

CHARTWELL REVIEW

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FOURTH QUARTER 2017

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Dow, S&P 500,
Nasdaq all hit new
highs



The fourth quarter was another very strong one for global equity markets, a solid quarter (finally) for commodities, but not really so much for fixed income. Most bond sectors did not return their coupon.

Few observers predicted the strength of capital markets in 2017. When all was said and done, nearly every asset class moved higher, and did so with record low volatility. In that context, the quarter was less “blowout” and more “same-old-same-old”. The S&P 500 gained 22% during the full year. Realized daily volatility was 7% - less than half the normal average, and the lowest since 1964. The largest peak to trough drawdown was 2.8%. The mildest decline since . . . 1999. The rest of the world did even better. Paced by a 37% gain for emerging market equities, 32 of the 45 largest nation-state stock markets out-gained the S&P 500 (in US\$) during 2017. Every major country ETF was positive.

Why, then, the reference to 1999? First, because the stock markets are very expensive, like they were in 2000. The S&P500’s year-end PE, based on trailing earnings, was 23.4x. And, it’s already jumped to almost 25x in January. Except for the distorted markets following the Financial Crisis, PE’s are the highest since the Internet Bubble burst.

Second, the return difference of Growth versus Value indices hit their highest levels in December since early in February 2000. On that basis, it definitely feels like 1999. The R1000 Growth index outperformed Value by 17% last year on a rolling 12-month basis. In Feb ’00, the difference was 35%. The MSCI EM Growth index outperformed Value by 19% last year. Value’s deficit has been building for six years, but the slide accelerated in 2017, just as it did in 1999.

Third, the driver of style performance differentials has been the Information Technology sector, which has led to its highest index weighting since 1999. Info Tech stocks account for 40% of the S&P 500 Growth index. If you include Amazon, the weighting leaps to 44% (surprisingly, Amazon is categorized as a retail stock).

Figure 1: Index Benchmarks

<i>Market Index</i>	Trailing Returns *				
	4Q 17	1 Yr	3 Yr	5 Yr	10 Yr
S&P 500	6.6	21.8	11.4	15.8	8.5
U.S. Top-cap Stocks	6.8	23.0	11.9	16.0	8.4
U.S. Mid-cap Stocks	6.1	18.5	9.6	15.0	9.1
U.S. Small-cap Stocks	3.3	14.7	10.0	14.1	8.7
Non-US Stocks (EAFE)	4.2	25.0	7.8	7.9	1.9
Non-US Stocks (Emerg)	7.4	37.3	9.1	4.4	1.7
3 mo. T-Bills	0.3	0.8	0.4	0.2	0.3
U.S. Aggregate Bonds	0.4	3.5	2.2	2.1	4.0
High Yield Bonds	0.4	7.5	6.4	5.8	7.9
Global Aggregate Bonds	0.8	3.0	2.7	3.1	4.2
<i>Consumer Prices</i>	(0.1)	2.1	1.6	1.4	1.6
Bloomberg Commodity	4.7	1.7	(5.0)	(8.5)	(6.8)
MSCI World Real Estate	3.7	10.3	5.4	7.3	3.8
Chartwell 65/35 Global	4.0	16.0	8.1	8.6	6.0

Figure 2: Average Mutual Fund Returns

<i>Fund Category</i>	Trailing Returns *				
	4Q 17	1 Yr	3 Yr	5 Yr	10 Yr
U.S. Large-cap	6.3	22.2	10.2	14.7	8.0
U.S. Mid-cap	5.6	19.1	9.1	13.8	8.2
U.S. Small-cap	3.5	13.5	9.4	13.5	8.4
International Lg. Cap	3.9	26.5	8.2	7.8	2.4
International Sm. Cap	5.6	33.6	12.4	11.2	5.5
Emerg. Mkt. Equity	6.0	34.2	8.1	4.4	1.9
Balanced/Hybrid	3.2	12.7	6.0	7.9	5.7
General Bond	0.4	3.9	2.4	2.2	4.4
High Yield Bond	0.5	6.5	5.1	4.8	6.7
Hedge Funds, Equity	3.2	13.2	5.7	6.6	3.2

*Annualized trailing returns for periods ending 12/31/17.

