Second Quarter 2017 Market Newsletter Summary

- Most of the stock markets around the world performed well in the first half of the year.
- The global economy is witnessing a synchronized recovery.
- Central banks around the word have signaled that they will reverse the easy monetary conditions. However, they say they will do it gradually.
- Economic growth and corporate earnings coupled with low interest rates can support US stock prices.
- Non-US stocks (Both developed and emerging) are relatively more attractive than US stocks. Cheaper valuations, improving economic conditions and strong corporate results should support the rally in non-US stocks.
- Risks to the above outlook are geopolitical uncertainty and policy errors. For Emerging Markets, uncertainty in the Chinese economy is an additional risk factor.
- Our analysis of historical stock performance has established that waiting for a crash to invest in stocks has a high opportunity cost. Historically, various 'buy the dip' strategies underperformed a buy and hold strategy, both in terms of absolute returns and relative returns.
- Investors are better off creating a sound investment strategy in line with their objectives and sticking to it. Robust portfolio construction, selecting suitable investment vehicles, tactical allocation and macro aware investing can add additional value.

Second Quarter 2017 Market Commentary

Table 1: Market indices (As of June 30, 2017)

(Returns include dividends)	**Quarter to date**	**Year to date**	**1 Year**	**3 Year Annualized**	**5 Year Annualized**
S&P 500	3.09%	9.34%	17.90%	9.61%	14.63%
S&P Mid Cap 400	1.97%	5.99%	18.57%	8.53%	14.92%
S&P Small Cap 600	1.71%	2.79%	22.47%	9.32%	15.47%
MSCI Emerging Markets	6.38%	18.60%	24.17%	1.44%	4.33%
MSCI EAFE	6.37%	14.40%	20.83%	1.61%	9.18%
Investment Grade Credit (C0A0)	2.42%	3.88%	2.33%	3.54%	4.05%
Non-Investment Grade Credit (H0A0)	2.14%	4.91%	12.75%	4.48%	6.91%
Bloomberg Commodity Index Total Return	-3.00%	-5.26%	-6.50%	-14.81%	-9.25%
Dollar Index (DXY)	-4.71%	-6.44%	-0.54%	6.23%	3.22%
Vanguard Total Bond Market Index (VBMFX)	1.45%	2.34%	-0.56%	2.32%	2.02%
10 Yr Rate	2.30% 06/30/2017	2.45% 12/31/2016	1.49% 06/30/2016	2.51% 06/30/2014	1.66% 06/30/2012

Source: Standard and Poor's, ml.com, MSCI.com, Morningstar, Bloomberg

Table 2: Recent Major US Economic Releases (These indicators have a significant impact on the stock market)

As of July 7, 2017			
	Latest Release	Recent Trend	Notes
Non Farm Employment	222,000	Positive	The job situation was strong in June and prior month's numbers were revised up. The unemployment rate ticked up as the participation rate went up. Wages however, are still weak with an increase of 0.2% last month and 2.5% year over year.
Weekly Claims for Unemployment Insurance	248,000	Positive	Another indication of the strong employment situation is the historically low claims for unemployment insurance.
ISM Manufacturing Index (Number over 50 points to growth)	57.8	Positive	Manufacturing is growing as the ISM index is well above 50 and underlying components were all strong.
ISM Non Manufacturing Index (Over 50 points to growth)	57.4	Positive	Non manufacturing has consistently been strong and continues to be so.

	Latest Release	Recent Trend	Notes
Consumer Prices (Month over month change)	-0.1%	Positive	Despite a growing economy, inflation continues to be low, supporting the case for a gradual increase in rates by the Federal Reserve. Over the last year inflation was 1.9%.
Producer Prices (Month over month change)	0%	Positive	Like consumer prices, producer prices are well contained. Year over year producer prices have edged up 2.4%
Retail Sales	-0.3%	Negative	Retail sales have been weak this year in contrast to the strong employment and high consumer confidence. The weak wage growth could be one possible explanation.
Consumer Confidence (Conference Board)	118.9	Positive	Although off its highs, consumer confidence continues to be very strong.
Durable Goods (Month over month change)	-1.1%	Negative	The headline number was affected by aircraft orders. Core capital goods was up 0.1% in May. Core capital goods orders are up 5% over the last year which is better than the situation last year, but still weak on an absolute basis.
Industrial Production	0.0%	Positive	Industrial production disappointed last month and is a stark contrast to the ISM manufacturing index. However, it has been positive this year and is up about 2% year over year.
Capacity Utilization	76.6%	Negative	There is still considerable slack in the economy
Housing Starts	1.092MM	Negative	The red hot housing market has tapered off in recent months as both starts and permits have fallen this year. Starts are decisively on an uptrend since the recession but far below the highs in previous cycles.
Home Prices (Case-Shiller 20 city Index- Month over Month)	0.3%	Negative	Home prices across major cities are still firming up but at a lower rate.
GDP (Real, Annualized)	1.4%	Positive	First Quarter GDP growth was relatively low but has been consistently revised up.

