# Is the Air Coming Out of the Bubbles? And Is That Healthy or Ominous?

As the Fed has shifted toward tapering and a slowing in the flood of liquidity has begun to get priced in, we are seeing cracks emerge in the bubbliest segments of the market.

**DECEMBER 10, 2021** 

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COVID has caused our bubble measures to flash red in certain pockets of global markets. We have studied bubbles and built measures of whether economies or individual markets are in them. By our measures, there are likely bubbles in emerging technology stocks, SPACs, cryptocurrencies, NFTs, collectibles, etc. These bubbles have been particularly pronounced in the US, where households piled savings into the markets as their incomes were supported by massive government checks, their spending was curtailed by the lockdown, and lower-cost trading driven by competition and technology made investing (and speculation) easier than ever before.

All bubbles eventually deflate and pop when they run out of the key fuel inflating them, though the timing is generally highly uncertain. The recent market action is interesting on this front and raises the questions of whether modest Fed tightening could begin deflating these bubbles and whether that would be healthy or ominous. Even though the overall markets remain near highs, a very large percentage of the market is in significant drawdown, and the bubbliest segment of the market is now down more than 25% from its peak. This is occurring as the very large trading volumes in speculative instruments have slowed meaningfully from their peak levels, and we have seen sharp hedge fund deleveraging in recent weeks. Bitcoin and other cryptocurrencies are down 20% or more, and the pipeline of IPOs (and SPACs) stays subdued.

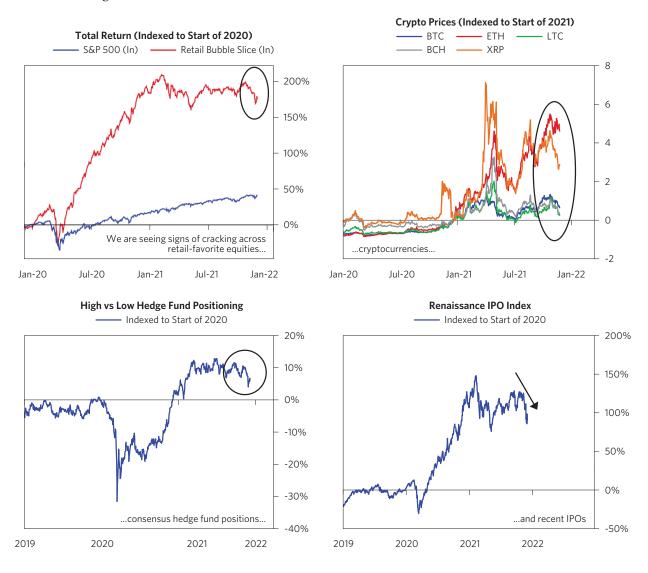
While taking some of the air out of bubbles is healthy and the Fed would probably be happy to see it, the second- and third-order implications of deflating bubbles are not always easy to manage or desirable. Below, we put some of the recent market action in bubbly areas in context and show some of the consequences we will be watching for. The key channels we would note are:

