApp Inc	12	-86%	-75%	-70%
BEA Systems Inc	11	-77%	-89%	-
PMC-Sierra Inc	11	-90%	-96%	-96%
Vignette Corp	10	-95%	-98%	-
AboveNet Inc	10	-99%	-100%	-

What Worked in the 2010s Was Mostly Expanding Multiples, Not Extreme Sales and Earnings Performance

The 2010s was one of the longer periods where we saw companies with this type of pricing perform reasonably well, leading up to the COVID run-up in prices. As in any bubble, there is often a kernel of truth to the narrative. For example, going into the last decade, markets underappreciated how special successful SaaS companies can be, given basically zero marginal costs and often sticky revenues. But despite that, in aggregate the strong performance of these implausible growth stories in the last decade came in large part because of multiple expansion, not because their economic outcomes were particularly different. The share of companies that grew revenue 20% or more was still small, and many saw mostly flat margins. **In other words, strong performance was largely driven by lofty expectations that continued to be extrapolated forward.** It also continued to provide cheap capital for all of these companies to keep trying (or growing without improving profitability).

The chart below shows the aggregate price-to-sales ratio for the implausible growth basket through time. In the decade pre-COVID, valuations more than doubled, from an already high price-to-sales ratio of ~3 in 2010 to almost 8 in 2019. This significant expansion off a lofty base was a major driver of returns.

Implausible Growth Basket Price to Sales



Under the hood of this aggregate, there are outlier companies where the story was different. For example, in the 2010s Amazon (one of the largest basket constituents at the beginning of the decade) saw outstanding earnings and sales growth that exceeded expectations (in addition to multiple expansion). But this extraordinary earnings growth was the exception to the rule: most of the companies that outperformed saw only reasonable earnings growth and gained mostly through a significant valuation expansion.

Not Many Companies Accomplish What Is Priced Into This Basket

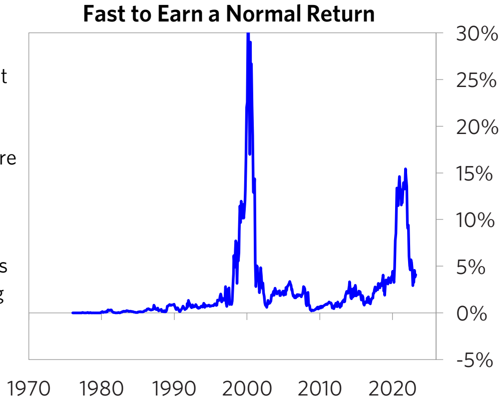
Knowing the base rates (i.e., how often what is priced happens) is useful perspective.

The chart on the left illustrates the share of the US equity market that is discounted to grow at a very high rate (20%+ earnings growth for a decade or more), which we see as a bit under 5% of the market today. This is meaningfully down from its peak in 2021, when ample liquidity was supporting these companies (the number of companies in the basket has fallen from about 150 to 100, and of course the prices are down by more than half).

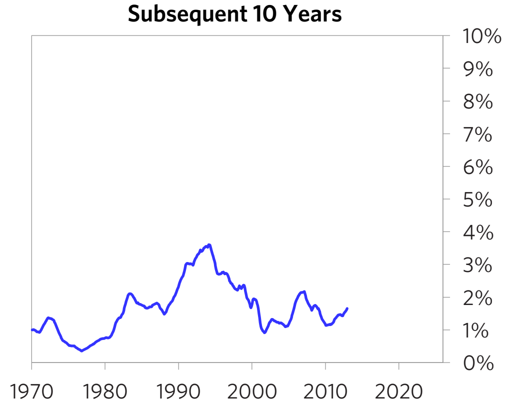
As the chart on the right shows, the share of companies that achieve a decade of 20% real revenue growth is small (~1.5% typically). And of course what is needed now is even rarer, as material improvements in margins are also required off today's current low levels of profitability for the basket.

