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Following a multi-year stretch of almost uninterrupted outperformance, some investors question whether the Technology sector is in a position similar to the late 1990s Tech Bubble, pointing to lofty valuations as evidence. However, in our view, not only are valuations an invalid indicator of a second Tech bubble, but they also ignore essential context.

Historical P/E ratios illustrate valuations' lack of predictive power. Many investors assume that high P/Es mean equities are expensive and will soon fall. Contrary to popular belief, history disagrees. S&P 500 calendar-year returns following the 10 highest start-of-year P/E ratios show no discernible pattern (Exhibit 1).

Exhibit 1: S&P 500 One-Year Returns Following History's 10 Highest Railing P/E Ratios

Year	PE Ratio at Beginning of Year	Calendar Year Price Return
2009	60.7	23%
2002	46.5	-23%
1999	32.6	20%
2003	31.9	26%
2000	30.5	-10%
2001	26.4	-13%
1992	26.1	4%
2017	25.7	19%
1998	24.4	27%
2016	23.6	10%
Average	32.8	8.3%
Median	28.5	14.5%

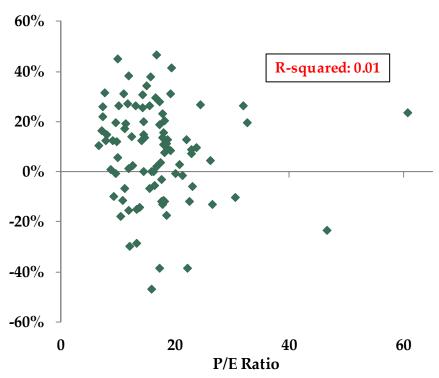
Source: Global Financial Data as of 11/04/2017. Based on S&P 500 annual index price in USD from 31/12/1926 to 31/12/2017 and S&P 500 P/E Ratio from 31/12/1926 to 31/12/2016. P/E is based on last twelve months of earnings.



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Similarly, since 1926, there is nearly zero relationship between start-of-year P/Es and returns over the following year, as Exhibit 2 below implies.

Exhibit 2: Relationship Between P/E Ratio (Y0) and Returns over the Following Year (Y+1)



Source: Global Financial Data as of 11/04/2017. Based on S&P 500 annual index price in USD from 31/12/1926 to 31/12/2017 and S&P 500 P/E Ratio from 31/12/1926 to 31/12/2016. P/E is based on last twelve months of earnings. R-squared represents the % of total variation in one year returns that can be explained by P/E ratios at the start of the year.

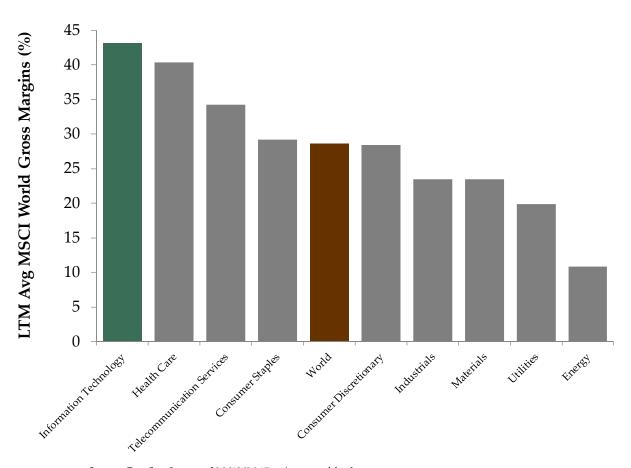
As illustrated, valuations alone tell you very little about returns over the next 12 or even 24 months. Cheap stocks can get cheaper; pricey ones can get pricier. As a result, bubbles shouldn't be judged on valuations alone. Another relevant case is the Energy sector in 2015 and early 2016. At this time, Energy stocks were collapsing and sentiment was dour. If bubbles were defined by extremely high P/Es alone, the context of the situation would have been completely missed. P/Es were soaring as Energy companies' earnings plummeted due to falling oil prices. In addition, a prime historical example lies during early 2009. Valuations were stratospheric by many measures due to the 2008 financial crisis' earnings erosion. Widely used valuation metrics are just one measure that *may* describe sentiment. Analyzing all of the pertinent components prior to looking at the broader context of the situation is necessary in order to arrive at a viable conclusion.



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When put into such a broad context, even the basic claim of extremely high Tech valuations similar to the late 1990's Tech bubble appears flawed. Select valuations such as Tech price-to-sales ratios may be elevated relative to history. But is that necessarily irrational? Tech margins are generating higher earnings growth for investors. Actually, Tech boasts the highest gross profit margins of all sectors (Exhibit 3)—a key differentiator from Tech in the late 1990s, when investors were clamoring for unprofitable firms with little more than a vague business plan. In the last 20 years, the net profit margin of the S&P 500 Technology sector has more than doubled, as high-profit margin Internet and software firms have rapidly surpassed lower-margin hardware firms as the dominant Tech industry group. Today, the sector is comprised of some of the world's most profitable companies. It stands to reason investors are willing to pay for this—particularly in the late stages of a bull market, when rising valuations are perfectly normal and reasonable.