Economies, Economics, Prices, and Policy

	12/2017	12/2016
CPI - headline, y-o-y	2.1%	2.1%
CPI - core, y-o-y	1.8%	2.2%
Real GDP Growth*	2.3%	1.5%
Employment (000's)	154,345	151,926
Employment / Population %	60.1%	59.6%

* 2017 (estimated) vs. 2016, y-o-y

The American economy continues to expand, and the growth rate has recently recovered moderately from what were quite sluggish levels. Based on initial 4Q estimates, real GDP increased by 2.3% in 2017, compared with an increase of 1.5% in 2016.

The 3.2% increase in real GDP in the third quarter reflected positive contributions from personal spending, private inventory building, nonresidential fixed investment, net exports, and government spending. Another quarter of weak housing spending hurt growth.

Figure 3: Breaking Down 4th Quarter Real GDP

Factor	% Change from Preceding Period			
	4Q '17*	3Q '17	2Q '17	1Q '17
Real GDP Growth	2.6%	3.2	3.1	1.2
Nominal GDP Growth	5.0	5.3	4.1	3.3
Real Final Sales	3.2	2.4	2.9	2.7
Personal Spending	3.8	2.2	3.3	1.9
Private Investment	3.6	7.3	3.9	(1.2)
- Fixed, Businesses	6.8	4.7	6.7	7.2
- Fixed, Residential	11.4	(4.7)	(7.3)	11.1
- Chg. In Inventories (\$bn)	\$9	\$42	\$5	\$0
Export growth	6.9	2.1	3.5	7.3
Import growth	13.9	(0.7)	1.5	4.3
Government Spending	3.0	0.7	(0.2)	(0.6)

* BEA estimate on 1.26.18

Thus, it was disappointing to learn the Fed's first estimate is that 4th quarter real GDP growth fell back to 2.6%. This was despite an acceleration in personal spending, as disposable personal income rose and personal savings rates declined. Fixed investment was a primary contributor to Q4 growth, especially at the residential level. Increased government spending was also additive (which is not a purely good thing).

What held back growth in the 4th quarter was a sharp decline in net exports, as imports rose at double-digit rates, and sharply reduced inventory spending.

With the hurricanes' passing, the pace of payroll jobs growth strengthened considerably in Q4. Ultimately 611k jobs were created, compared to just 340k in Q3 and 581k in Q2. The household survey reflected a drop of 300k jobs during the quarter, but a 4.1% unemployment rate.

As a result of continued robust employment gains, folks were spending their money during the 4th quarter. A parlay of November and December gains pulled the 6-month annualized retail sales growth rate up to 7.1%. That's the fastest growth rate since late 2014. Sales grew at virtually all store types, with especially good growth at grocery stores, clothing stores and online merchants.

Consumer inflation rates remain quiet, per the following -

- ⇒ **"Headline" CPI** fell 0.1% during the 4th quarter, and was up 2.1% year-over-year. This was the same increase observed in 2016;
- ⇒ **"Core" CPI** (*ex-food & energy*) rose 0.25% during the 4th quarter, but only +1.8% during the past year.
- ⇒ The headline **Producer Price Index** for final goods and services rose a robust 0.8% during the latest quarter, and by 2.6% the past year. The core PPI *ex-food & energy* advanced 2.2% during the past year.

On the monetary policy front, the Fed raised the upper limit of its target Fed Funds rate by 25bps, to 1.50%. The market expects three raises in 2018, which would bring the base rate slightly above targeted consumer inflation.

The Fed also started to *not* roll over some of its maturing mortgage bond portfolio. This action is expected to liquefy \$168 billion of the Fed's mortgage holdings in 2018. The ECB is targeting a 3Q18 start date for reducing its balance sheet, but details remain nebulous.

On the fiscal front, a sweeping new tax law was signed. It is expected to reduce government revenues by over \$150 billion per year during the next 10 years. Income taxes of corporations and ultra wealthy individuals are forecast to be the most affected. Given the low marginal propensity to consume of those groups, economists are not optimistic about the law's long-term impact on growth.