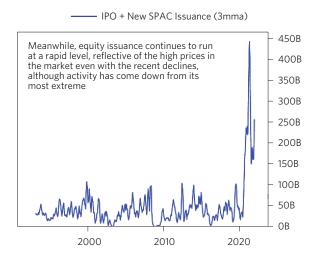
- **Liquidity Sensitivity:** While the news about Omicron provided the catalyst for an acceleration in mid-November, this is occurring amid the backdrop of a gradual withdrawal of liquidity and the Fed's seemingly greater tolerance to remain on the tapering path, even when considering the greater cone of uncertainty. As we have noted before, the aggregate US equity market has materially benefited from the backward-looking wave of liquidity; the overall US equity market today is the most sensitive to a liquidity withdrawal that it has been in over two decades. Any sizable correction will most likely be met with offsetting policy support, but it could get painful in the short term.
- **Sentiment and Spillover Effects:** Retail activity has been especially pronounced for certain stocks in the emerging technology segment. However, participation has been much broader: substantial retail purchases have ranged from the tech giants to beaten-down sectors like airlines and oil companies. If the bubble turns, retail traders, especially those who have used leverage either directly or via options, may be forced to liquidate other positions, widening the breadth of the sell-off.
- Company Spending and Private Funding Markets: Many of the emerging technology companies that have seen the strongest performance have used the capital raised to fund R&D, huge online advertising expenditures, and spending on cloud services to run their software platforms. These efforts funnel meaningful revenue to companies that are very important to broad equity investors—namely Amazon, Google, and Microsoft, who provide cloud computing capacity, and companies like Facebook, Google, and Apple, who provide online advertising and dominant platforms to reach customers. If these supports were to turn, tech's earnings growth could disappoint their very high expectations. In addition, the performance of these publicly listed emerging tech companies matters for the sentiment, returns, and valuations for the broader private markets, which have experienced explosive growth over the past decade.

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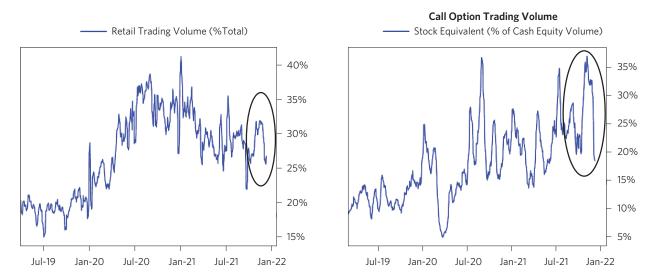
- Wealth Effect: Because mark-to-market gains from speculative investments (and the broader boom in financial asset returns) are easy to see and act on, they help support spending on the margin. In the short term, paper wealth can have a significant effect on spending, particularly when there is so much new wealth created. The fact that a lot of it is accruing to retail investors is likely to magnify the translation to spending, as was the case in the late 1990s. We saw the relationship between asset returns and retail spending growth tighten quite a bit in the tech bubble, and we are seeing it tighten recently as well. As a result, a turn would likely be at least a short-term drag on real economic growth.
- **Limits on Policy:** While growth and inflation are the primary policy consideration driving the Fed's policy choices, on the margin, the presence of asset bubbles does constrain policy makers' flexibility. Especially as they grow larger, these bubbles will become a bigger input in policy makers' decision making since their bursting can have the knock-on effects discussed above.

As you can see, a number of the most speculative segments of financial markets were down from highs even before the emergence of Omicron.





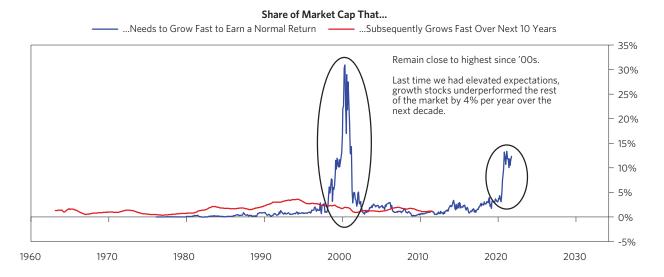
When we size the retail flows across the different channels, it looks like while the overall peak retail impact is behind us, they remain a dominant force in the markets. Based on our timely measures, retail investors continued to buy the dip during the recent weakness. While both retail cash equity and option trading have slowed in the last few days, whether this weakness rebounds or continues will be a material driver of when and how fast this bubble deflates from here.



