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CIO Strategy Bulletin

This is Not Your Parent’s Tech Boom

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Summary:

- **Interest rates are fundamental to how all assets are valued and they are more relevant for higher valued, “longer duration” equities. We see the US equity market – and technology sector – trading in a more rational way today than it was the late 1990s when markets ignored interest rates with ever higher growth expectations.**
- **The valuation of US growth shares overall implies low future returns - not as low as the decade following the year-2000 tech collapse - but likely in the low-to-mid single digits over the coming full decade. Unlike the late 1990s, when fixed income yields were 7%, bonds offer little value or competition at sub 2% yields now.**
- **It is certainly possible that high valuations will become higher first, driven by the early-cycle EPS outlook. Truly higher earnings can absorb the valuation hit from higher interest rates. Remember that only when tech revenues and profits peaked in 2000 did share prices collapse. There is no evidence to suggest the 18-month economic recovery will either falter or become less reliant on tech.**
- **US value shares and most other global equities trade at far-lower relative valuations than during the tech bubble period, roughly 16X expected EPS, or close to their long-term average. While it is unclear how long the preference for US growth shares (at 29X expected EPS) will persist, the overall return picture for global equities is a substantially stronger one than at the 2000 market peak.**
- **The outlook for the next year could be rewarding for cyclical tech industries such as semiconductors. The longer-term outlook for cybersecurity seems highly robust. Emerging health science, energy technologies, logistics and e-commerce also deserve investment allocations, though not without broader diversification across the global economy.**
- **Fortunately for investors, portfolio diversification can be achieved at a reasonable valuation today, unlike 1999.**

How Much Should Investors Pay for Tech?

There are times when stocks are expensive for a reason and other times there is no justification, save speculation. So, what of US growth stocks now? Given their historically high valuation overall, are US growth stocks wise investments over the short- and long-term?

By the simplest measure, US growth stock valuations are quite high, exceeded only in the tech bubble period of the late 1990s. Looking at trailing price/earnings ratios, growth shares are about twice as expensive as value equities and non-US equities broadly (see figure 1). US value and international shares, meanwhile, have valuations only slightly above long-term historic averages.

Simple data never tells the whole story. For one, today's basket of US growth shares is now considerably more diverse with far less concentration in Information Technology than in the 1990s. The buildout of internet infrastructure and related applications in the late 1990s was the concentrated economic driver of growth stocks at that time. Today, Tesla's business has little to do with Facebook's, for example. (And neither are constituents of the S&P Info Tech sector). The application of technology has become both ubiquitous across industries and a vast differentiator of performance for firms that use it to out-compete.

The late 1990s had many "experimental firms" that failed. We now have such firms too, but these are largely outside the large cap growth indices. Today's US growth indices have many profitable and promising firms. Yet like the late 1990s, today's markets appear to price in too much future growth for some of these firms. Markets will judge who produces the better software and automation solutions, just as they discerned who produced the superior and inferior personal computers in the 1990s.

In the late 1990s there were also vast accounting problems that overstated corporate earnings for major firms that went bust by the early 2000s. While we are not forensic accountants, we believe accounting regulations and investor attention to the quality of regulatory filings have led to lasting improvements in US reporting standards in the same way the Global Financial Crisis led to lasting improvements in systemic risk controls of the banking system.

In our view, **the catalyst for a tech reckoning is missing amid continued economic expansion.** The massive borrowing and collapse of financing for the telecom sector in 1990s does not exist today. In 2000-2002, markets saw the future growth of telecom firms shrivel and their financial resources insufficient to meet obligations. These telecom firms were huge buyers of communications and other IT equipment at the time. Today, tech buyers large and small are flush with cash and the bond market offers them 3.5% long-term financing even to firms with the lowest investment grade ratings.

Most importantly, the absolute valuation comparisons of the 1990s and today ignores relative valuation. Looking at the bond market today relative to the 1990s tech bubble period, we see that a future dollar of interest is now valued 5x higher than at the tech markets prior peak (see figure 2).