Others expect the new reductions in tax rates will usher in a period of robust real economic growth. We hear 4+%, p.a. frequently talked of. If that develops, it's going to be because of the very sharp cuts in corporate tax rates. The 70% of the economy which is consumer-driven has historically shown very little or no correlation with income tax rates, as the below table reflects.

	top Marginal Personal Tax Rate	annualized Real GDP Growth
1950-1970	84.8%	3.86%
1971-1986	51.8	2.94
1987-1992	33.3	2.31
1993-2002	39.5	3.68
2003-2007	35.0	2.79
2008-2017	39.0%	1.39%

Bond Sectors Added a Little

Figure 4 once again reflects the “black ink” nature of the quarter (which is the expected case), except in the short end of the high quality US yield curve (which is almost never the expected case). Figures 5 and 6 track changes in domestic and global market yields respectively.

Short-term Treasuries saw their yields rise in tandem with December’s 25bps rise in the Fed Funds rate. Yields from 3-months to 5-years were each higher by 30-40bps, leading to losses in all but the very short maturities. The 10-year Treasury closed the quarter with a y-t-m of 2.41%. That was a mere 8bps rise in the quarter, which was still enough to push the bond’s total return to a loss of 0.25%. The bond’s yield dropped slightly from 2.44% at the end of last year, in defiance of analysts’ predictions that yields would soar in 2017 due to a surge in growth and inflation.

During the quarter and the full-year, we observed a sharp twist in the yield curve. Short-term yields out to 2-years rose in every quarter last year, while longer-term Treasuries, like the 30-year bond, had a much different experience. The bond’s y-t-m dropped to only 2.74% at year-end, a 12 bps decline in the quarter and a 30 bps drop for the full year. This led to a robust 3.0% fourth quarter return and a 9.1% one-year return.

Investment grade credit bond spreads narrowed modestly in the quarter. Adjusted for optionality, U.S. Corporate bonds traded at a spread of 93bps above Treasuries, down from 101bps at the end of September and 123bps at the end of 2016. We see in Figure 5 that “BBB” Credit bonds yields rose by just 8bps, to 3.59%. As a result of some tightening, investment grade corporates again modestly outperformed other high quality sectors (+1.1%). For the full year, Investment Grade corporates performed very well, as a 30bps drop in credit spreads translated into 6.2% total return. The best returning sector of the domestic bond market in 2017 was long-term corporate bonds, which rose 11-13% depending on the issue.

HY bond yields widened out by nearly 40bps in the quarter, resulting in a low quarterly return. The HY index is much shorter duration than investment grade securities. Even so, dropping credit spreads for the whole of 2017 led to one-year returns of 7.5%. The higher credit quality and very short duration leveraged loan sector returned just 4.3%. As a low interest rate risk strategy, leveraged loans have produced attractive returns.

Following a strong December, hard currency (essentially, US\$) emerging markets bonds gained 1.2% for the quarter. But it was very short-term EM securities, which trade like local currency, that led international markets in the quarter. They returned 2.0% in Q4 and 11.5% during 2017. Overall, the year’s top performing bond sector was longer-term local currency EM bonds, returning 15%.

Figure 4: Primary Bond Sector Returns (%)

Index	4Q '17	1 Year	3 Years	5 Years
US Aggregate Bond index	0.4	3.5	2.2	2.1
US Gov't/Credit: (1-3yrs)	(0.2)	0.8	0.9	0.8
US Treasury: Long	2.4	8.5	2.8	3.5
US TIPS (1-10yrs)	0.5	1.9	1.8	0.1
Mortgage-Backed (MBS)	0.2	2.5	1.9	2.0
CMBS	0.4	3.5	2.7	2.5
Asset-Backed (ABS)	0.0	1.6	1.6	1.3
Inv. Grade US Credit	1.1	6.2	3.6	3.2
Leveraged Loans	1.2	4.3	4.8	4.5
US High Yield Credit	0.4	7.5	6.4	5.8
Municipal Bonds, broad	0.8	5.5	3.0	3.0
Global Aggregate, (\$ hdgd)	0.8	3.0	2.7	3.1
Global Credit, (\$ hdgd)	1.0	5.9	4.3	4.0
Emerg. Mkts Bonds (US\$)	1.2	10.3	7.1	4.6

