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Decreasing Number of Public Companies

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Recently, multiple research and press articles have discussed the apparent drastic decrease in the number of listed companies in the U.S. Some articles state decreases of 20% to over 50% to support claims that the U.S. stock market is getting concentrated or that private equity investing should be preferred over public equity investing.

A definitive conclusion regarding the attractiveness of private equity relative to public equity in the context of decreasing numbers of public stocks escapes the breadth of this paper. The pages ahead will show that there certainly are fewer publicly traded companies than in years past, and certain regulatory changes may incentivize private companies to stay private for longer. However, there is no conclusive evidence that the U.S. stock market is overly concentrated, or that institutional investors should consider any changes to their strategic allocations to public and private equities based *specifically* on this issue, holding all else equal.

Decreasing number of public stocks

There is no denying that there are fewer publicly traded companies in the U.S. today than there were at time since 1980. However, as is the case with most statements, context matters greatly.

Chart 1 shows the number of public companies from 1980 through 2017. The selection of the starting point matters greatly in the interpretation of the results. Using the peak number of listed companies (in 1996) as the starting point implies a dramatic decrease of over 46%. However, evaluating the entire available sample period (since 1980) shows a decrease of just 16%.[1]

[1] As is the case with most finance and time series data, Meketa Investment Group recommends looking at as many periods as possible in order to mitigate Endpoint or in this case Starting Point, Bias. For more information, please refer to Meketa Investment Group's Endpoint Bias White Paper.

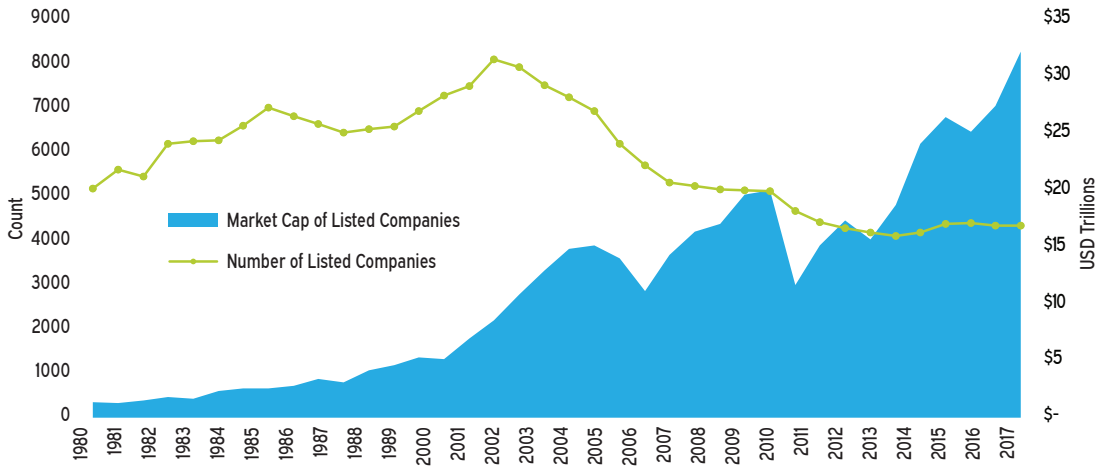

CHART 1

Number and Market Cap of U.S. Listed Companies[2]

[2] Source: Ernst & Young, The World Bank (World Development Indicators).

Chart 2 takes a closer look at the dramatic increase that started in the early nineties, followed by an even more dramatic decrease starting around 1996, which lasted until around 2002.

