ZPR Investment Report

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A NEWSLETTER FOR ZPR CLIENTS

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US Commentary

By Mark Zavanelli

February saw the first sharp selloff in stocks in some time. As is typical for such events, there was a fundamental cause that was exacerbated by market technical factors. We need to understand both in order to interpret the meaning of the decline for future returns. The fundamental reason was a sudden jump in interest rates and inflation expectations, which I'll also discuss in a separate piece. Rates had already been rising for months, and now the news was full of companies jockeying for media attention with their plans to increase wages out of their tax cut windfalls. In the January jobs report came the spark; the news that wage growth had ticked up a notch in the prior month. In a setting where the market was trying to process the meaning of tax cuts and potential spending increases on inflation, this "good news" was received as the rationale for higher rates by the bond market. The jolt to the markets set off certain technical factors, which made the decline much uglier than it would have been otherwise. Stocks gapped lower in mini-crash fashion, driven by automatic risk reduction in strategies that bet on low volatility. One of these strategies, an inverse VIX ETN (exchange traded note), ended up

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Asian and UK Results

By Vaidas Petrauskas

February was an eventful month. After a couple of years of calm and steadily climbing stock markets, volatility returned in February without any warning. This is normal. What wasn't normal was the low volatility environment we experienced in 2017. It was interesting to observe how our different strategies and geographies reacted to the selling which engulfed global markets in the beginning of February.

We know that during times of panic selling correlations go to one. Panic spreads to other countries quickly. Geographic diversification does not work during such periods of turmoil. Only Thai stocks are somewhat immune to what is happening in the rest of the world. The sell-off was much milder in Thailand, but so was the recovery which quickly followed.

Japanese stocks meanwhile tried to outdo US stocks and dropped even further, even though the sell-off started in the US. It was silly. On February 6th the Nikkei 225 index was down 7% and many of our stocks were down more than 10% that day even though nothing changed in actual businesses. Suddenly companies were worth 10% less. In recent times, only the Fukushima nuclear disaster in 2011 caused similar indiscriminate selling. This was most likely the result of foreign institutional investors getting out of equities everywhere.

Of course, Japanese stocks staged a partial recovery as quickly as they had sold off. We took advantage of the sell-off by buying some stocks that were on sale, which paid off in the ensuing recovery. Our All Asian accounts were down more than 6% in the

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An Interest Rate Scare

By Mark Zavanelli

This year we have seen a sharp move up in bond yields worldwide, even for economies where central banks are not raising rates. It's a classic bond market scare. This is not the first time this has happened in this cycle. Ten-year Treasury yields doubled from a low of 1.5% to just about 3% in 2013. We're reprising that now, as rates hit the same lows in mid-2016 and are approaching 3% again. What's different this time is that we're in a Fed tightening cycle, and short-term rates in the US are much higher than they have been during the whole post-crisis period.

When these scares happen, investors start to question the economic cycle, and whether or not rising rates will kill stock prices and the economy with them. It makes sense that stocks would fall too while it's underway. In a Fed tightening cycle, the additional worry is that the Fed will lose control over inflation and be forced to tighten more aggressively. No doubt, these things really do matter. I've heard pundits say countless times that a rise in interest rates is no big deal because rates have been so low, but this is unfortunately wishful thinking. In fact, the move from a lower base is actually amplified because so many borrowers took advantage of super low variable or short-term rates.

While the market is asking the right questions, the fact that bond investors are presently reducing risk does not actually mean that the sky is falling. To see this, it's important to know where they were coming from. 2017 was a year where inflation missed expectations in the US, and foreign central banks were still buying huge amounts of their own government bonds. This led to medium and long rates that had declined throughout the year after the initial spike in 2016 after the election. The oddity was that short term rates were already rising from the Fed increases, so the yield curve was flattening even as the economy seemed to be getting stronger. Some investors thought the bond market was making a prediction about growth slowing, but instead I think it was just following the data. As the year progressed and worldwide growth clearly picked up, with the US dollar falling (which boosts US inflation), this decline in longer term rates had to reverse. This is what we are seeing now. It really doesn't mean that interest rates are going straight up, or that inflation is about to explode.

For stocks and the economy, the movement back towards a steeper yield curve is actually a positive in that it indicates business as usual for the cycle. The higher level of rates overall does mean, however, that stock valuation multiples will likely stop rising, and probably will eventually shrink. Since earnings are currently growing rapidly, this doesn't mean stock prices will actually fall. Instead, overall market gains are likely to be subdued, at least until multiples come down somewhat. If it turns out that stocks ignore the message from bonds and continue racing ahead, I will be very nervous about the potential for a deeper drop. History teaches us that normalization of rates and multiples will occur one way or the other.