Figure 1: Trailing price/earnings: US growth, US value and non-US equities

Figure 2: Trailing price/earnings: US, non-US equities vs US bond yield

Source: Bloomberg as of October 8, 2021. Note:. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary. All forecasts are expressions of opinion and are subject to change without notice and are not intended to be a guarantee of future events. Past performance is not indicative of future returns. For illustrative purposes only.

When we look at growth stocks today, we see the influence, power and scale of their growth in earnings. EPS have risen to new record highs and are expected to grow 27% more through 2022 (Figure 3.) With 27% of S&P 500 index in IT directly, many growth shares have become diversified cash generators. In 2020, with the pandemic as a tech accelerator, a powerful substitution effect brought forward the “value” of their technologies in a covid-constrained environment. There was nary a blip in tech earnings at the worst of COVID. That resilience was not lost on equity investors.

With the near-term buoyance in earnings and the enthusiasm of tech investors across the COVID shock, the outperformance of growth versus value has been maintained, despite the sharp rebound in cyclical industry profits (Figure 4).

Figure 3: Information Technology Sector EPS through 2Q 2021

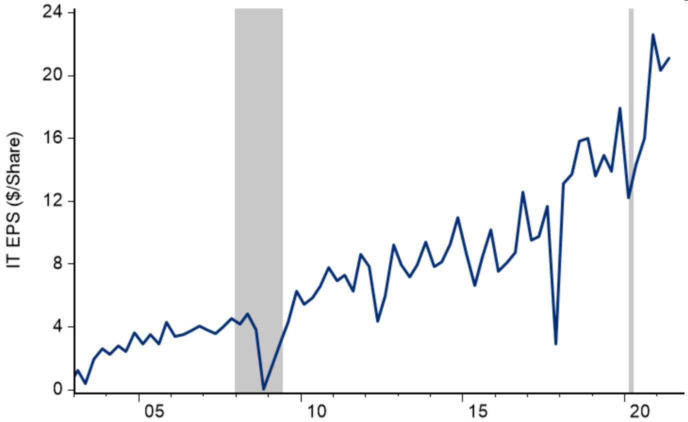
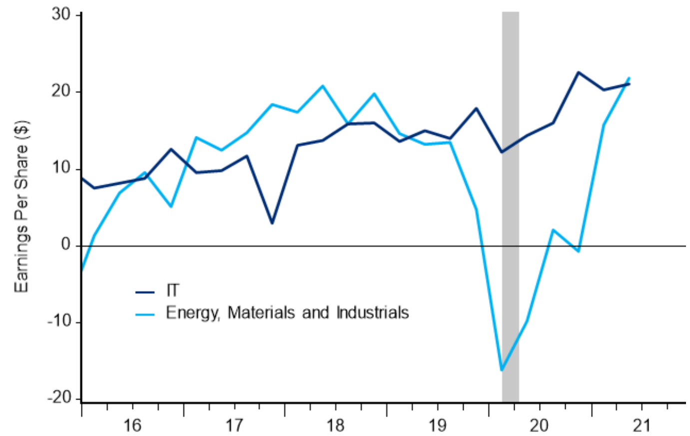


Figure 4: IT Sector EPS vs Key Cyclicals (Industrials, Energy, Materials)



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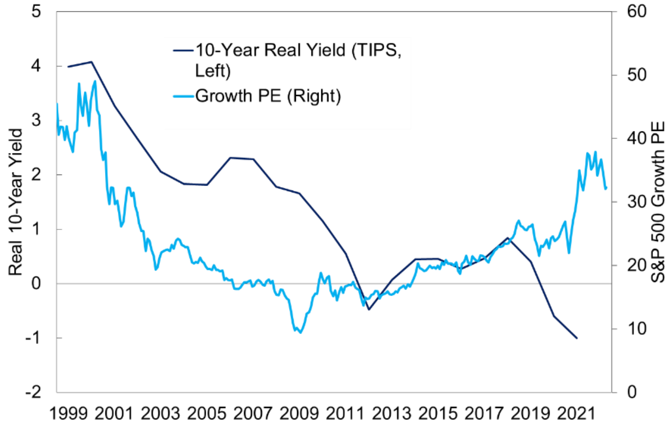
Interest Rates Do Matter, But the Hurdle Is Lower Now