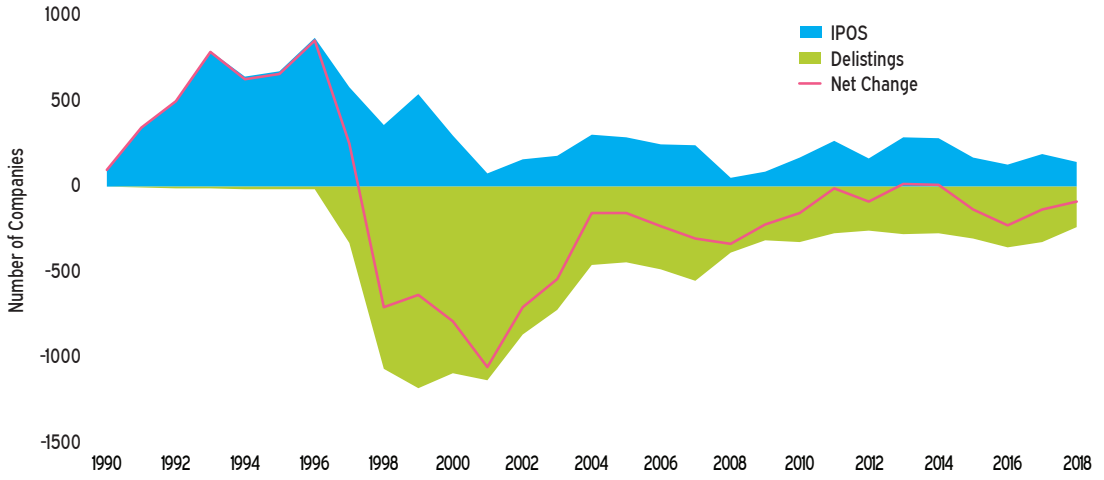

CHART 2

Net Changes to Number of U.S. Listed Companies (IPOs—Delistings)[3] Annual Figures: January 1990 — October 2018

[3] Source: Bloomberg. IPOs Data accounts only for "Primary Share Offerings," excludes "Secondary Share Offerings" and "Best Efforts." Delistings are based on delistings from NYSE and Nasdaq. "Other" reasons for delisting include reorganization, bankruptcy, liquidation, and not available.

IPOs, as expected, are the main driver for increases in the number of listed companies, but delistings can occur for a variety of reasons. Chart 3 shows that, starting in 1996, the main driver of delistings was merger and acquisitions, on average, accounting for close to 60% of all delistings.

In the case of delistings due to listing requirements, exchanges modified their listing requirements twice: first, it was Nasdaq, which in 1996 increased its asset size requirement, and then, in 2002, with the passage of Sarbanes-Oxley ("SOX") regulation, all exchanges altered their listing standards to include additional corporate governance requirements. Doidge et al[4], claim, however, that the drastic decline seen after 1996 cannot be explained only by new listing requirements as

[4] Doidge, Karolyy, and Stulz, "The U.S. listing gap," July 2015.

Nasdaq changes in 1996 may have also generated new listings, and listing changes related to SOX regulation became fully effective in 2004, well after the main wave of delisting had occurred.

