Perspectives

Up or down?

After a strong rise, risk assets have been losing momentum as valuations remain high and risks persist. Less complacency and more new catalysts will be needed to ensure the health of financial markets.

REAL GDP GROWTH (%)

	2014	2015	2016	2017E		2018E	
				PWM – AA&MR*	Bloomberg consensus forecasts	PWM – AA&MR*	Bloomberg consensus forecasts
USA	2.4	2.6	1.6	2.0	2.2	2.3	2.3
EURO AREA	1.3	1.9	1.7	1.9	1.8	1.6	1.6
Germany	1.6	1.5	1.8	1.8	1.8	1.7	1.6
France	1.0	1.0	1.1	1.5	1.4	1.5	1.5
Italy	0.2	0.7	1.0	1.1	1.1	0.9	1.0
Spain	1.4	3.2	3.2	2.8	2.8	2.2	2.2
SWITZERLAND	2.0	0.8	1.3	1.4	1.4	1.7	1.7
UK	3.1	2.2	2.0	1.5	1.6	1.0	1.3
JAPAN	-0.1	0.6	1.0	1.3	1.3	1.0	1.0
CHINA	7.3	6.9	6.7	6.5	6.6	6.2	6.3
BRAZIL	0.1	-3.9	-3.6	1.0	0.5	1.7	2.1
RUSSIA	0.7	-2.8	-0.2	1.1	1.2	1.4	1.5

INFLATION (%)

	2014	2015	2016	2017E		2018E	
				PWM – AA&MR*	Bloomberg consensus forecasts	PWM – AA&MR*	Bloomberg consensus forecasts
USA	1.6	0.1	1.3	2.1	2.3	2.3	2.2
EURO AREA	0.4	0.0	0.2	1.6	1.6	1.3	1.5
Germany	0.8	0.1	0.4	1.7	1.7	1.6	1.6
France	0.6	0.1	0.3	1.4	1.3	1.3	1.3
Italy	0.2	0.1	-0.1	1.3	1.4	1.1	1.3
Spain	-0.2	-0.6	-0.3	2.0	2.1	1.4	1.5
SWITZERLAND	0.0	-1.1	-0.4	0.5	0.5	1.0	0.6
UK	1.5	0.0	0.8	2.8	2.7	2.3	2.6
JAPAN	2.7	0.8	-0.3	0.3	0.6	0.5	0.8
CHINA	2.0	1.4	2.0	1.8	2.0	2.3	2.2
BRAZIL	6.3	9.0	8.7	4.8	3.8	5.0	4.4
RUSSIA	7.8	15.6	7.1	4.9	4.3	4.8	4.1

*Pictet Wealth Management – Asset Allocation & Macro Research. Data compiled on 30 June 2017.

EDITORIAL

HOW TO DEAL WITH CREEPING COMPLACENCY

CESAR PEREZ RUIZ
Chief Investment Officer
Pictet Wealth Management

"Against a backdrop of not-inconsiderable risk, it seems that complacency is creeping in"

The past couple of months have seen a lot of news that had the potential to rattle markets. In politics, this has included US president Donald Trump's deepening difficulties over alleged links with Russia, the shock UK general election result, and the corruption scandal surrounding president Michel Temer in Brazil. Geopolitical risk also remains high globally; one reminder of this was the decision by Saudi Arabia and its allies to impose a *de facto* blockade on Qatar over its foreign policy.

Finally, the Fed not only raised interest rates as expected in March and June, but also indicated that the process of winding down its balance sheet–which expanded considerably during its QE programmes–would likely start sooner than expected, probably in the last quarter of 2017. The impact is a big unknown for markets; central banks have never had to withdraw such large volumes of liquidity before.

Despite these risks, equity markets continue overall to perform well, although US markets have been losing impetus, allowing European stocks to close the performance gap. But valuations remain high on both sides of the Atlantic, at over 17x 12-month forward price/earnings for the S&P500 and 15.3x for the Stoxx Europe 600, both well above long-term averages.

This reflects a good earnings outlook, with full-year earnings growth estimated in double digits, and encouraging economic data as the global economic recovery looks set to continue. A surge in M&A activity, especially in Europe, which we have already highlighted as a theme for this year, is a sign of improving corporate confidence.

