INVESTMENT STRATEGY COMMENTARY

NOT WORTH BEING CUTE

SELLING OUT OF EXPENSIVE MARKETS HASN'T ADDED VALUE HISTORICALLY

October 27, 2017

Some investors are expressing concern about stock market valuations after the record run we have enjoyed, and they are uncertain about committing new funds or maintaining current exposures. High starting valuations will pose some headwind to long-term returns, but we don't think current valuations are a major problem. Our research shows "trying to be cute" by selling out of similarly valued markets in the past hasn't added value.

Exhibit 1 shows valuations across major markets, relative to historic averages and the "normal" range. Price-to-earnings ratios in the U.S. and Europe are at the top end of the normal range — roughly in the top 17% of history. Emerging market valuations are right at historical averages, while valuations in Japan are below average for the country and lower when compared to other major developed markets. The primary limitation of an absolute price-to-earnings valuation approach is that it ignores the relevant interest rate environment — and equity valuations are significantly influenced by the level of interest rates. Additionally, we have long believed that valuation is a poor timing tool. This is demonstrated in Exhibit 2, where we show that avoiding expensive markets hasn't added value historically. However, we do have strong statistical evidence that high valuations tend to lead to lower long-term returns. In this report, we also analyze current valuations in private equity as we are increasingly getting questions about this issue. While valuations on large deals have followed the stock markets higher, we find reasonable valuations are still being paid for smaller deals.

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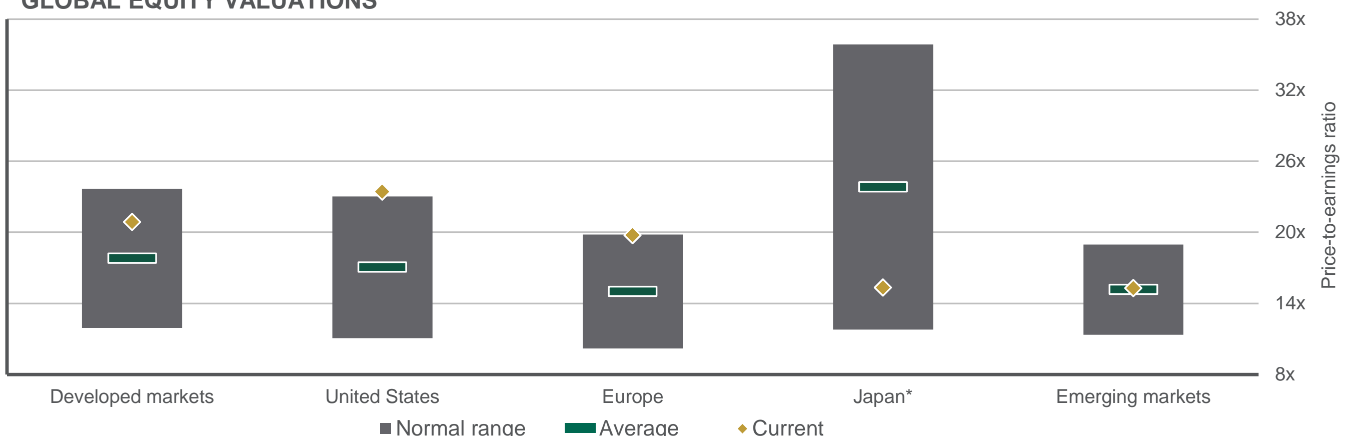
EXHIBIT 1: EQUITY VALUATIONS ARE HIGH IN THE U.S. AND EUROPE



Source: Northern Trust Investment Strategy, MSCI. Monthly data: 12/31/1969 through 9/30/2017. Emerging market data begins in 1995.
Normal Range: +/- 1 standard deviation from the average. *Removed outliers caused by negative earnings environments.