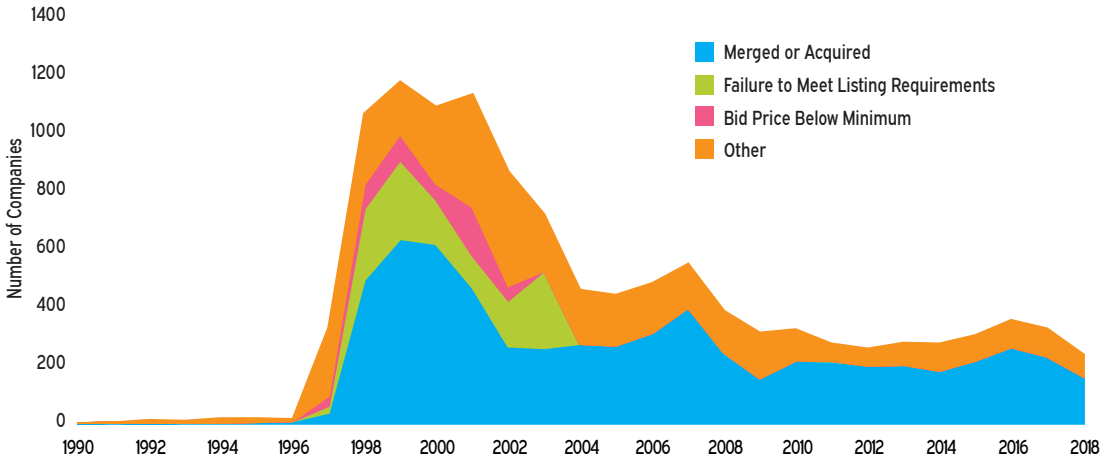

CHART 3

Delistings by Reason[5] January 1990 — October 2018

[5] Source: Bloomberg. IPOs Data accounts only for "Primary Share Offerings," excludes "Secondary Share Offerings" and "Best Efforts." Delistings are based on delistings from NYSE and Nasdaq.

Public markets perspective

IPO activity

While less alarming than 40% or 50%, a decrease is still a decrease. On this note, Initial Public Offering (IPO) activity, or lack thereof, has been offered as explanation for the decrease.

The increase in the 1990s was supported in large part by the abnormally high IPO activity from very small companies that culminated in the "Tech Bubble," an issue that may have contributed to the swift decrease post-2000, given that many of these small internet companies either disappeared or were acquired. This would be consistent with a more stable environment over the last ten years where the decrease in number of listed stocks has been only 7%.

Below we can see that, while IPO activity has declined compared to years past, context matters, again. Taking a closer look at the figures, we can see that IPOs of under $100 million have decreased substantially, yet these offerings are generally too small for most institutional investors.[6] On the other hand, IPO activity for companies over $100 million has been very stable.

[6] Companies with under $1 billion in market cap are generally considered Micro Cap. .

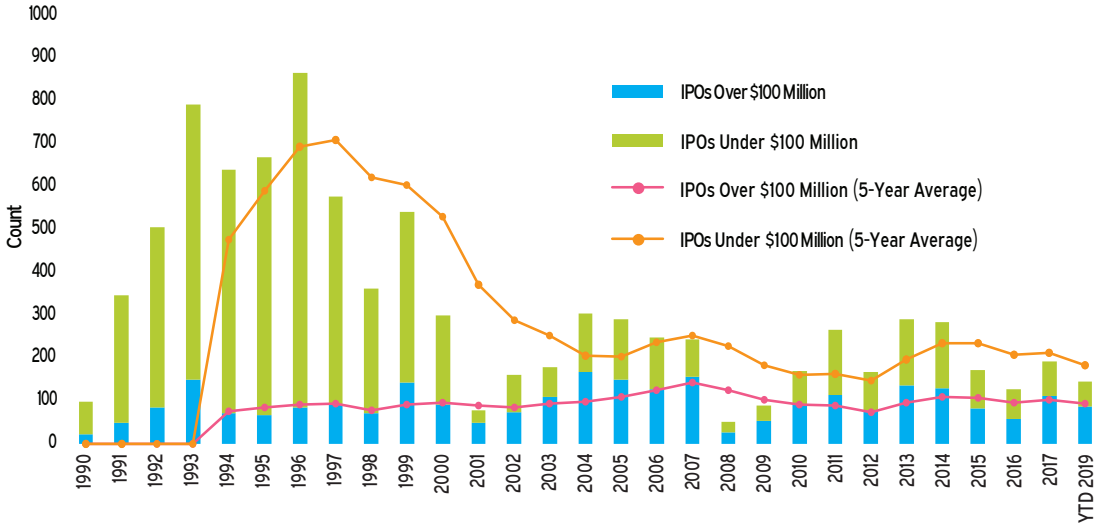

CHART 4

Initial Public Offerings by Size[7]

Annual Figures: January 1990 — October 2018

[7] Source: Vanguard and Bloomberg. Data accounts only for "Primary Share Offerings," excludes "Secondary Share Offerings" and "Best Efforts."

Mergers and acquisitions

Another element that explains the decrease in the number of public stocks is merger and acquisition ("M&A") activity. We have already seen that M&A was the main driver of delistings (over 50%) in the U.S., but M&A can influence in several ways. Here, we focus on two competing forces that directly and indirectly impact not just the number of public stocks, but also the access that institutional investors have to the U.S. economy by investing in the U.S. stock market.