Figure 5: Fixed Income Yields – 4th Quarter 2017

(YTW, % p.a.)	Dec-17	Sep-17	Jun-17	Dec-16	1-Year Change
US Treasuries					
3-month	1.39	1.05	1.02	0.50	0.89
2-year	1.89	1.48	1.38	1.20	0.69
5-year	2.20	1.93	1.88	1.92	0.28
10-year	2.41	2.33	2.30	2.43	(0.02)
30-year	2.74	2.86	2.84	3.05	(0.31)
BarCap Aggregate	2.72	2.55	2.55	2.61	0.11
BBB Credit	3.59	3.51	3.55	3.80	(0.21)
AA Credit	2.70	2.56	2.56	2.64	0.06
Agency MBS	2.91	2.81	2.87	2.85	0.06
Emerging Mkts (\$)	5.26	5.19	5.37	5.79	(0.53)
US High Yield	5.84	5.47	5.68	6.17	(0.33)
UST30yr - UST2yr	0.85	1.38	1.46	1.85	(1.00)

Figure 6: Sovereign Bond Yields, selected countries

10-year yields (%)	Dec-17	Sep-17	Jun-17	Dec-16	1-Year Change
Switzerland	-0.10	0.00	-0.07	(0.15)	0.05
Japan	0.04	0.02	0.05	0.04	0.00
Germany	0.45	0.47	0.37	0.27	0.18
Britain	1.25	1.36	1.06	1.27	(0.02)
Spain	1.50	1.60	1.45	1.43	0.07
Italy	2.07	2.21	2.02	1.88	0.19
United States	2.41	2.33	2.30	2.43	(0.02)
Australia	2.68	2.79	2.46	2.79	(0.11)
Poland	3.30	3.36	3.29	3.71	(0.41)
China (5 year)	3.88	3.62	3.49	2.93	0.95
Greece (new bonds)	4.08	5.77	5.50	6.72	(2.64)
India	7.32	6.67	6.50	6.37	0.95
Russia	8.13	8.13	8.13	8.45	(0.32)
Brazil	8.62	8.72	10.01	11.31	(2.69)

US Stocks Roll

The U.S. equity markets picked up steam out of the third quarter to establish all kinds of records by year-end. Many of the drivers were the same; however, the growing realization that tax reform legislation would be enacted has to be considered the principal propellant. In addition to the immediate earnings benefit for many corporations, it eliminates years of uncertainty and is expected to bolster business confidence. Earnings growth forecasts for 2018, which were already in the 15-20% range, have been increased by another 5%. 2019 is forecast up another 10%. It is fair to say that optimism among equity market strategists is at some of its highest levels in many years (which is scary for contrarians).

Beyond each of the major indices posting record highs during the quarter, there were a number of other interesting records; The S&P 500 (total return) has risen for 14 straight months, has gone over 360 trading days without a 5% drawdown, experienced a daily price change >1% on only eight trading days in 2017, only experienced a single 2.8% drawdown in 2017, and generally reflected the lowest daily price volatility since 1963.

Low volatility, double-digits forecasted earnings growth, fiscal stimulus, and inflation and bond yields remaining surprisingly tame, all fueled equity investor enthusiasm for the quarter and the year. Thus, the S&P 500 index never closed at a price below its 2016 year-end close.

Figure 7: U.S. Equity Market - Size/Style Returns

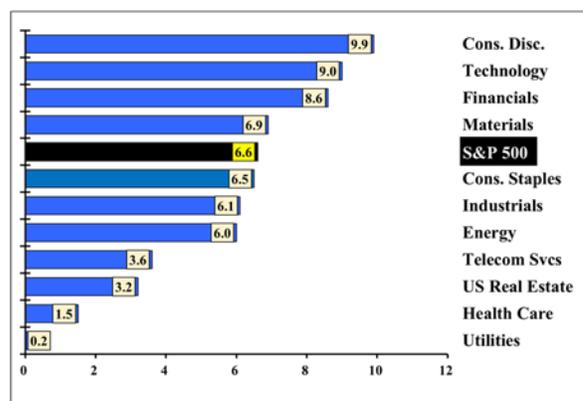
	4Q '17	1-yr	Trailing 3-yrs	5-yrs
Growth				
Large Cap	8.2	32.0	14.6	17.8
Mid Cap	6.8	25.3	10.3	15.3
Small Cap	4.6	22.2	10.3	15.2
Value				
Large Cap	5.2	13.8	8.5	13.8
Mid Cap	5.5	13.3	9.0	14.7
Small Cap	2.1	7.8	9.6	13.1

In terms of market caps and style, growth indices continued to sustain their outperformance over value, and larger caps outperformed smaller caps across the style spectrum. Notwithstanding a broader market since Labor Day, the technology sector maintained its leadership throughout the year, accounting for over one-third of the S&P 500's return.