Source: Bloomberg, www.federalreserve.gov, www.bls.gov, www.ism.ws, www.nahb.org.

The rally in equities continued in the second quarter. As per an analysis by the Wall Street Journal, 26 out of 30 major indexes representing the world's biggest markets by value rose in the first half of the year, making it the best first half performance since 2009. US bonds (represented by the Vanguard Total Bond Market Index Fund (VBMFX)) also rallied as longer duration bonds rose while shorter duration bonds fell in response to interest rate hikes by the Federal Reserve. The yield curve has flattened this year- and this bears watching closely, because an inverted yield curve has been a harbinger of a recession in the past- but as of now this is not a concern. Commodities continued their slide and the dollar weakened against major currencies.

The World Economy

As seen in the table above, the US economy is growing, with a few areas of weakness especially in capital goods and retail sales. However, the economy is growing at a lower rate than in past recoveries. There are several structural reasons for this, including excess capacity, debt deleveraging, impact of technology and an aging population. There is a lot of discussion and alarm at how long the recovery (and the rally in risk equites) has gone on for, but there are no signs of an overheated economy and inflation has been subdued so far. On the political front, while President Trump's pro-growth agenda have been pushed out in time, there is still a belief that it will be passed over time albeit in a diluted form.

Economies outside the US are also growing, leading to a synchronized global recovery. As seen below, the PMI index for all major countries are at or above the key level of 50 which indicates growth. Similarly, global services PMI is also above 50.

Figure 1: Global Purchasing Manager's Index for Manufacturing (PMI)