Public market detractors argue that private markets are more attractive because the decreasing number of stocks reflects two issues: first, private equity is taking public companies private, and second, private companies are staying private. These changes would reduce the ability of investors to access U.S. economic growth and innovation through public market investments, because companies that previously went public are staying private.

Proving that private companies are staying private is difficult to do directly.[8] Chart 5 attempts to measure this effect as a proxy, by looking at the average size of companies at IPO over time. The hypothesis being that, if private companies are staying private for longer, then IPOs sizes should be increasing because private companies are growing larger before entering public markets. However, we see no such behavior, as the average market cap at IPO of U.S. companies has grown at a similar (and perhaps slightly slower) trend than the average stock's market cap.

[8] In addition to having less available and reliable data on private markets relative to public markets, the decision to remain private vs. going public represents an opportunity cost for each company, and thus probably cannot be quantified reliably.

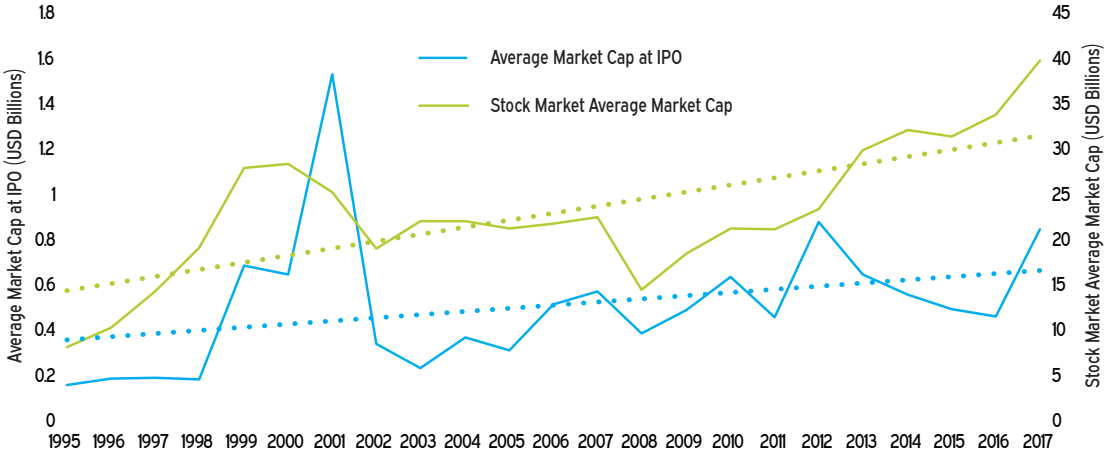

CHART 5

Average Size at IPO[9] Annual Figures: 1995 — 2017

[9] Source: Bloomberg and MSCI. MSCI USA used as proxy for U.S. stock market.

With respect to the thesis that private companies are taking public companies private, Chart 6 shows that delistings due to M&A activity has actually been driven in its majority by public companies. While M&A activity decreases the number of stocks, when public companies acquire other public companies, public market investors continue to have access to the growth and revenues of the acquired companies through other existing public companies.