In the late 1990s, US growth shares completely ignored rising interest rates. At that time investors “overlooked” the risk-free cash yield of 4.8% and the 7.2% investment grade long-term bond yield (Figure 5). Then, one could buy US Treasury Inflation Protected Securities with a 4% real yield.

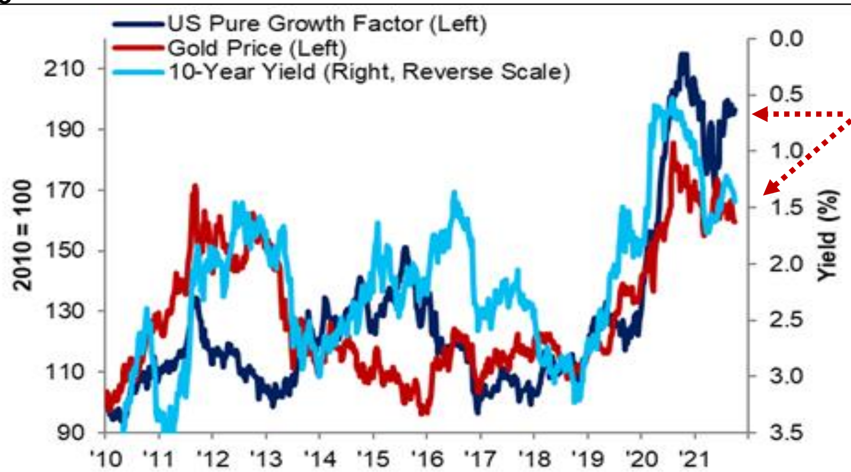
Today in contrast, there appears to be an oversensitivity in markets to rising interest rates (please see our last two bulletins (October 3rd, October 10th). Unlike gold, technology companies are not an income-free store of value. They generate cash, reinvest in research and development and displace other business models. Thus, they have a powerful offset in the form of rising profits to offset rising interest rates (Figure 6), especially in the environment we expect in 2022-23.

Figure 5: US Growth Stock Valuations and Real US Yields



Source: Haver as of October 8, 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.

Figure 6 Growth vs Value and 10-Year Yields and Gold Price



Source: Haver Analytics as of September 10, 2021. Arrows shown to highlight divergence between US Pure Growth Factor and US 10-Year Yield. Gray shaded areas are periods of US recession. Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance. Past performance is no guarantee of future results. Real results may vary.

In the 1990s, fundamental demand for internet technology was nascent and growth rates were very high starting at low bases. Looking at the more recent year-over-year growth in annual investment in IT equipment in the US, we can see that growth has become steadier and less variable, albeit at a lower growth rate. Taking out the COVID shocks, spending has risen at only half the pace of the late 1990s over the past 5 years. This is not the stuff of booms and busts. As we saw in the housing boom of the 2000s or the shale oil boom of the 2010s, excessive investment is the primary path to collapse (Figures 7 & 8), situations we do not see mirrored in the tech boom today