The Fed (and also other central banks) will continue to be very important in 2018. Chairman Powell seems to be more plainspoken about the Fed's intentions, and also more pragmatic about incoming data than the prior Fed was. This means a more traditional tightening cycle, and more attention to staying ahead of the curve. I think this will help to calm bond investors and keep longer rates from rising too much. That should actually be a positive for the economic cycle in the near term.

Further ahead, the most likely risk is that monetary conditions flip to being too tight next year as short-term rates rise, the Fed's QE reversal progresses and the ECB and BOJ stop buying bonds. If the central banks aren't buying but governments are still running large deficits, this also might mean that real yields continue to gradually rise even without inflation. I would expect the yield curve to invert under those circumstances, so that is what to watch for. It's too early to worry about that today, but it's a reason to be cautious about the benefit from a stronger world economy for stock and bond prices going forward.

US Commentary (Continued)

liquidating after being essentially wiped out. This forced selling by derivative strategies was all too reminiscent of the 1987 crash; although in this selloff we had orderly markets throughout. Experience has taught market participants that once the technical selling subsided a reversal would happen, so we saw the market whipsaw back and forth as those bets were placed.

Most likely, this event will be like the others in market history, meaning that it will have very little implication for the course of future market returns. However, that doesn't mean that there is nothing to learn from it. Starting with the technical aspects, the collapse of the VIX strategies shows the illusion of liquidity in an extreme way. When there is a part of the return distribution where your investment becomes worthless, you aren't going to get out as that outcome becomes likely. The attention on such things unfortunately shows us that there is plenty of raw speculation in the market. A rush to the exits from such activity always has the same result.

The solution is to act as investors and not as momentum players extrapolating past returns. Forget the idea that you'll be able to see a decline coming and jump out of the way. Instead, we should think about risk beforehand, and rely on the propensity for well-considered investments to bounce back after temporary declines, even if those are substantial. This month I spent cash in our SCV strategy, buying into some sharp price declines. In doing so I was thinking about overall risk in the portfolio, passing on some opportunities where I thought the market might be more permanently re-valuing those stocks lower in light of rising rates. Unfortunately, our performance in this strategy these first two months has been negative as some cyclical stocks in the portfolio reversed on fears of a cycle turn (examples are semiconductor equipment makers and homebuilders).

Fundamentally, this selloff highlights the evolution that we are seeing in the economic environment. We've exited the QE era and are now in a more typical late cycle economy. There is a wrinkle in that the rest of the world is not as far along, and this could serve to prolong the cycle significantly. The key to investing successfully here is not in making predictions about unknowable events, but in figuring out how to correctly process new information as the economy changes. There is a high degree of uncertainty that is currently visible in valuation spreads between cheap and expensive stocks. This has been painful lately as it been widening, but historically this has been a positive condition for our strategy to outperform.

Asian and UK Results (Continued)

beginning of the month – a truly dismal result. Thankfully, we managed to climb back and the All Asian strategy finished the month with only a small loss of -0.16%. This is thanks to the same Japanese stocks.

In February all our Asian companies announced quarterly results. Most Japanese companies have fiscal years ending in March, so they announced fiscal third quarter results. It was a stellar earnings season for Japanese corporations. Many of our companies, and especially the largest weighted companies, announced truly superb results and strong earnings growth. Japanese corporate profits are benefiting from global growth.

There was a very good article in the February 14th Financial Times (European edition) by Leo Lewis called "A Farcically Good Earnings Season Comes at a Tricky Time for Corporate Japan". I have already discussed the peculiar earnings guidance practice in Japan in one of our prior newsletters. Japanese managers lowball the guidance in a big way. So, for example, a company may announce a very good year and then say that next year's EPS will be down 30%. But they end up doing even better than the year before. The article discusses this particular issue and provides some interesting facts about the latest Japanese earnings season:

- Companies representing more than 83% of the Topix index announced year-over-year earnings growth of 39%;
- When there were analysts covering the stocks (and much of the Japanese market is uncovered), actual results beat analysts' estimates by 46%;
- 12% of companies exceeded their full-year guidance after only three quarters. And 10% of those are more than 100% ahead of full-year guidance after just nine months. It makes, one broker observed, "a bit of a farce of the whole guidance process". We agree.

The key sentences from the article are these: "Earnings guidance in markets everywhere is often a victim of the

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Asian and UK Results (Continued)

management instinct to lowball first so as to triumph later by overshooting. In Japan, though, the pattern is too consistent for comfort, often strays into the deliberately deceptive, and is carried out as part of a habit of systemic conservatism. Chief executives are not incentivized to reach for the stars, so they just opt for comfortable survival". This cultural aspect is very different from the practice in US, where CEOs have incentives tied to the stock price through options and stock ownership, so they want guidance to positively impact the stock.