Still, against a backdrop of not-inconsiderable risk, it seems that complacency is creeping in. Core sovereign bond yields have fallen, and volatility seems unduly low on both equity and bond markets–the VIX has been hovering around 10%, for example. A sell-off in tech stocks in mid-June was a reminder of the potential for volatility as concerns rose about the valuation of FAANG companies (Facebook, Apple, Amazon, Netflix and Google).

We decided in early June that it made sense to take advantage of low volatility for some profit taking. We reduced our overweight in developed-market equities. We also sold most of our USD high-yield allocation, which looked especially exposed to a rise in volatility: spreads are very low and do not appear to us to fully capture default risk. Euro high-yield bonds offer a better risk/return trade-off, in our view, and the fact that the ECB is behind the Fed in the policy cycle makes it possible to take a bit more risk in euro accounts. We put the proceeds in short-term corporate or aggregate bonds (a mix of corporate and government), or in USD cash.

All in all, it is important to stay invested. Returns have been good this year, and we remain positive on the outlook for risk assets. But with markets starting to look complacent, it seems prudent to take some profits and buy protection ahead of the summer.

CHRISTOPHE DONAY
Chief Strategist,
Head of Asset Allocation &
Macroeconomic Research
Pictet Wealth Management

MARKET VIEW

Markets halt for re-fuelling

After a pause, markets could yet revive by year's end. But better policy coordination to put the global economy on a sounder footing is still lacking.

Half way through 2017, the baseline scenario we outlined at the beginning of the year of a moderate pick-up in global growth and subdued inflation remains broadly valid. Near-term prospects for growth in the US and Europe for the rest of the year look quite good, and an improving jobs picture could yet seep into inflation. Leading indicators are pointing in the right direction, and the world economy seems broadly to be in a synchronised upward cycle.

The question now for global markets is whether such favourable conditions will prove sustainable. Alas, on this score, the picture is a little hazy in the absence of coordinated economic policy initiatives to underpin the recent economic recovery. But we are far from such initiatives. Looking across Europe, Asia and the Americas, we see economic policies that are uncoordinated and un-cooperative. The apparently synchronised upward move in global growth we are currently enjoying may prove a temporary fluke in the absence of sound and sustainable policy support. More policy momentum is needed to put economies on a sounder footing. But for the moment, we see no rational reason to upgrade the scenario we outlined in January for inflation and GDP growth this year and next.

> "Still potential for strong gains in equities"

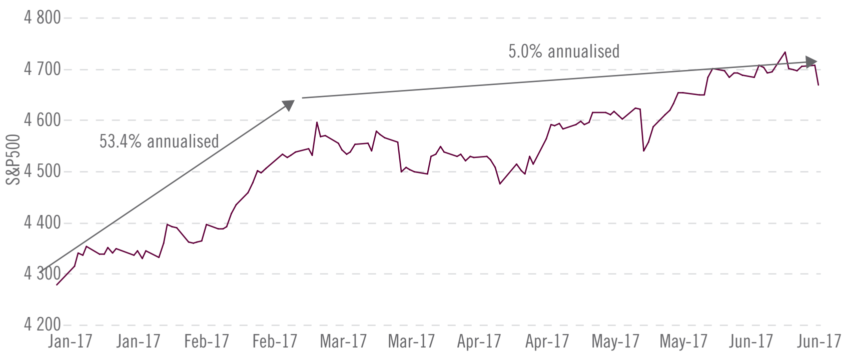
What does this mean for markets, particularly equity markets? We believe that the lack of any policy momentum could signal a prolongation of the current pause in stock markets until new catalysts appear. This pause can already be seen in the loss of momentum on US markets. The annualised rise of over 50% in the S&P500 seen in the first weeks of this year declined to 6% between March and end-June, and lofty valuations have started to be tested (witness the short, sharp drop in tech stocks in early June). The same phenomenon can be seen in Europe since May as the boost from the ebbing of political populism has evaporated and markets begin to factor in policy 'normalisation' by the ECB.

However, we are not necessarily pessimistic on prospects for equities. Valuations remain above their long-term averages, but are being justified by earnings growth, which could continue into next year. We currently expect corporate earnings growth of the order of 10-12% in the US and Europe, so there is still potential for double-digit price growth in both places.