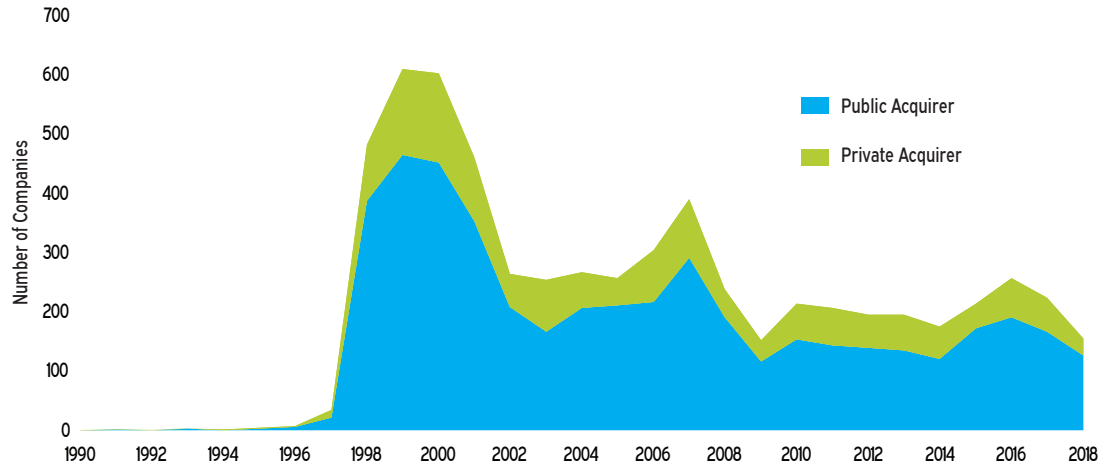

CHART 6

Delistings Due to Merger and Acquisitions[10] Annual Figures: January 1990 — October 2018

[10] Source: Bloomberg.

In summary, M&A activity has been instrumental to the decrease in the number of listed stocks by being the main driver of delistings. However, the fact that the majority of acquisitions involve public companies as acquirers, leads us to believe that M&A activity has not made it more difficult for investors to access the growth and revenues of the U.S. economy through investing in the stock market.

Market concentration

Some investors worry that one potential consequence of the decreasing number of stocks is market concentration. It would be reasonable to expect markets to be more concentrated if there are less stocks available. However, Chart 7 shows that, based on HHI[11], the U.S. stock market has been, and continues to be, a competitive (non-concentrated) marketplace.

[11] HHI refers to the Herfindahl-Hirschman Index, a widely used measure of market concentration. The metric calculates the sum of the squared market shares (or weights) for each member of the sample, and the higher the total, the more concentrated a market is. At the extreme, a market with only one company, or a monopoly, would be the most concentrated, with a HHI index of 10,000 (100^2)..

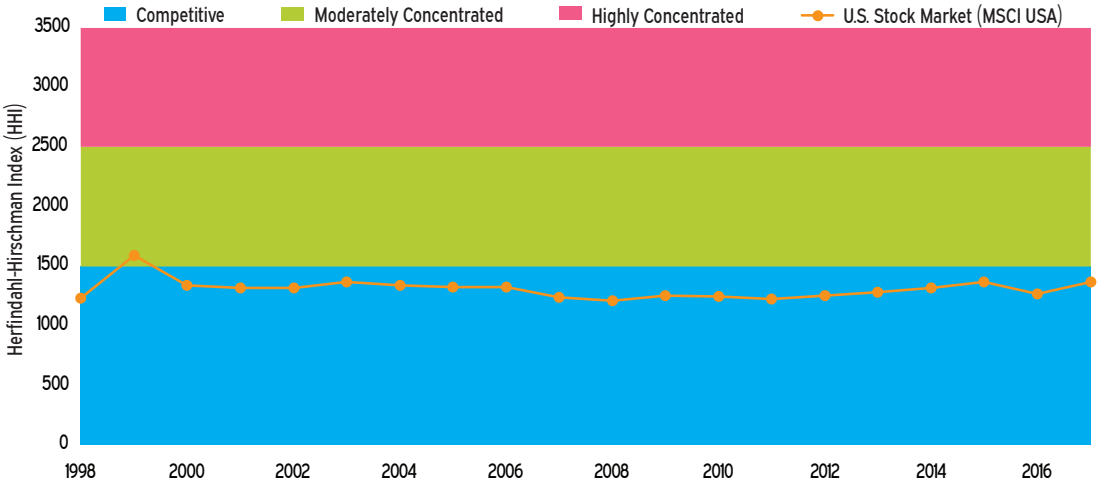

CHART 7

U.S. Stock Market Concentration Based on HHI[12]

Annual Figures: 1998 — 2017

[12] Source: Bloomberg and MSCI. Based on the MSCI USA Index and GICS sector weights. Mechanics of the calculation make the result hold at the stock level as well.