Exhibit 3: MSCI World Gross Margins by Sector (%)



Source: FactSet, Inc. as of 29/12/2017 using monthly data.



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Considering a variety of valuations beyond price to sales —forward P/E, or price-to-cash flow, most Tech valuations are nowhere near bubble territory (Exhibits 4, 5, 6).

Exhibit 4: Price-to-Sales S&P 500 Technology

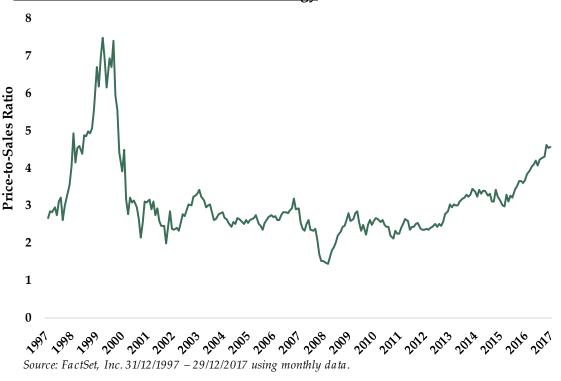
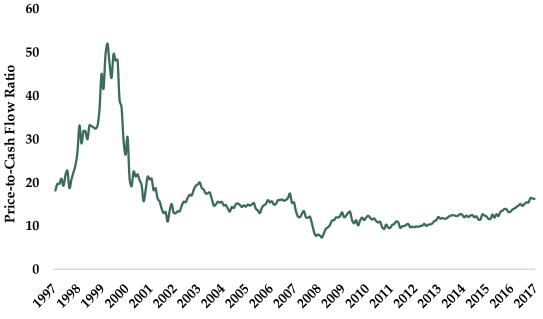


Exhibit 5: Price-to-Cash Flow S&P 500 Technology

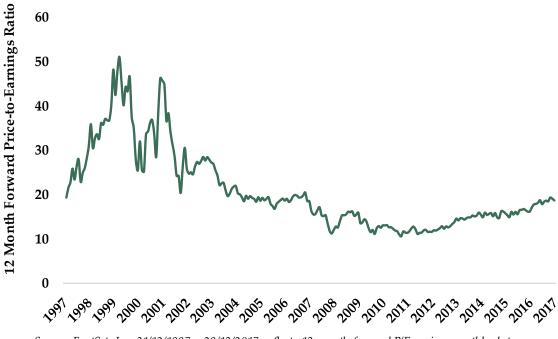


Source: FactSet, Inc. 31/12/1997 - 29/12/2017 using monthly data.



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Exhibit 6: 12 Month Forward Price-to-Earnings S&P 500 Technology



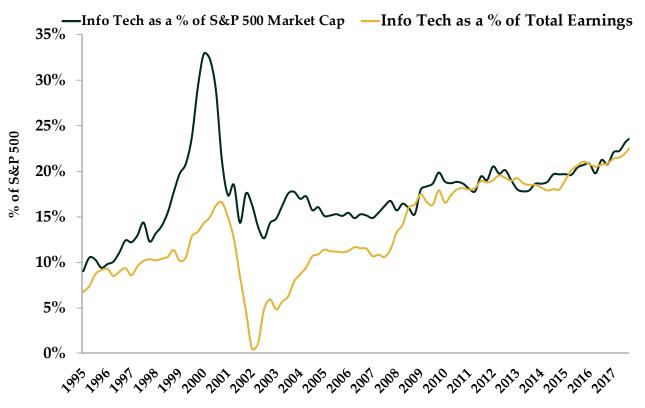
 $Source: Fact Set,\ Inc.\ 31/12/1997\ -29/12/2017,\ reflects\ 12-month\ forward\ P/Es\ using\ monthly\ data.$



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Finally, investors caution the Technology sector is a rapidly growing share of the overall market—over 20% of the S&P 500's market capitalisation, for example. This is true, and is also the case for Tech earnings (Exhibit 7). Contrast this to the unjustified disconnect between euphoric prices and deteriorating fundamentals in the dot-com era, when profit-starved firms swelled to nearly 35% of the S&P 500 market capitalisation at the peak.

Exhibit 7: Info Tech Earnings and Market Cap as a % of S&P 500's



Source: FactSet, Inc.; S&P 500 and S&P 500 Information Technology (Sector) Indices Market Value and Trailing 12M Net Income from 31/03/1995 to 29/12/2017.

Tech bubble fears currently abound, yet most traditional bubble signs are absent. Margin debt is not spiking. There is no abundance of unworthy IPOs finding solid demand. Parabolic sector performance and market capitalisation changes are absent. Weighing in this evidence with the broader reality, this is not a very similar backdrop to 1999 in our view.



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