The rally in January has been the best start to a year since 1987. The market has been driven by two things - the earnings outlook and simple optimism that the advance will keep going (i.e., momentum). A Q4 survey by the University of Michigan shows that a record 66% of Americans believe the stock market will climb in 2018.

The average diversified U.S.-stock fund registered a total return of 18.3% in 2017. Strong, yes, but international-stock funds rose 26.8%. This environment saw investors pull \$39 billion from long-term mutual funds and ETF's focused on U.S. stocks, while adding \$234bn to international stock funds and \$380bn to bond funds. New cash certainly came out of mattresses, but it didn't flow, yet, into US stocks.

Figure 8: US Sector Returns -4th Quarter 2017



Very large-cap stocks (the R200 index) posted a total return of 6.8% in Q4, and rose 23% this year. But it continues to be a *very large cap growth* stock driven domestic market. That sub-class added a 8.2% return in Q4, and returned 32% in 2017. By comparison, very large-cap *value* stocks returned just 5.2% and 13.8%, respectively.

Small/mid-cap stock indices again produced mixed results in Q4. Small/mid stocks underperformed large-caps for the quarter, and for the full year. And small/mid *growth* stocks outperformed value (see Figure 7).

Sector performance dispersion across the large-cap market was just below 10% (consumer discretionary vs. utilities). The dispersion was similar in Q3. Over the past twelve months, larger tech stocks are up 39%, while telecom services and energy stocks have each lost 1%.

Figure 9: One-year Trailing P/E Ratios - Dec. 2017

	Value	Blend	Growth
US Large	20.6	23.4	26.8
US Mid	20.8	24.3	30.9
US Small	20.5	26.1	35.0
EAFE		17.1	
Emerg. Mkts		15.1	

International Stocks Rock

Amid a synchronized world recovery, strong corporate earnings growth and continued central bank stimulus led non-US markets to achieve new highs in 2017. Within the OECD's 45 largest ranked countries, all local stock markets posted positive returns in 2017. The Polish, Argentinian, and Austrian markets each rose over 50%. The Saudi, UAE, and Russian markets rose single digits.

The ECB and BOJ left interest rates unchanged, despite improving economic growth and higher inflation. The US dollar once again fell against the euro, yen and most other currencies, adding to \$-based returns for the quarter and (quite sizably) for the year. (See Figure 10.)

Developed markets (MSCI World ex-US) rose 4.2% in Q4, and 24% for the year. Canada's gains (4.3% and 16%, respectively) were muted by modest energy prices and a competitive environment. The all-encompassing MSCI AC World ex-US index rose 5% in Q4 and 27% for the year. Gains were driven by economically sensitive sectors (technology, materials, energy).

Figure 10: International Equity Markets – Returns

thru 12/31/17	U.S. Dollar Returns (%)		Local Currency Returns (%)	
	4Q '17	1-Yr	4Q '17	1-Yr
World ex-USA	4.2	24.2	3.7	14.6
- MSCI Growth	5.1	27.6	4.6	17.9
- MSCI Value	3.4	21.0	2.9	11.6
- Europe	2.2	25.5	1.3	13.1
- Pacific, ex-Japan	7.0	25.9	7.1	19.4
- Japan	8.5	24.0	8.6	19.8
- United Kingdom	5.7	22.3	4.9	11.7
Int'l Small Caps	5.8	31.0	5.4	21.3
Emerging Mkts	7.4	37.3	5.7	30.6
- EM Asia	8.4	42.8	6.1	35.9
- EM Europe	5.2	20.5	5.0	12.3
- EM Lat Amer	(2.3)	23.7	1.9	22.1
- EM BRIC	6.6	41.8	7.0	40.3

European markets rose in absolute terms during the 4th quarter, but lagged on a relative basis in part due to a renewed focus on political risks. Political uncertainty following Catalonia's unauthorized independence referendum weighed on the Spanish market, while talks to form a coalition government in Germany broke down, raising the possibility of a renewed grand coalition, a minority government, or fresh elections. Investors began looking ahead to March's Italian general election where polls remain tight and a hung parliament appears likely.