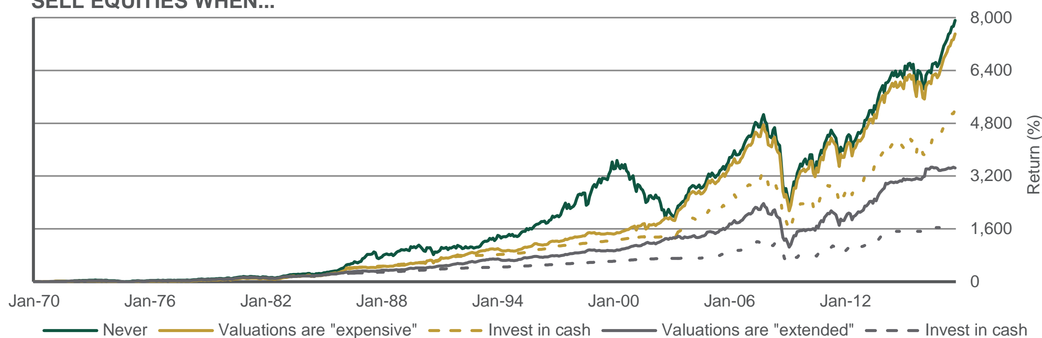
IT PAYS TO STAY FULLY INVESTED

Our research shows that long-term returns have a negative relationship with starting valuation levels — that is, when valuations are high, long-term (five-year plus) returns tend to be lower and vice versa. Influenced by this analysis, our recently updated Capital Markets Assumptions (our five-year outlook) expects a 5.9% annualized return from U.S. equities, as compared with a long-term average return of 9.3%. *But does that mean investors should get out of equities any time valuations get "high"?* We don't think it is that simple. Valuations show much less predictive power of short-term (one-year) returns, which is to say valuations can remain elevated for long periods of time. The question of "when is expensive too expensive?" is a hard one to answer.

In examining valuations, we delineated between markets where valuations were "extended" and "expensive" and devised trading strategies around those rules. We defined "extended" valuations as valuations above the long-term historical average. Anytime valuations were "extended", our model traded out of stocks and into intermediate fixed income (Ibbotson Intermediate Treasury index); otherwise we remained invested in global equities (MSCI World index). We defined "expensive" as anytime valuations went one standard deviation above the long-term historical average (in theory, this should occur ~17% of the time) and applied a similar strategy to the above. Finally, our control group was a global equity allocation regardless of valuation levels. The results can be found in Exhibit 2. The "fully invested" strategy (green line) handily outpaced the "exit when markets are extended" strategy (solid grey line) and even narrowly outpaced the "exit when markets are expensive" strategy (solid gold line). As an additional alternative, we also computed the return an investor would get by putting their equity proceeds into cash instead of bonds within each strategy – as shown by the dotted lines. Both "into cash" strategies materially lagged the "fully invested" strategy.

EXHIBIT 2: MOVING TO THE SIDELINES CAN BE EXPENSIVE

SELL EQUITIES WHEN...



Past performance is no guarantee of future results. Source: Northern Trust Investment Strategy, Bloomberg, MSCI, Ibbotson. Gold and grey dotted line data series assume investing in cash when selling out of equities (as opposed to the solid line data series, which assume investing in intermediate fixed income). Data through 9/30/2017.

While there are certainly times where we think we aren't getting paid for the risk we are taking in the global equity markets (and would look to tactically reduce our allocations in a risk-managed way), valuations alone cannot tell us when those times are — and exiting too early can leave money on the table. For instance, global equity markets spent the entire 1990s with valuations above long-term historical averages. Deciding to be out of the markets in the 1990s because markets were "extended" meant giving up a 12.0% annual return (nearly 5% more than the 7.2% annual return for intermediate fixed income). Today, the global equity price-to-earnings ratio sits at 20.8. In the 1990s, global equity markets hit that valuation level at the end of 1995. From that date through the market's eventual bottom in the aftermath of the dot com bust (September 2002), global equity markets returned an annualized 2.2% (vs. the 7.5% annualized return of intermediate fixed income). But exiting the markets at the end of 1995 would have meant giving up the 19.4% annualized return over the next four years (up until the

market hit its dot com era high in March 2000). This is much greater than the 5.0% return from intermediate fixed income.