We now track guidance accuracy for all our Japanese companies and we know from historical record which managers take guidance seriously and which companies' guidance can be safely ignored.

Thai companies finished reporting fourth quarter results on the last day of February (they have two months to report annual figures). The latest earnings season was a mixed bag. We made big changes to our Thai stock portfolio in February, selling some stocks with deteriorating business performance and buying some new stocks. Our Thai stocks have struggled so far this year. But it's not just our Thai stocks, most Thai small cap stocks are having a rough start to 2018. The large cap Thai SET Total Return index is up 4.59% in the first two months while the small cap FTSE SET Small Cap index is down -1.34%. It's only due to a stronger Thai Baht that we are showing a positive year-to-date return for our All Thai accounts. I am excited about our new Thai stocks and I am hopeful we can achieve good returns in Thailand this year.

UK stocks were a drag on performance in February for our Global accounts. Despite very good half-year results (UK companies report semi-annually), our UK stocks declined by over 5% and we lost an additional 3% because of a weaker British Pound. Time is on our side with UK stocks as long as companies continue to grow earnings. I am finding many good companies in the UK, some of which are reasonably cheap. We may increase our allocation to UK stocks in the future depending on where we see most opportunities.

The February sell-off was a very good test for our quant strategies. We have not seen a market drop for a long time. January '16 was the last time stocks fell sharply. Our Volume Winners and Volume Value strategies have an objective to protect on the downside. They are expected to have smaller drawdowns during market sell-offs. So, the beginning of February was a perfect test case. I was happy to see that our Volume strategies indeed performed much better than the market during the sell-off by losing significantly less on those days. For the month as a whole, Volume Value declined less than the Russell 2000 Index, and Volume Winners stocks help up very well.

Just the Numbers

ZPR Composites Names in Bold *Benchmarks in italics*	Period Ending 2/28/18 Month	Quarter To Date	YTD	Period Ending 12/31/17 1 Year	3 Year Annualized	5 Year Annualized	10 Year Annualized
ZPR Fundamental Small Cap Value	-5.41%	-6.56%	-6.56%	25.38%	18.20%	19.59%	10.35%
Volume Winners	-1.26%	-0.02%	-0.02%	13.45%	18.40%	18.96%	NA
Volume Value	-3.02%	-3.21%	-3.21%	16.24%	20.45%	23.02%	NA
Volume Momentum	-3.64%	-4.48%	-4.48%	17.61%	10.65%	17.52%	NA
Russell 2000	-3.97%	-1.46%	-1.46%	14.65%	9.96%	14.12%	8.71%
S&P 500	-3.89%	1.61%	1.61%	21.84%	11.43%	15.80%	8.50%
ZPR Global Equity	-2.38%	0.02%	0.02%	27.07%	12.28%	13.05%	12.61%
MSCI ACWI	-4.16%	1.27%	1.27%	24.63%	9.90%	11.40%	5.22%
ZPR All Asian	-0.16%	5.13%	5.13%	28.90%	9.10%	9.50%	15.57%
MSCI EAFE	-4.50%	0.30%	0.30%	25.63%	8.30%	8.38%	2.43%
ZPR All Thai Equity	-2.80%	0.66%	0.66%	15.64%	7.99%	9.03%	NA
Thai Set Index	0.39%	4.59%	4.59%	17.30%	8.85%	8.18%	NA

Composite returns are presented net of management fees and trading expenses, and include the reinvestment of dividends and other income. All returns are in US dollars except for the Thai Set Index, which is presented in Thai Baht.

Past performance does not guarantee future results. The table above reflects (1) performance of the ZPR Investment Management, Inc. ("ZPR"), composites named in bold in the first column, (2) performance of the benchmark which reflects the composite's investment mandate, objective, or strategy, and (3) performance of the S&P 500 Index, which is provided for overall comparison and informational purposes. Please see the reverse for important information about composite and benchmark descriptions, how to receive more complete information about the composites, and disclosures regarding the calculation of performance, among other matters. Subsequent markets may perform better or worse than for the periods shown, which will cause the actual results of a portfolio to be better or worse than shown. ZPR does not guarantee or offer any assurance that any portfolio or account will be profitable, meet a client's stated objectives, or prevent or reduce losses. **A client may lose money by investing in a portfolio.**

ZPR Investment Management, Inc. (“ZPR”) is an SEC registered investment adviser managing separate accounts that are fully discretionary. SEC registration does not constitute an endorsement of the firm by the Commission nor does it indicate that the adviser has attained a particular level of skill or ability. ZPR claims compliance with the Global Investment Performance Standards (GIPS™). To receive a complete description of the policies and procedures for any composite, a list and description of all ZPR composites, and a presentation that complies with the GIPS standards, please contact us at 386-775-1177 or compliance@zprim.com.