		2015						2016												2017					
		Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
	Global	50.8	50.5	50.4	51.0	51.0	50.7	50.9	50.0	50.7	50.2	50.1	50.4	51.0	50.7	51.0	51.9	52.0	52.7	52.7	53.0	53.0	52.7	52.6	52.6
	Developed	52.1	51.9	51.7	52.6	52.3	52.0	52.1	50.8	50.9	50.5	50.3	51.1	51.4	51.2	51.5	52.6	52.9	53.7	54.2	54.1	53.9	54.1	54.1	53.9
	Emerging	49.1	48.6	48.4	49.0	49.2	49.0	49.4	48.9	50.2	49.6	49.5	49.3	50.3	50.1	50.3	51.0	50.8	51.1	50.8	51.3	51.6	50.8	50.5	50.8
Eurozone	Eurozone	52.4	52.3	52.0	52.3	52.8	53.2	52.3	51.2	51.6	51.7	51.5	52.8	52.0	51.7	52.6	53.5	53.7	54.9	55.2	55.4	56.2	56.7	57.0	57.4
	France	49.6	48.3	50.6	50.6	50.6	51.4	50.0	50.2	49.6	48.0	48.4	48.3	48.6	48.3	49.7	51.8	51.7	53.5	53.6	52.2	53.3	55.1	53.8	54.8
	Germany	51.8	53.3	52.3	52.1	52.9	53.2	52.3	50.5	50.7	51.8	52.1	54.5	53.8	53.6	54.3	55.0	54.3	55.6	56.4	56.8	58.3	58.2	59.5	59.6
	Italy	55.3	53.8	52.7	54.1	54.9	55.6	53.2	52.2	53.5	53.9	52.4	53.5	51.2	49.8	51.0	50.9	52.2	53.2	53.0	55.0	55.7	56.2	55.1	55.2
	Spain	53.6	53.2	51.7	51.3	53.1	53.0	55.4	54.1	53.4	53.5	51.8	52.2	51.0	51.0	52.3	53.3	54.5	55.3	55.6	54.8	53.9	54.5	55.4	54.7
Developed	Switzerland	50.0	51.3	48.0	49.6	49.0	49.9	50.2	51.1	53.0	53.1	55.3	51.5	51.5	51.6	54.4	55.2	55.9	56.2	54.6	57.8	58.6	57.4	55.6	60.1
	UK	52.3	51.8	51.5	54.5	52.5	51.2	52.5	50.9	51.1	49.5	50.4	53.1	48.3	53.5	55.3	54.2	53.5	55.9	55.6	54.6	54.0	57.0	56.3	54.3
	US	53.8	53.0	53.1	54.1	52.8	51.2	52.4	51.3	51.5	50.8	50.7	51.3	52.9	52.0	51.5	53.4	54.1	54.3	55.0	54.2	53.3	52.8	52.7	52.1
	Japan	51.2	51.7	51.0	52.4	52.6	52.6	52.3	50.1	49.1	48.2	47.7	48.1	49.3	49.5	50.4	51.4	51.3	52.4	52.7	53.3	52.4	52.7	53.1	52.4
Emerging	Brazil	47.2	45.8	47.0	44.1	43.8	45.6	47.4	44.5	46.0	42.6	41.6	43.2	46.0	45.7	46.0	46.3	46.2	45.2	44.0	46.9	49.6	50.1	52.0	51.5
	Russia	48.3	47.9	49.1	50.2	50.1	48.7	49.8	49.3	48.3	48.0	49.6	51.5	49.5	50.8	51.1	52.4	53.6	53.7	54.7	52.5	52.4	50.8	52.4	50.3
	India	52.7	52.3	51.2	50.7	50.3	49.1	51.1	51.1	52.4	50.5	50.7	51.7	51.8	52.6	52.1	54.4	52.3	49.6	50.4	50.7	52.5	52.5	51.6	50.9
	China	47.8	47.3	47.2	48.3	48.6	48.2	48.4	48.0	49.7	49.4	49.2	48.6	50.6	50.0	50.1	51.2	50.9	51.9	51.0	51.7	51.2	50.3	49.6	50.4
	Korea	47.6	47.9	49.2	49.1	49.1	50.7	49.5	48.7	49.5	50.0	50.1	50.5	50.1	48.6	47.6	48.0	48.0	49.4	49.0	49.2	48.4	49.4	49.2	50.1
	Taiwan	47.1	46.1	46.9	47.8	49.5	51.7	50.6	49.4	51.1	49.7	48.5	50.5	51.0	51.8	52.2	52.7	54.7	56.2	55.6	54.5	56.2	54.4	53.1	56.2

Lowest relative to 50 PMI — 50 — Highest relative to 50 PMI

Source: JP Morgan Asset Management

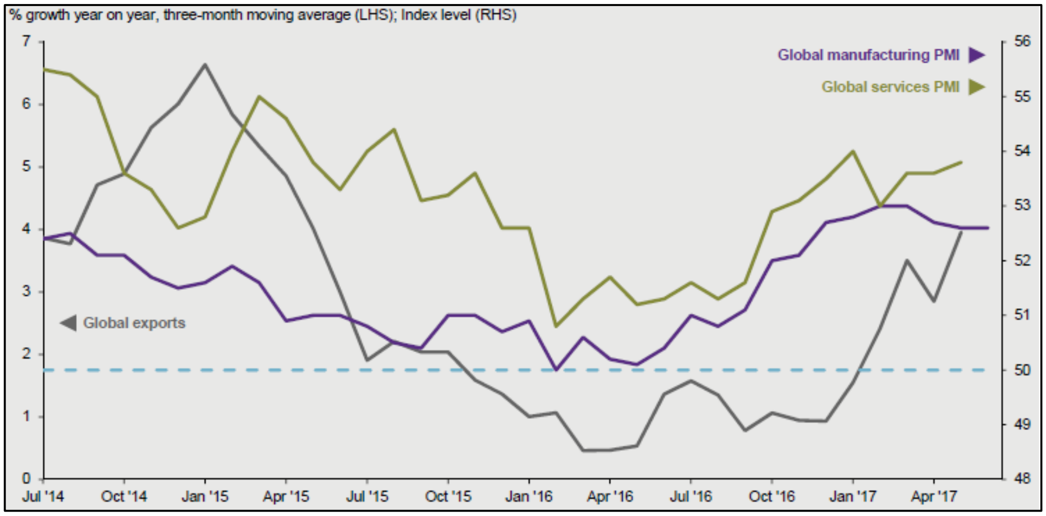
Helping the recovery in Europe is political stability following key elections and a recession of populist political and trade risks that existed earlier in the year. Concerns about a breakup of the Eurozone have cooled. World trade has improved (As seen in Figure 2) and is set to post the best growth since 2010.