As further proof, Chart 8 shows that the cumulative weights of the largest 10, 50, and 100 stocks in the U.S. stock market have been relatively stable over the last decade, and have actually decreased from their "Tech-Bubble" highs.

CHART 8

Weights of U.S. Stock Market Largest Stocks[13]

Annual Figures: 1998 — 2017

[13] Source: Bloomberg and MSCI. Based on MSCI USA Index.

In summary, there is no conclusive evidence that the decreasing number of public stocks has had a negative effect on investors in public markets.

Private markets perspective

Recent developments in the realms of regulation and private capital availability support private companies staying private for longer, and reduce the importance of IPOs as a definitive stage in the growth cycle of a company.

Regulation—the cost of going (and staying) public

The IPO has traditionally been regarded as the ultimate avenue for companies to access capital to support expansion. However, IPOs have become increasingly costly for firms, as they need to deal with multiple expenses for accounting, legal, underwriting, and other services.

Chart 9 shows that these costs are not trivial for smaller companies (less than $1 billion in revenues), potentially leading them to explore other avenues for raising capital. Further, the smaller the company, the greater the proportion the IPO costs would be of their revenues, and presumably of their value.

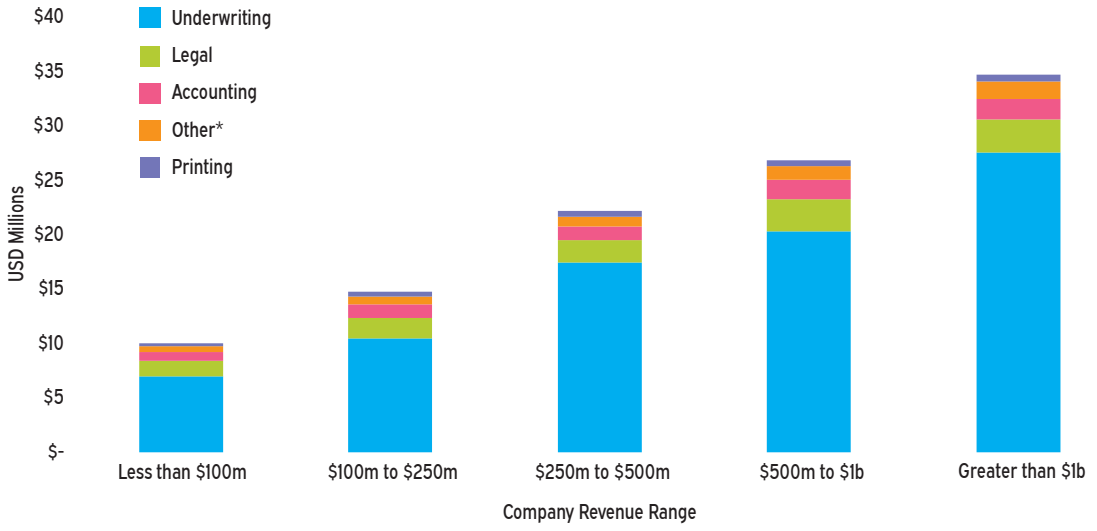

CHART 9

One-time IPO Costs[14]

[14] Source: "Considering an IPO to fuel your company's future?" A publication from PwC Deals, November 2017. Other costs include SEC registration, market listing fees and other miscellaneous costs.

In addition to the cost of going public, staying public is also costly. Public companies face much higher regulatory and reporting requirements than private companies, which lead to additional costs, both internal (hiring and infrastructure) and external (service providers) for accounting, tax, legal, human resources, compliance, audit and others. PricewaterhouseCoopers[14] research estimates that, on average, companies incur more than $1 million of annually recurring costs by being public.