All composites include fully discretionary, management fee-paying and, beginning on January 1, 2011, non-management fee-paying accounts, including those accounts no longer with the firm. The U.S. Dollar is the currency used to express performance, except for the ZPR All Thai Equity Strategy, for which performance is expressed in the Thai Baht. Returns are presented net of management fees and include all trading expenses and the reinvestment of all income. Net of fee performance was calculated using actual management fees, except in the case of non-fee paying accounts where model fees have been imputed. Actual advisory fees and transaction fees will vary depending on, among other things, the portfolio, account size, and activity. Fees are described in ZPR’s ADV Part 2A.

The benchmark and other data provided was obtained from publicly available reports, including internally derived databases and other resources available to ZPR. ZPR believes such data to be reliable but does not audit, verify, or guarantee its accuracy or completeness. When comparing the performance results to a benchmark, clients should keep in mind that: 1) Indexes are unmanaged and unavailable for direct investment. 2) Benchmark returns include reinvestment of income, but do not reflect taxes, or investment advisory or other fees that would reduce performance. 3) Performance information of benchmark indexes is included for comparison purposes only.

Composite and Benchmark Descriptions:

The S&P 500 and Russell 2000 are market cap weighted indices of large company and small company US stocks, respectively.

The Fundamental Small Cap Value Composite consists of accounts that hold U.S. small cap stocks selected by using ZPR Fundamental Analysis. This analysis identifies undervalued companies using ZPR’s GRAPES valuation model and also applies other selection criteria relating to a company’s business prospects, management quality, and capital structure. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars. In the past the composite has displayed higher volatility than its benchmark.

The Volume Winners Composite consists of accounts that hold U.S. micro cap stocks selected by using ZPR Volume Winners Analysis. This analysis is a quantitative evaluation system incorporating volume, momentum and valuation measures. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars. In the past the composite has displayed lower sensitivity to market returns than its benchmark, which would cause it to underperform in a strongly rising market.

The Volume Value Composite consists of accounts that hold U.S. micro cap stocks selected by using ZPR Volume Value Analysis. This analysis is a quantitative evaluation system incorporating volume and valuation measures. The benchmark for the composite is the Russell 2000 Index, presented in U.S. Dollars.

The Volume Momentum Composite consists of accounts that hold U.S. micro cap stocks selected by using ZPR Volume Momentum Analysis. This analysis combines two quantitative evaluation techniques; ZPR’s price and earnings momentum measure SuperMo, and ZPR’s volume, momentum and value system Volume Winners. The benchmark for the composite is the Russell 2000 Index presented in U.S. Dollars.

The Global Equity Composite consists of accounts that hold both U.S. and International stocks selected by using ZPR Fundamental Analysis. This analysis identifies undervalued companies using ZPR’s GRAPES valuation model and also applies other selection criteria relating to a company’s business prospects, management quality, and capital structure. The benchmark for the composite is the MSCI All Country World (Gross) Index, presented in US Dollars. MSCI ACWI is a market capitalization weighted index comprised of equities from developed and emerging markets, including the US. The composite has historically held small cap stocks from a limited set of countries while the benchmark weighting is primarily composed of larger companies spread across many countries. This is likely to cause the composite to have greater volatility than its benchmark. The composite includes the performance of accounts that may occasionally use margin; however, the use of margin is not part of the overall strategy of the composite.

ZPR All Asian Composite consists of accounts that hold Asian stocks selected by using ZPR Fundamental Analysis. This analysis identifies undervalued companies using ZPR’s GRAPES valuation model and also applies other selection criteria relating to a company’s business prospects, management quality, and capital structure. The benchmark for the composite is the MSCI EAFE Index, which is comprised of equities from developed markets around the world, excluding the US and Canada. MSCI EAFE is presented in U.S. Dollars. The composite has historically held small cap stocks from a limited set of countries, including emerging markets, while the benchmark weighting is primarily composed of larger companies from developed countries. This is likely to cause the composite to have greater sensitivity to the returns of countries where it invests, and overall greater volatility than its benchmark.

The ZPR All Thai Equity Strategy consists of accounts that hold Thai stocks selected using ZPR’s Fundamental Analysis. This analysis identifies undervalued companies using ZPR’s GRAPES valuation model and also applies other selection criteria relating to a company’s business prospects, management quality, and capital structure. The benchmark for the composite is the Thai Set (TRI) Index, a market capitalization weighted index of securities listed on the Stock Exchange of Thailand and presented in Thai Baht. The composite has historically held small cap stocks while the benchmark weighting is primarily composed of large companies. This is likely to cause the composite to have greater volatility than its benchmark.