Central Bank Activity

In response to improving economic conditions, central banks around the world have signaled that they will reverse easy monetary conditions. In the US, the Federal Reserve has already raised rates twice this year (and four times since December 2015) and has shifted the focus on unwinding its massive balance sheet. Similarly, central banks in Europe, England and Canada have sounded hawkish lately. The ECB said it will continue with its stimulus program but acknowledged the 'strengthening and broadening' recovery and sixteen straight quarters of growth in the Euro area.

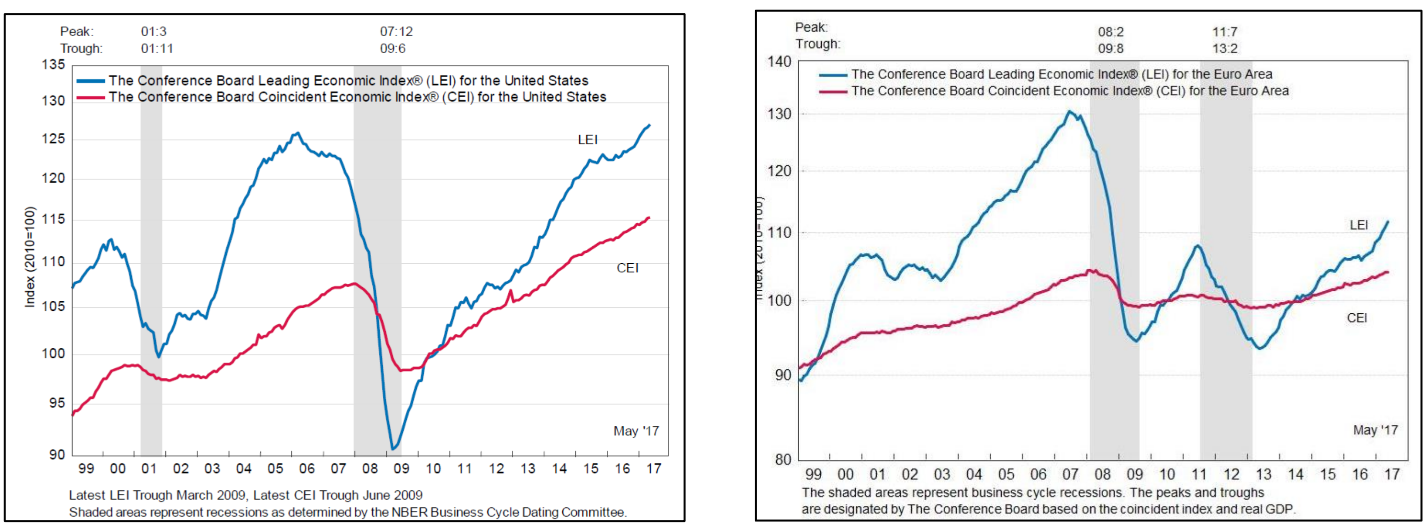
Similarly, the Bank of England did not increase interest rates but made hawkish statements suggesting rate hikes in the near term. The Bank of Canada raised interest rate for the first time in seven years. They have all stressed that reversal of monetary conditions will be gradual.

Figure 2: Global Exports, PMI Manufacturing and Services



Source: JP Morgan Asset Management

Figure 3: Leading economic indicators in the US and the Euro area are forecasting strong growth



Source: The Conference Board.