Improving economic activity, accelerating corporate earnings growth and diminishing political uncertainty in the region helped restore stability to the EU and the euro.

GDP growth in the euro-zone rose to 2.6% (annualized), up from 2.3% in the prior quarter and unemployment fell to 8.8%, the lowest level since 2009. For the year, the euro rose 9% versus the US dollar. In addition to Austria and Poland, Denmark (34.7%), the Netherlands (32.2%), France (28.8%) and Germany (27.7%) all outperformed US equity markets. In the UK, despite the uncertainty of Brexit negotiations, the stock market advanced 22.3%.

Japanese equities were top performers in Q4 (8.5%), amid improving economic growth and snap election victories by Prime Minister Abe, which trumped tensions with North Korea. Japan's economy posted its seventh consecutive quarter of growth (2.5%, annualized), marking the country's fastest expansion in more than two years. Inflation rose 0.9% in November, a multi-year high. Exports rose every month of the year, despite the strong yen (it appreciated 4% versus the Dollar in 2017).

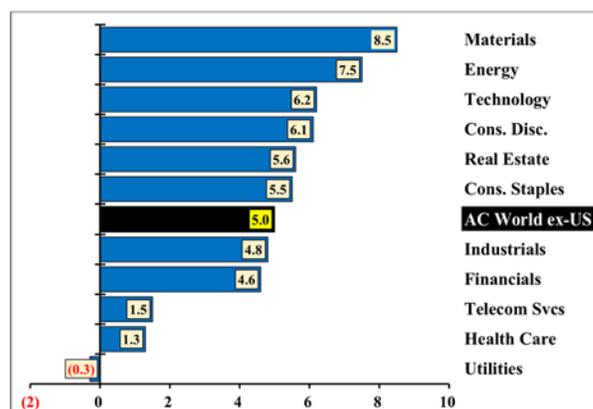
The Pacific region performed similarly to Europe for the year (24.6%). All Asian developed markets rose, led by Hong Kong (+36.2%) and South Korea (+49%).

Fueled by stimulus measures in China, a weaker US dollar, and strong demand for technology related components and services, emerging markets (37.3%) took top return honors in 2017. This marked their strongest year since 2009. EM Asia (42.8%) was the top performing region in 2017, propelled by the technology sector's 60% surge. Chinese internet giants Tencent (113%), Alibaba (96%), and Ping An Insurance (112%) fueled results. Vietnam (+39%) and India (+39%) also shined.

Despite a weak Q4, Latin America (23.7%) was the second best performing EM region. Chile was the best performing market (42%), Brazil gained 24% and Mexico was the laggard, rising only 16%.

The weakest performing EM region, Europe, was still up 20.5% in 2017. Returns in that market ranged from Poland (+55%) to Russia (+4%).

Figure 11: Ex-USA Sector Returns (4th Qtr 2017)



Back Page Perspectives

2017 was a sharp change from what most money managers and analysts anticipated at the start the year. The consensus expectation was for “sideways” equity markets this year, with earnings gains and unchanged index levels combining to reduce high PE valuations.

Didn’t happen. Yes, earnings were up in 2017; Operating earnings rose 18% and “as reported” EPS rose 17%. There was just no pause. Market PE’s ended 2017 higher than they began it. 21x and 24x, respectively. Thus, the comparison to the end of the millennium, when the trailing PE *on operating earnings* hit 28.4x.

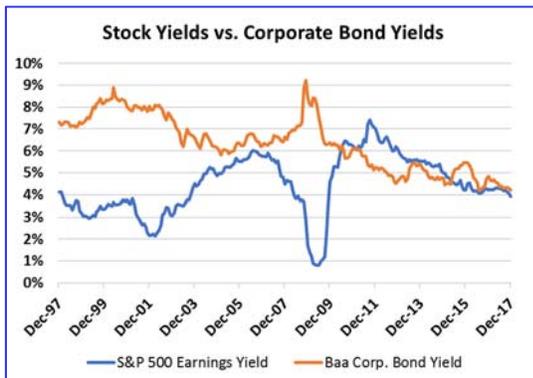
It may not be time to head for the door. The S&P 500’s PE in this cycle hit 20x at the end of 2015. Since then it’s averaged 21x. It has only just reached outside that range.