### So Far, the Correction Is Small, and What's Priced In for the Frothiest 10% of the Equity Market Still Looks Very Aggressive to Us

The correction so far has been miniscule compared to the run-up, and the chart below illustrates the share of the market that is discounted to grow at a very high rate (20+% earnings growth for a decade or more), which we see as around 10% of the total market cap today. The red line shows that it has been very rare for companies to match what is currently discounted for today's basket. Only about 2% of stocks experience real annualized revenue growth of at least 20% for a decade. Comparing the current group of companies to some of the iconic businesses (e.g., Amazon, Alphabet, Facebook, Microsoft, Salesforce, Netflix, Nvidia, Lululemon, Monster, Chipotle) that were wildly successful investments over the last 10–15 years:

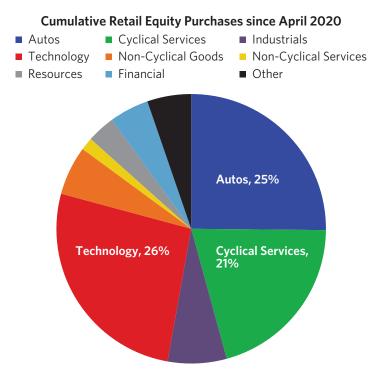
- The companies in today's group are less mature, with less revenue and lower margins. Roughly half
  have not yet achieved profitability. The prior cohort was profitable and was able to generate 30%
  returns over the last decade without much of a change in margins.
- More importantly, starting valuations are much higher. To generate 8-10% returns, these companies will need to grow at least 20% a year for a decade. In addition, while growing at an at least 20% annualized rate, they will also have to increase margins. For the unprofitable half of the cohort, the change in margins will have to be big. Historically, the combination of 20% growth and similar margin expansion has occurred in fewer than 0.5% of companies.
- The flip side is that if Amazon, Alphabet, Facebook, Microsoft, Salesforce, Netflix, etc., were priced like today's companies a decade ago, their rapid growth would have generated returns of about 10% instead of the 30% annual returns they produced.



Below, we walk through the key linkages via which the popping of the bubble could matter for markets and economy.

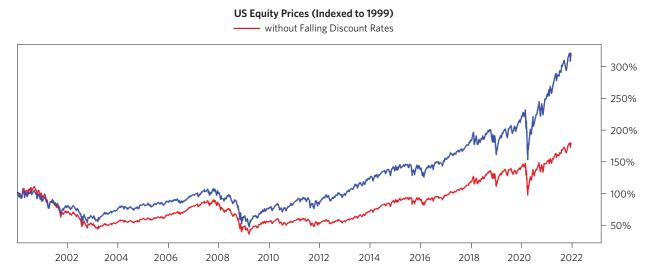
### Potential Impact on Sentiment and Spillover Effects

While the speculative flows have created bubbles in a narrower segment, the bubble stocks are not the only stocks owned by retail investors. While some sectors and companies have received a disproportionate share of flows (like Tesla, which has received 25% of the flows despite being a much smaller share of the market cap), technology companies like Apple, Amazon, and Microsoft have also seen significant inflows from retail. Similarly, we have also seen retail participate in the rotation-toward-value trade this year. If the bubble turns, retail traders, especially those who have used leverage either directly or via options, may be forced to liquidate other positions, widening the breadth of the sell-off. In addition, a turn in this segment will likely have a negative sentiment effect on the broader market.



# If It's a Withdrawal of Liquidity That Causes This Bubble to Burst, There Will Be Broader Repercussions

While we would not consider the conditions in the broad equity market a bubble, the same conditions that are contributing to the emergence of bubbles—namely a flood of liquidity that is creating a decline in discount rates and tighter risk premiums—have been a big support to the markets overall. As such, a slowing in the liquidity that results in rising discount rates and higher risk premiums, which is the lever that is most likely to pop the bubbles we are seeing, could also be a material drag on the overall market. The chart below isolates the impact on the equity market from just the falling bond yields since 2000 (the diff between the blue and red lines).