Important to note, the results in Exhibit 2 are also before the impact of taxes, which would add additional complexities to following the “sell when expensive/extended” strategies and could impact their efficacy. Also worth noting within the study above is the constructive fixed income return environment throughout most of the time frame used. At the beginning of the study (12/31/1969), the 10-year U.S. Treasury was yielding 7.9%. Approximately 12 years later (9/30/1981), the 10-year yield hit 15.8% and then started its steady decline over the next three-plus decades. The result was a very solid fixed income return that allowed our two “into bonds” strategies (previous page, solid gold and grey lines) to maintain reasonable returns even when out of the equity markets; the “into cash” (previous page, dotted gold and grey lines) fared much worse. Illustrating this point, at the time the technology stock bubble popped, the 10-year U.S. Treasury was a very viable alternative with a 6.7% yield. Today, with the 10-year U.S. Treasury below 2.5% (and most developed countries’ 10-year yields well below that), being out of the equity markets could potentially be much more costly.

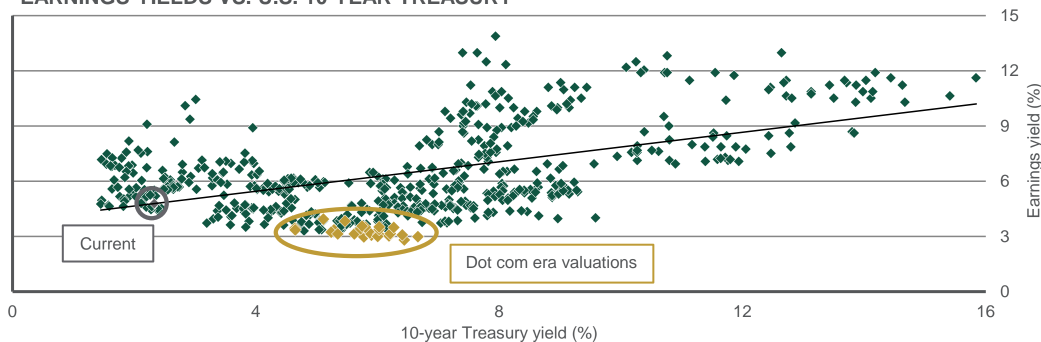
Bottom Line: With global equity valuations “extended” (above long-term averages) but not yet “expensive” (one standard deviation or more above long-term averages), being out of equities could represent a “pain trade” for some time amid the constructive global economic backdrop of solid growth, low inflation and accommodative monetary policy.

INTEREST RATES A CRITICAL SUPPORT TO EQUITIES

In Exhibit 3, we show the relationship between interest rates and equity market valuations (using the earnings yield of stocks, the inverse of the price-to-earnings ratio). Historically, there has been a strong relationship between the two. When interest rates are high, earnings yields have also been generally high (meaning low valuations). Conversely, when interest rates have been low, earnings yields tend to slip lower as well (meaning valuations go higher). The correlation between these two data series over the past 47 years has been 0.64. This translates to a 0.3 r-squared (30% of the variability in earnings yields can be explained by interest rates). This is significant; while there are other factors that can affect valuations (expected growth and market volatility being two important ones), interest rates give us major insight into what we can expect valuations to be. Interestingly, when controlling for interest rates, current valuations seem fair (as indicated by the fact that the “current” data point in Exhibit 3 sits near the black regression line running through the chart). Exhibit 3 also shows the contrast between today’s earnings yield and interest rate environment and that of the dot com era (circled in gold). Dot com era earnings yields were even lower than they are today, and those higher valuations received little justification from the prevailing interest rate environment of the time.

EXHIBIT 3: VALUATIONS SUPPORTED BY LOW INTEREST RATES

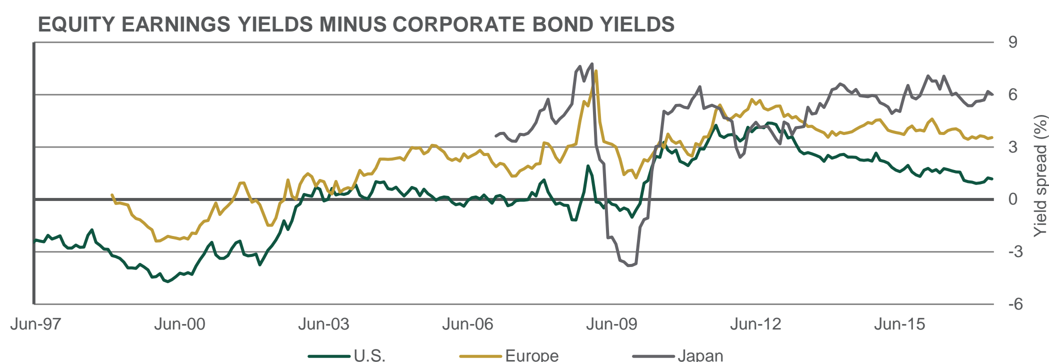
EARNINGS YIELDS VS. U.S. 10-YEAR TREASURY



Source: Northern Trust Investment Strategy, Bloomberg, MSCI. Data through 9/30/2017.