Alas, markets generally will not start to factor in their projections for earnings growth until the end of this year. Until then, risk assets could continue to stall. And while we still expect the Trump administration to push through some sort of tax and spending package, we also believe that it will be only in the final weeks of this year before we see anything concrete. Before then, it is hard to see what might push equity markets much higher.

The resilience of growth, and in particular the improvement in labour markets in the US and Europe, leads us to believe the so-called 'reflation trade', based on a return of inflation and economic expansion may not be over, in spite of growing skepticism among market participants. However, markets may well be left looking for direction in the coming months before further catalysts come into play. ■

THE S&P 500'S LOSS OF MOMENTUM THIS YEAR



Data at 3 July 2017
Source: PWM – AA&MR, Factset

FREDERIK DUCROZET
Senior Europe economist
Pictet Wealth Management

EURO AREA ECONOMY

As good as it gets

Strong data has caused Pictet Wealth Management to raise its euro area growth forecast for this year and next, although we expect some moderation later this year.

Stronger-than-expected activity data and some statistical revisions have pushed our euro area GDP growth forecasts higher for this year. However, while our central scenario remains one of robust, above-potential growth and subdued inflation pressure, we have made no material changes to our forecasts for H2 2017 and beyond.

Following the release of detailed national accounts in Q1, which revised growth to 0.6% quarter over quarter (q-o-q) in the first quarter (from a previous estimate of 0.5%), we have marked-to-market our forecasts, taking into account large revisions to past data as well. Significant upward revisions in countries like France, Italy, Austria, Ireland, Finland and Greece mechanically push our annual growth forecasts for European growth higher, without any change to its profile.

We now expect euro area real GDP to grow by 1.9% on average this year, after 1.7% in 2016 and 1.9% in 2015, with some residual upside risks. Roughly speaking, more than half of the upgrade to our forecasts is due to revisions to past data while the rest is due to sentiment and activity data being more robust than we expected in H1 2017. Mechanically, and all else being equal in the second half of the year, our forecast for 2018 GDP annual growth rises to 1.6%, from 1.5% previously. Notwithstanding improvement in France and slowing growth in Spain, we do not foresee much change in countries' growth rankings (*see table below*).

In all, the new information that has become available in the past six months suggests that a large part of the convergence between soft and hard data has been led by upward revisions to the latter. That said, indications from Q2 survey data so far continue to be more positive than the latest available hard growth data. The latest composite PMI is now consistent with euro area GDP growth of 0.7% q-o-q in Q2.

CHANGES IN PICTET WEALTH MANAGEMENT'S EUROPEAN GROWTH AND INFLATION FORECASTS, 2017 AND 2018

	Real GDP growth					Headline inflation				
	2016	2017	2017 (Jan-17 forecast)	2018	2018 (Jan-17 forecast)	2016	2017	2017 (Jan-17 forecast)	2018	2018 (Jan-17 forecast)
EURO AREA	1.7%	1.9%	1.5% ↑	1.6%	1.5%	0.2%	1.6%	1.5%	1.3%	1.5% ↓
Germany	1.8%	1.8%	1.7%	1.7%	1.6%	0.4%	1.7%	1.6%	1.6%	1.8%
France	1.1%	1.5%	1.2%	1.5%	1.3%	0.3%	1.4%	1.4%	1.3%	1.4%
Italy	1.0%	1.1%	0.7%	0.9%	0.9%	-0.1%	1.3%	1.1%	1.1%	1.2%
Spain	3.2%	2.8%	2.4%	2.2%	2.2%	-0.3%	2.0%	1.9%	1.4%	1.7%
UK	2.0%	1.5%	1.1% ↑	1.0%	1.2% ↓	0.8%	2.8%	3.0% ↓	2.3%	1.5% ↑
SWITZERLAND	1.3%	1.4%	1.4%	1.7%	1.7%	-0.4%	0.5%	0.4%	1.0%	0.9%

Source: Pictet WM – AA&MR, 29 June 2017.