Figure 7: IT Equipment Investment

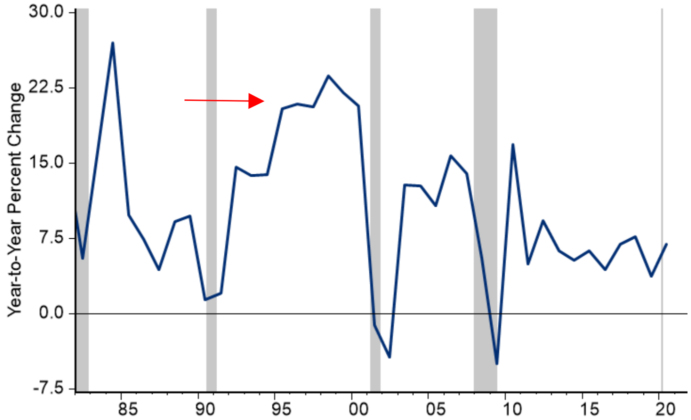
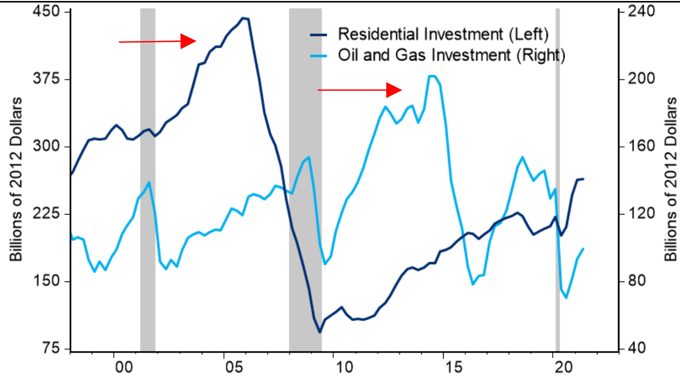


Figure 8: Housing and Oil & Gas Investment Booms



Source: Haver as of October 13, 2021. Note: Shaded regions are recessions.

The digital share of the US economy has been on a long-term uptrend with no signs of slowing apart from "reopening" effects in industries like retailing and travel (see Figures 9-10). While digital activity will not rise indefinitely as it displaces the "old economy", "technology" doesn't appear near a fundamental peak. When we look back at 2000, in comparison, we saw a great deal of business IT and communications investment spending wasted and not sustained.

Places to Invest in Tech

In the post-COVID environment, with semiconductors in short supply, there seems to be no reason to expect a decline in production of semis and investment in semiconductor capital equipment. In the software sector, as workers are given the choice to work from home, massive new investments in cybersecurity will be the top priority of CTOs. Quite simply, this does not look like an economic peak for many key "growth index" components (see figure 11).

Figure 9: Intellectual Property Investment as % of US GDP

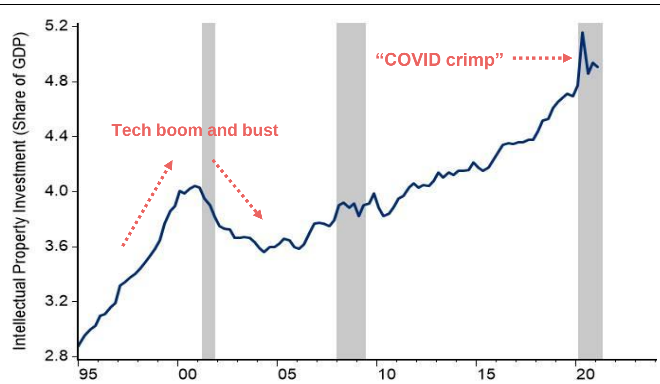
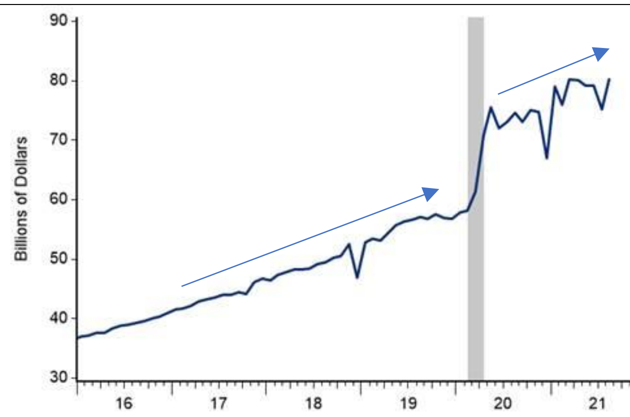


Figure 10: E-Commerce Share of US Retail Sales



Source: Haver as of October 13, 2021. Note: Shaded regions are recessions.