The high correlation of valuations and interest rates can be explained by two related reasons. First, many equity valuation models use interest rates as a key input, representing the “discount rate” used to determine how much an investor should pay today for future cash flows. When interest rates fall, the present value of future cash flows increases — as does the value of the investment. The second explanation for the relationship between stock valuations and interest rates comes to asset allocation. At the highest level, asset allocators focus first on the relative allocation between risk assets (e.g. stocks) and risk control assets (e.g. bonds). When bonds offer an attractive yield, they provide greater competition to stocks. Stock market valuations will fall until investors believe they are being adequately compensated for the additional risk they assume. In Exhibit 4, we demonstrate these relative valuations between stocks and investment-grade corporate bonds across the U.S., Europe and Japan.

EXHIBIT 4: WHAT ARE THE ALTERNATIVES?



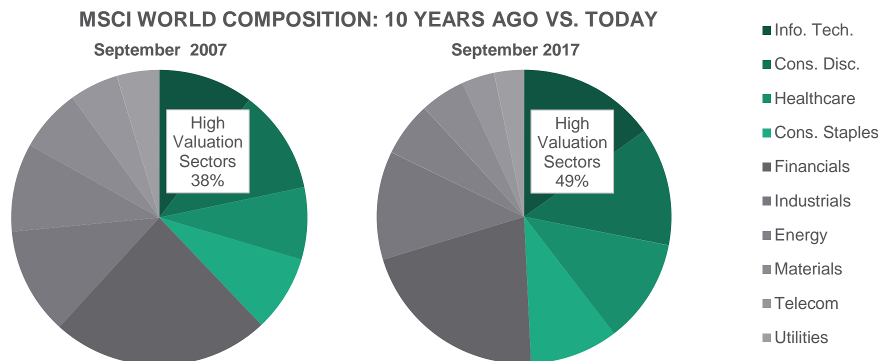
Source: Northern Trust Investment Strategy, Bloomberg, MSCI. Yield spread measures equity earnings yield minus investment-grade corporate bond yield. Data from 6/30/1997 through 9/30/2017.

Investment-grade bonds serve the purpose of portfolio diversification and liquidity. But many investors have sufficient liquidity and diversification, enabling them to manage a portion of their fixed income allocations for total return. For those investors, the relative value case for bonds over stocks isn’t compelling. The data in Exhibit 4 can be used as a proxy of the relative value opportunity. The end of the dot com bubble presented relative value; corporate bonds were yielding 7.8% while stocks were yielding 3.2%. Put another way, an investment of $1,000 in corporate bonds yielded income of $78 while the same $1,000 investment in equities generated earnings (not dividends) of just $32. At the market bottom in February 2009, a $1,000 investment in European corporate bonds yielded $67 in income but the same investment in European equities generated nearly double the level of earnings ($126). The markets are in better balance today in the U.S., with the $1,000 investment in U.S. corporate bonds yielding income of $31 and earnings of $43; meanwhile the ultra-low rates in Europe and Japan still favor relative valuations in the equities markets. While it is beyond the scope of this report, we don’t expect a significant increase in interest rates over the next five years and, therefore, do not see a major upset to these valuation dynamics.

IMPROVING QUALITY HELPS SUPPORT VALUATIONS

An additional support to global equity valuations comes from an upgrade in quality in the composition of global stock indexes. In Exhibit 5 (next page), we decompose the MSCI World index into its sectors, and categorize sectors as High Valuation (technology, healthcare and consumer sectors) and Low Valuation (financials, industrials, energy, materials, telecom and utilities sectors). The higher valuation sectors tend to show higher profitability and recurring revenue, while having less commodity and interest rate exposure. As a result, they have garnered higher valuations in the markets over time. With the high valuation sectors having increased from 38% 10 years ago to 49% today, this has contributed somewhat to more elevated market valuations — simply because of this compositional shift.