Share of Market That Needs to Grow Fast to Earn a Normal Return

Over 4% of market priced to grow extremely fast—over twice the share that historically does (1.6%) and much larger than the share that does so while improving margins (<0.5%)

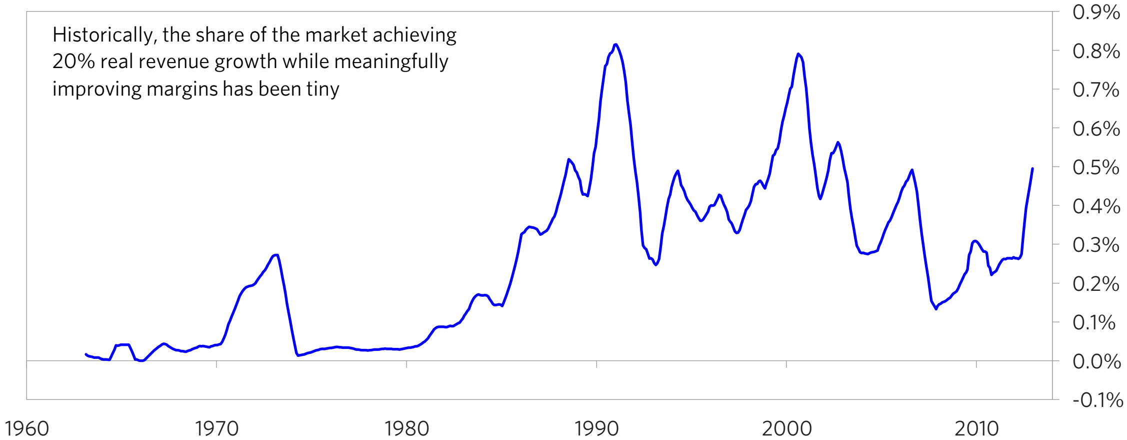


Share of Market That Grew Fast Over Subsequent 10 Years



Achieving both rapid revenue growth and material margin expansion, as is discounted for the implausible growth basket shown above, has historically been quite rare (i.e., around 0.5%). This already low historical success rate could be even harder to achieve now given that a lot of these companies will potentially need to compete with not only each other but also more established and profitable companies to achieve such growth. For example, a lot of this basket is tech/cloud companies, which compete among themselves and to some extent with mega-cap tech giants.

Share of Market Able to Achieve Both High Revenue Growth and Margin Expansion Over Subsequent 10 Years



And even for companies that achieve these economic outcomes, the market returns are heavily influenced by starting valuation. A lot of the companies that grew fast and increased profitability did well in terms of returns because this outcome wasn't discounted.

The chart below shows companies that subsequently had 10-year real revenue growth greater than 15% per year, broken into those with starting price-to-sales ratios above 6 and below 4. Even among the strong-growth stories, those with stretched valuations going in tend to meaningfully underperform the market because their valuations create an implausibly high hurdle rate to meet expectations.

Subsequent Excess Returns vs Market

For the basket today, it is true that prices are meaningfully down from peaks, as are crude measures of valuation that don't account for profitability such as price-to-sales ratios. But that still doesn't change the fact that in aggregate these companies are even more highly unprofitable than before (particularly if you add in stock-based compensation) and have business models that may not ever be profitable. They would need to grow revenue and margins at a rapid pace to achieve normal returns of, say, 10% for the risk that investors are taking for investing in them. Achieving this in a tightening environment with rising cost of capital (and as stock prices decline, a falling currency to attract employees) and into a likely recession will be doubly difficult.

If the significant tightening to date flows through to a meaningful US recession, as we expect, the headwinds will be even larger. The significant resurgence in retail purchases of US equities this year has been a notable support to the bubble stocks in an otherwise unfavorable environment. It will be hard for additional new retail equity purchases to continue at such a quick pace, especially if the economy slows and household incomes come under a bigger squeeze. If a recession materializes, we expect that this flow would pull back meaningfully.