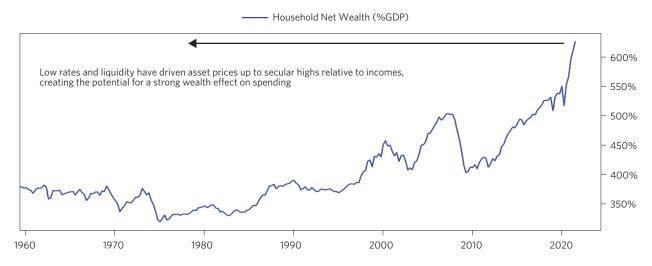


This drag would occur at a time when the US-listed equity market overall is unusually sensitive to liquidity conditions and less sensitive than normal to shorter-term economic growth.

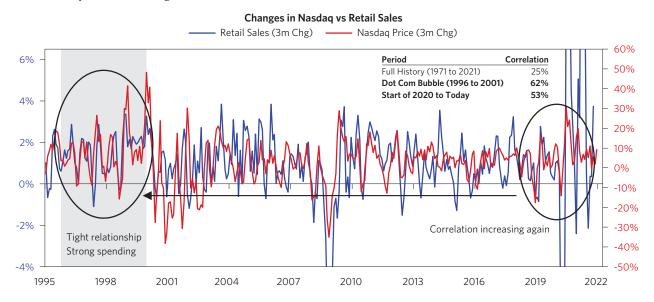


#### Wealth Effect

The result of the high level of household wealth combined with the warp-speed reflation in asset prices we've seen over the last year is that households are now experiencing the fastest increases in wealth relative to income in recent history. And today, as in the '90s, much of the increase in wealth has come from liquid and mark-to-market financial assets (i.e., equities), making it easier on the margin to see and spend gains.

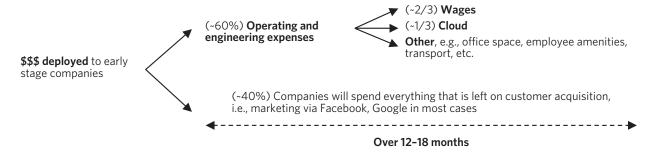


In the '90s, households did choose to cash in and spend the gains. Back in that period, there was a very tight link between short-term moves in the Nasdaq and retail sales. This support from households spending down their wealth added to the strong cyclical environment and helped drive overall spending in the economy to new highs. The table and chart below show the relationship between spending and the Nasdaq; as you can see, it is typically much looser. The basket of winners today is somewhat different from the Nasdaq, but the same point holds. We had already begun to see a tighter linkage between spending and equity prices in 2018-19. We are seeing this spending begin to be unleashed as the economy reopens, and a reversal in market performance would likely become a drag on this in the short term.

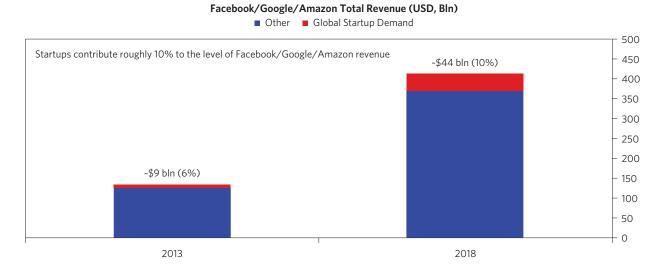


## Impact on the Private Ecosystem and Earnings of the Tech Giants

As noted, the performance of these publicly listed emerging tech companies matters for the sentiment, returns, and valuations for the broader private markets, which have experienced explosive growth over the past decade. These companies, as well as the broader venture capital ecosystem, have important implications for the earnings of the most important companies in the S&P 500. As shown below, early stage companies deploy a significant share of their cash on things like cloud services and online advertising, which then ends up being revenue for the US tech giants.



Because most of the spending ends up in the hands of the big online advertising platforms to fund customer acquisition (Facebook, Google) and cloud providers (Amazon, Microsoft), these companies end up earning significant profits from startup spending. We estimate that close to 10% of total Facebook/Google/Amazon revenue now comes directly from spending by global startups.



Given this holistic picture, we are closely watching the evolution of these bubbles.

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