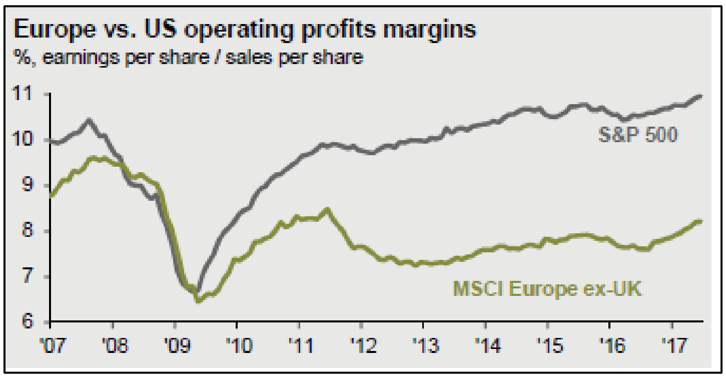
Corporate earnings and Valuation

First quarter 2017 corporate earnings in the US were robust. As per FactSet, Companies in the S&P 500 index reported earnings growth of 13.9%; the best since the third quarter of 2011. Revenue grew by 7.7% with all 10 sectors in the index reporting year over year revenue growth. The strong earnings growth is expected to continue into the second quarter of 2017 when earnings are expected to grow by 6.4%. However, companies on average reported earnings growth that was 2.9% over the expected growth in the last 5 years. If second quarter earnings follow history, actual earnings could grow by 9.5%. The forward 12-month P/E for the S&P 500 index is 17.3, which is higher than the 5-year average of 15.3 and the 10-

year average of 14. However, strong economic activity and corporate earnings coupled with low interest rates can support these valuations.

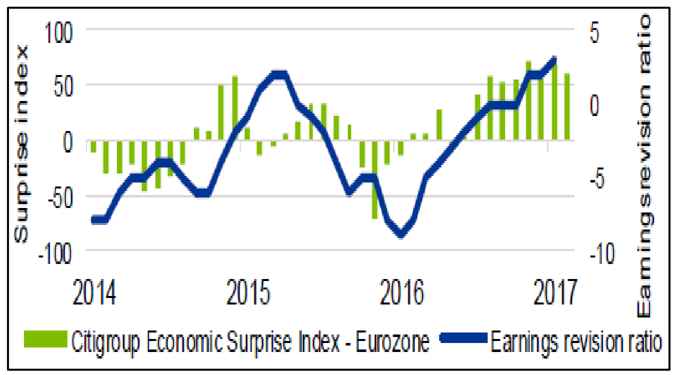
Companies outside the US are also reporting good growth. In Europe, in the first quarter of 2017, 23% of companies beat earnings estimate by 5% or more and 41% beat by 1% or more as per an analysis by Morgan Stanley. This was the best performance since 2003. In the second quarter of 2017, earnings are expected to grow by 9.6% as compared to last year as per Thomson Reuters. Revenue is expected to grow by 4.4%. There are reasons to expect further robust earnings growth in the Euro area. For one, European companies are underearning compared to history and have a lot of room for improvement. For example, profitability estimates have been improving lately, but are still below pre-crisis level as seen in Figure 4 below. Secondly, Eurozone stocks are more sensitive to global growth as compared to their US counterparts as per an analysis by Blackrock. Thus, an improving global growth could benefit European stocks more than they do US stocks. Already, the earnings revision ratio (Ratio of upgrades relative to downgrades) for European companies is up significantly, the best since 2010 as seen in Figure 5

Figure 4: European profit margins are well below its peak



Source: JP Morgan Asset Management

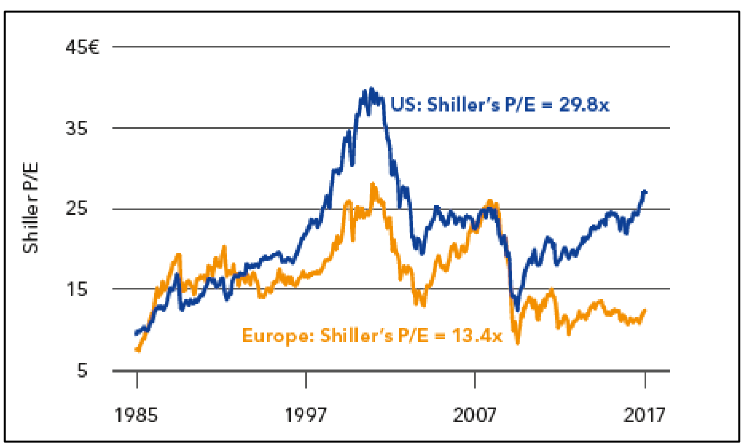
Figure 5: Earnings improvement in the Eurozone