EXHIBIT 5: VALUATION SUPERSTRUCTURE

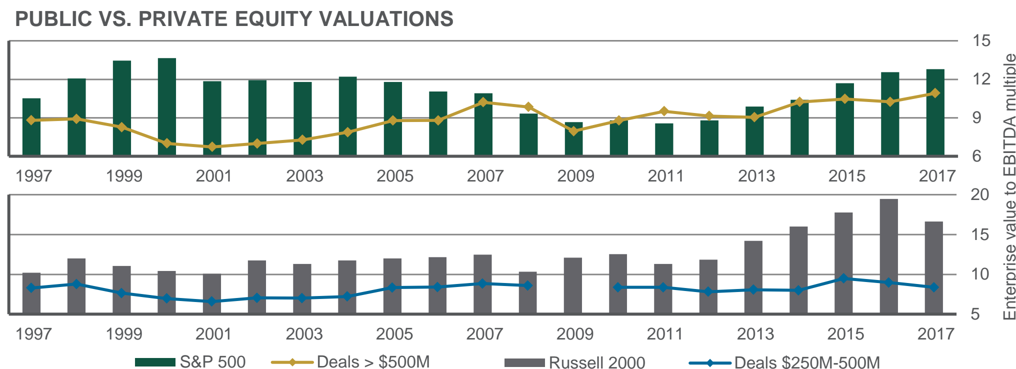


Source: Northern Trust Investment Strategy, Bloomberg, MSCI. Note: Real Estate included in Financials.

SMALLER PRIVATE EQUITY DEALS HAVE RETAINED PRICING DISCIPLINE

A final area we have received increasing questions about is the valuations in the private equity market. The questions are coming from two major corners — investors considering investing in the area and business owners who may have sold their businesses to private equity firms and are contemplating the investment of the proceeds. In Exhibit 6, we sliced the valuation data a couple of ways to illustrate the different markets. One caveat is that the private equity valuation data is not as robust as we are used to in the public markets, but the S&P Global Market Intelligence data we use is a commonly referenced source for private equity valuations.

EXHIBIT 6: IS PRIVATE EQUITY ALSO EXPENSIVE?



Source: Northern Trust Investment Strategy, Bloomberg, S&P Global Market Intelligence. Data unavailable in 2009 for Deals $250M-$500M. 2017 shows year-to-date data through 9/30/2017.

Overall, the data shows that large deals (over $500 million enterprise value) have seen valuations increase in recent years but are currently at around a 15% discount to the S&P 500. Valuations have fluctuated from 7 times EBITDA (earnings before interest, tax, depreciation and amortization expense) on the low-side to the 11 times level currently. Private equity valuations were at a major discount to the public markets for the 10 years from 1997 to 2006, contributing significantly to the strong performance of the asset class. Our forward looking expectation for private equity of a 2% premium to developed market equities over the next five years (8.4% annually) looks reasonable in light of current valuations.

The valuation data shows greater pricing discipline with mid-sized deals, maybe due to the greater inefficiencies in that market. Valuation levels bottomed out near 7 times EBITDA in the 2001 time period, peaked at 9.5 in 2015, and are at 8.3 through the first nine months of 2017. These valuation

levels compare favorably to large-cap private equity deals, to the S&P 500 at 12.8 times, and especially to the Russell 2000 (small cap stock index) at 16.6 times. While large private equity deals have gotten more expensive, the mid-sized deals have seen much steadier valuation levels and aren't showing signs of overvaluation.

CONCLUSION

Equity valuations have risen globally in the wake of the bull market, and have reached expensive levels in the U.S. and Europe. We think there is justification for current valuations given the low interest rate environment, which we do not expect to materially deteriorate over the next five years. Our research also indicates that selling out of markets that reach expensive levels hasn't added value in the past, and would have destroyed value for taxable investors. While we will continue to evaluate valuations as an input into our tactical asset allocation positioning, they are not currently a sufficient reason to reduce risk in portfolios. We will need to anticipate deterioration in the fundamental outlook (e.g. growth, inflation, or interest rates) for us to pull back from our positive outlook on risk taking today.

Special thanks to Tom O'Shea, investment analyst, and Daniel Ballantine, investment analyst, for data research.

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