The Sarbanes-Oxley Act[15] enacted in 2002 is commonly cited as a regulatory change that meaningfully increased compliance costs for public companies. This Act imposed numerous compliance requirements in areas like revenue recognition, audit, internal controls, record keeping, and others. The management consulting company Protiviti estimates that average annual SOX internal compliance costs range between $600,000 and $1.6 million per year, excluding external audit-related fees.[16]

[15] Passed by Congress on 2002, this law increased regulatory oversight of public companies to protect investors from the possibility of public companies engaging in fraudulent activities.

[16] Source: "Benchmarking SOX Costs, Hours and Controls" Protiviti, 2018.

Additionally, SOX regulation formalized and increased the specific responsibilities of outside directors of public companies. The nature of these duties include four main categories: Duty of Care, Duty of Loyalty, Business Judgment Rule, and Oversight and Monitoring Responsibility. Failure to comply with any of these responsibilities can bring about hefty monetary and civil penalties to public directors, making them personally liable for the correct governance of the firms they advise.[17]

[17] See "Director Responsibilities and Liability Exposure in The Era of Sarbanes-Oxley," Darren C. Skinner, for additional information.

Investor limits raised

Another regulatory development that seems to favor private companies remaining private is the raising of the "Investor Limit" for a private company from 500 to 2,000 investors, a change made by Congress in 2016 as part of the "Jumpstart Our Business Startups Act" (JOBS). Under the previous limit, companies with over $10 million in assets and 500 individual investors were required by the SEC to comply with reporting requirements similar to those of public companies. This law limited the number of investors that could privately provide capital to a company, perhaps indirectly enticing them to become publicly traded. However, by raising the investor limit to 2,000, private companies now have more flexibility to access private capital without the burden (and costs) of reporting compliance or becoming public.

Private capital availability (a double-edge sword)

The regulatory changes reviewed above seem to support private companies staying private for longer. Also, the growth of private equity and private market investing in general further supports this narrative, making plenty of capital available to private companies without the need to access public markets.

According to McKinsey & Company[18], private asset managers raised a record $750 billion in capital globally in 2017, mostly in private equity and private debt, bringing the total size of private markets to over $5 trillion.[19]

[18] "The rise and rise of private markets" McKinsey Global Private Markets Review, 2018.

[19] For comparison, the market cap of the Russell 3000 Index was $30.4 Trillion as of October 17, 2018.

Greater access to private capital is certainly positive for private companies, which could contribute to delaying or even preventing them from entering the public markets (hence maintaining a decreasing tendency in the number of stocks). However, this is not necessarily positive for institutional investors allocating capital to private markets. Although private markets have been growing, McKinsey also reports that private equity deal volume was flat in 2017, and deal counts actually

decreased, translating to an increase in deal size of 25%. Additionally, private equity deal multiples[20] have gradually increased over the last eight years, and "dry powder"[21] continues to reach new highs, especially for private equity.

All of these signs describe an environment where private market capital is widely available, but with a limited universe of private companies that are worthy of such capital, thus increasing the price that private market investors are paying for them. Similar to public markets, paying higher prices for companies generally depresses long-term returns.

Conclusion

The number of publicly listed U.S. companies has decreased, with fewer public companies today than at any point since 1980. However, the decrease appears much less dramatic (from over 40% to less than 10%) if we vary the starting point and understand the context of the different economic environments over the last thirty-five years.

Additionally, when reviewing market concentration metrics, we found that there have not been any truly fundamental changes to the composition or concentration of the U.S. stock market. This leads us to conclude that, from a public markets perspective, the decrease in number of stocks does not represent a major decline in the health of the market.

However, recent developments in terms of regulatory changes and growth of private asset classes could contribute to private companies staying private for longer and, thus, create downward pressure to the number of publicly traded companies.

Finally, none of the developments or issues discussed in this paper, neither from public nor private markets perspectives, are significant enough to warrant institutional investors make material changes to their investment policies or to their relative allocations between public and private equity

[20] The deal multiple reflects the valuation or price that private equity investors pay for the earnings or revenue of private companies.

[21] Dry powder is the term used for capital committed but not yet deployed.

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