Source: Blackrock

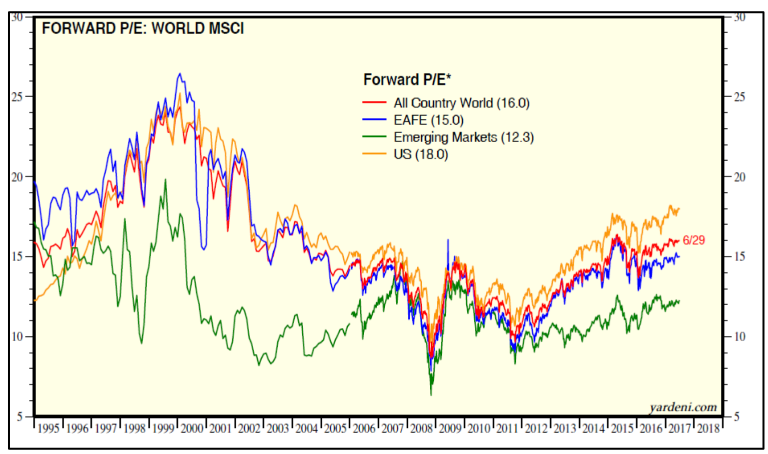
The improving economic and corporate numbers in Europe have resulted in stocks rallying sharply this year- but they are still below the highs logged in 2007. Despite the rally, they trade at a discount to valuation levels in the past. As seen in Figures 6 and 7, European stocks are at the lower end of their historical valuation range and considerably cheaper than the US indicating that the rally could continue further.

Figure 6: Shiller CAPE P/E for US and European stocks



Source: Blackrock, CS

Figure 7: Forward P/E various regions



Source: Yardeni, MSCI

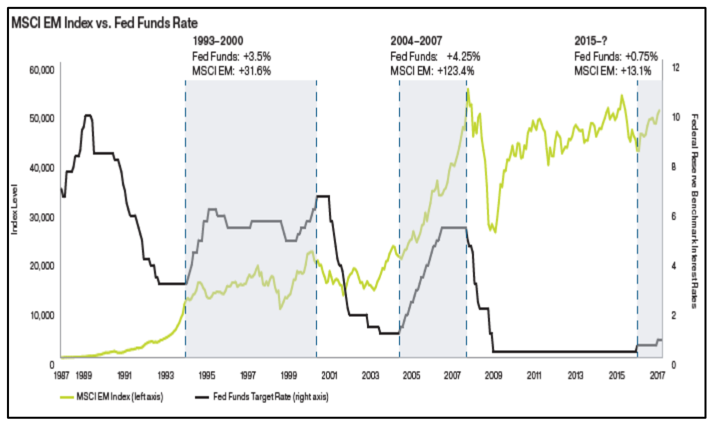
The same can be said of emerging market (EM) economies and equities. Stabilizing commodity prices and currencies accompanied by improving economic growth should provide a tail wind for EM equities. The region also has strong secular growth prospects because of a relatively young population and a huge potential to narrow the standard of living gap with developed countries. Sales and profits for the region are accelerating as seen in Figure 8. Historically, EM equity returns have closely followed earnings growth and have performed well so far this year. Like European equities, despite the rally, EM equities are trading at a discount to their historical valuation and considerably cheaper than US equities as seen in Figure 7. Contrary to popular belief, EM equities tend to do well during rate tightening cycles as seen in Figure 9. Recent EM underperformance in the face of rate increases during the ‘taper tantrum’ in 2013 and the run up to the hike in Fed Funds rate in December 2015 was an anomaly as per an analysis by Oppenheimer. During the 2004-2007 rate tightening cycle, EM equities delivered 123%. Also, current macro conditions in the EM countries support EM equities.

Risks to the above outlook are geopolitical uncertainty and policy errors. For Emerging Markets, uncertainty in the Chinese economy is an additional risk factor.

Figure 8: EM sales and earnings are growing

Source: Lazard, MSCI

Figure 9: MSCI EM Index versus Fed Funds Rate



Source: Oppenheimer Funds

The opportunity cost of waiting for a crash to invest is very high.

People often tell us they have a substantial amount of cash and are waiting for the market to crash to deploy it. Our response is that it is impossible to predict when the market will crash next and more importantly how much it will rally ***before*** it crashes. Encouraged by an article we read on this topic recently, we decided to investigate the performance of various buy the dip (drawdown) strategies and compare it to a buy and hold strategy. We used data from the website of Kenneth R French (Of ‘Fama-French’ fame).

Between 1926 and 2017, stocks earned an excess return (i.e. market return more than cash returns) of 6.46% per year. (The market return during that period was 9.89% per year)

On the other hand, a strategy of purchasing stocks after a 10% dip (Drawdown) and then holding till the prior peak was reclaimed and then selling to go back to cash until the next 10% dip, would have earned an excess return of only 2.07% per year. To put that in perspective, $10,000 invested in the buy and hold strategy in 1926 would have grown to about $3 million in 2017, whereas it would have grown to $64,800 in the ‘buy the 10% dip’ strategy. (Both amounts are in addition to earnings on cash.)