Figure 11: Citi Global Wealth Unstoppable Trends – Key Areas of Long-Term Growth and Transformation in Economy

1) Hyper-Connectivity: Investments using and enabling 5-G technology, from semi-conductors to digital content providers, financial technology to cybersecurity.
2) Greening the World: Technological alternatives to fossil fuels, from solar to wind, batteries to green hydrogen and water resources.
3) Longevity: Healthcare solutions for an aging world, from bio-technology to medical devices.
4) Asian Development: Supply chain diversification for a world generating competing technologies as the US and China dis-integrate economic ties.

Remember to Diversify! "Normal" Valuation Are Available for Non-Tech Equities

From the Y2K peak to the calamitous trough of 2002, the NASDAQ's total return was -81%. As we recall vividly, optimism for the "new economy" of the future was so great near the market peak that investors couldn't imagine the leading tech firms ever failing to beat EPS estimates, much less posting operating losses as they did in 2001.

As the record (near 10-year) 1990s economic expansion gave way to recession in 2001, value shares also fell 23.5%. With record high valuations in both US and non-US markets, overall global equities fell 46.7% to their 2002 trough. This meant international diversification offered no benefit to US-focused investors.

The valuation picture today, however, is quite different as US growth stock returns have been so exceptional (see figure 12). As we discuss in the September Quadrant, fully global recessions are quite rare despite two occurring in the past 15 years. With most markets having lower valuations than the US, we would expect greater value from the industry and regional diversification provided by global portfolios.

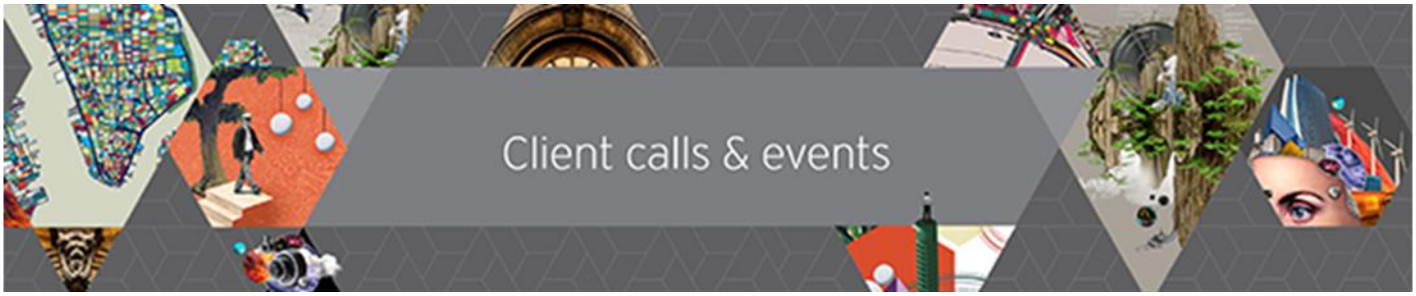
The "out of favor" performance of value and international investing holds other lessons for investors. As many new investors were drawn into strong tech stock returns in the late 1990s, devastating price declines in the early 2000s led them to sell and realize deep losses (see figure 13). Apple Inc., for example, had a peak-to-trough decline of 82%. Today, however, it is the largest and most profitable global firm. The loss for Microsoft was 65% through 2002. Today its market capitalization is $2.3 trillion. Total returns for these two surviving tech giants have been 6745% from the 2000 high to today.

It is unlikely that an investor would have simply chosen these two firms as their sole "buy and hold" investments. However, most broad-based, "patient capital" portfolios did in fact hold these shares over the long term and benefited from doing so. We don't believe another fundamental tech recession will be avoided forever. But this does not ague for shunning the sector in our present recovery.

Figure 12: US and Non-US Trailing PE

Figure 13: Nasdaq Index

Source: Haver as of October 14, 2021. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Past performance is no guarantee of future results. Real results may vary.



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