At the end of 1999 we were only 3 months away from the beginning of a bear market, after nearly 20 straight quarters of gains. Today, we’ve had nearly twenty straight quarterly stock market gains. Something’s got to give, right? We could have a bear market start in 2018.

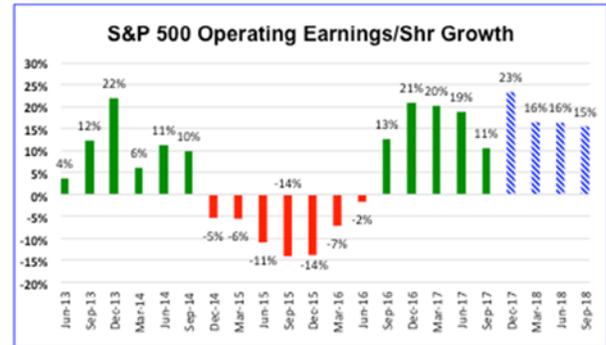
Perhaps, but the market’s PE remained above 20x from 6/30/97 through 6/30/02 (peaking at 29x). At the end of 1999, we were just halfway finished with high market valuations. What we were done with at the end of 1999 was earnings growth. From 6/97, when the market PE first hit 20x, quarterly operating earnings rose 34% through June 2000. Then, during the following two years, earnings dropped -22%. Multiples on declining earnings remained resilient through the middle of 2002. Returns tracked negative as earnings declined, but market multiples remained high until capitulating in early 2003.

We think today is quite different. Yes, the S&P’s earning multiple is certainly elevated from its average since 1936 of 17.1x. It’s even above the average since 1999 of 19.0x. However two other valuation determinants are also true –

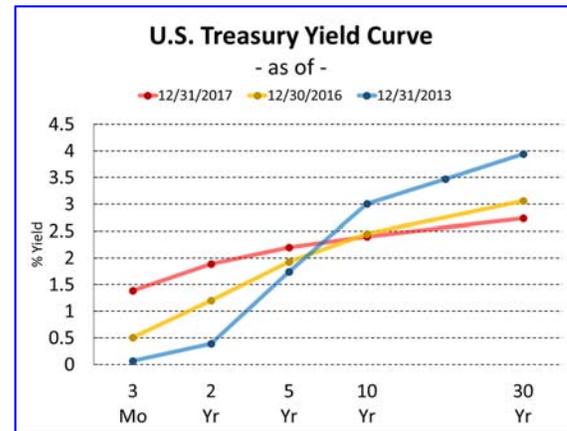
- 1) Bond yields, which undeniably compete with stocks for investor dollars, are low. The yield-to-maturity of “BBB” bonds at the end of 1999 was 7.29% (down from 8.33% a year earlier). Today, the yield on “BBB” bonds is only 3.60% (down from 3.81% a year earlier), and credit spreads have collapsed.



- 2) Forecasts of earnings growth are robust. Last quarter, we displayed the below chart, which indicated forecast 2018 earnings growth in the high teens. Due to the new tax law, those estimates have been jacked up an additional 5% by the analyst community, and 2019 is being estimated at +10%.



Sure, the new earnings estimates are likely all too high right now, as the analyst community grapples with the uncertain impact of the tax cut. But, in the midst of a synchronized global recovery, the *direction* of earnings growth appears clear for at least the next year.



As noted, we expect a total swing this year of over \$300 billion in yearly government bond supply/demand, unless the Fed backs off on its plans. We think this imbalance will be hard for the markets to absorb, especially as the Fed follows through on its indications of three FF rate hikes. Thus, we think interest rates are headed up. Our guess is 75bps on the short end, to 2.25%. Longer-term Treasury bond yields might rise as much as 1.5% from current levels during the next 18 months, to 4.2+%.

Sell high, buy low. See you next quarter!

Natalka Bukalo
Richard Shaffer, CFA