The situation does not change much for different threshold dips (drawdowns) and/or holding for longer periods of time. The tables below show the annual returns of changing the drawdown threshold to 20%, 30%, 40% and 50% and then holding on for various time periods. None of the strategies come anywhere close to the buy and hold strategy both in terms of absolute returns and risk adjusted returns (Sharpe Ratio)

SARSI LLC

July 1926 to May 2017

Buy and hold excess return: 6.46%. Standard Deviation: 18.36%. Sharpe Ratio: 0.35

Buying after dip and holding till prior peak reclaimed.

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	2.07%	1.76%	2.04%	2.38%	1.66%
Std Deviation (Volatility)	15.41%	14.66%	13.83%	13.21%	12.51%
Sharpe Ratio	0.13	0.12	0.15	0.18	0.13

Buying the dip and holding till prior peak reclaimed or at least 12 months*

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	2.71%	1.58%	2.04%	2.32%	1.60%
Std Deviation (Volatility)	15.65%	14.74%	13.83%	13.29%	12.49%
Sharpe Ratio	0.17	0.11	0.15	0.17	0.13

Buying the dip and holding till prior peak reclaimed or at least 24 months*

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	3.73%	1.95%	2.07%	2.38%	1.60%
Std Deviation (Volatility)	16.05%	14.71%	13.83%	13.21%	12.49%
Sharpe Ratio	0.23	0.13	0.15	0.18	0.13

Buying the dip and holding till prior peak reclaimed or at least 36 months*

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	2.61%	1.82%	1.87%	2.32%	1.60%
Std Deviation (Volatility)	16.23%	14.87%	13.89%	13.29%	12.49%
Sharpe Ratio	0.16	0.12	0.13	0.17	0.13

Buying the dip and holding till prior peak reclaimed or at least 48 months*

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	3.45%	1.99%	1.67%	2.42%	1.70%
Std Deviation (Volatility)	16.72%	15.18%	14.11%	13.34%	12.54%
Sharpe Ratio	0.21	0.13	0.12	0.18	0.14

Buying the dip and holding till prior peak reclaimed or at least 60 months*

Drawdown/Dip before buying	10%	20%	30%	40%	50%
Excess Return	3.82%	2.72%	1.81%	2.87%	1.98%
Std Deviation (Volatility)	16.89%	15.35%	13.94%	13.52%	12.60%
Sharpe Ratio	0.23	0.18	0.13	0.21	0.16

*If the market was still below threshold drawdown after the holding period, the strategy held on till prior peak was reclaimed i.e. drawdown was zero. **Definition**: A drawdown or a dip at any point in time is the percentage by which stock prices fall from a prior peak to that point in time. When stocks are at a peak, drawdown is zero.

In the investment world, professionals differentiate between the period before World War 2 and the period after. The period after is often called the modern era. So, we investigated how this strategy would have performed had it been implemented after World War 2 i.e. starting in 1946.

A buy and hold strategy returned 6.67% more than cash returns between 1946 and 2017. Sharpe ratio was 0.45. None of the buy the dip strategies' returns came close to the buy and hold strategy return. Returns varied between 1.04% and 4.56%. Sharpe ratio was a bit better but still lower than the buy and hold strategy. It varied between 0.19 and 0.43.

The reason for the above outcome is that markets go up more often and for longer stretches of time than they go down. They exhibit tremendous amount of momentum which lasts longer when they are rising. Secondly, bad returns follow bad returns i.e. negative returns tend to come in quick succession and large negative returns (over 30%) are few and far between. Since, 1929 there have only been 5 instances when the 30% threshold was crossed. So, if the strategy drawdown threshold is low then it gets hurt by further drawdowns (dips) and if it is too high then there are very few opportunities to invest.

Please note, in the above analysis we systematically implemented the various strategies without using any other information. An investor can possibly do better if he made use of other information (for example the presence of asset bubble or extreme stock valuation) and combined it with the strategy.

The takeaway is that on average waiting for the market to crash is not a good investment strategy. Investors are better off creating a sound investment strategy in line with their objectives and sticking to it. Robust portfolio construction, selecting suitable investment vehicles, tactical allocation and macro aware investing can add additional value.

(212) 634 4454. deva@sarsillc.com