1.9%
Our euro area growth forecast for 2017

Indeed, we see a continuation of robust domestic conditions in the second half, fuelled by falling unemployment, rising bank credit and investment spending (including construction). Near term, lower energy prices should support households' purchasing power for longer than initially anticipated. GDP details for Q1 revealed that domestic demand remained the main growth driver in the euro area. Spain and Germany continued to outperform the region, while laggards are catching up, notably France.

MODERATE SLOWDOWN AHEAD

That is not to say that all headwinds have disappeared. We still expect a moderate slowdown in the pace of economic expansion, if only because we do not see 2%+ quarterly growth rates as sustainable in the euro area. Political uncertainty has not disappeared after the French elections. Italy remains the (only) elephant in the European room, with elections looming early next year. The recent appreciation in the trade-weighted euro is likely to weigh on prospects for euro area exports and inflation. By contrast, the impact of Brexit on the rest of the continent has been very muted, contributing to the resilience in overall business sentiment in the past year.

In all, we expect euro area GDP growth to moderate but to remain for the foreseeable future at around 1.75% in annualised terms, comfortably above potential. This implies a gradual narrowing of the output gap, which is likely to close by 2019. We continue to forecast only a very gradual rise in core inflation, possibly to 1.9% in 2019 but not much higher, as the delayed impact of high unemployment continues to cap any stronger rebound in wage growth, in particular.

The largest upside risks we previously flagged have not yet materialised. True, following the election in France of Emmanuel Macron, there seems to be renewed appetite for increasing European integration, starting with greater cooperation in defence, but it could take several years (if ever) for a 'Grand Bargain' between France and Germany to deliver any results. ■

JEAN-PIERRE DURANTE
Head of Applied Research
Pictet Wealth Management

OIL PRICES

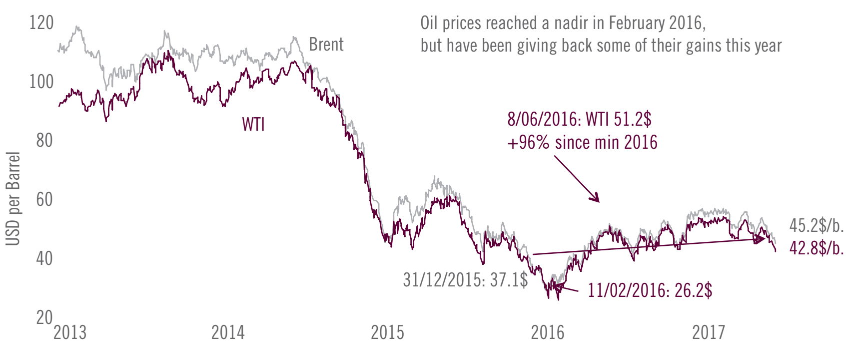
Blowin' in the wind

Oil prices have been dropping, dashing the hopes of traditional producers. Our analysis finds little momentum for a decisive move in prices in the near term.

By late June, crude oil prices were down 20% from highs reached in early January, with the drop in prices actually accelerating after the May agreement by the Organisation of Petroleum Exporting Countries (OPEC) and other big oil producers like Russia to extend their deal to limit production.

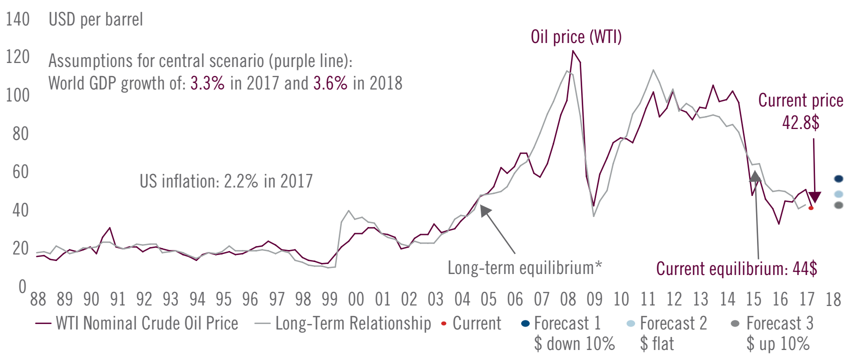
The drop in prices can be ascribed to a number of factors, including skepticism about the level of compliance with the production deal, heightened output in countries outside the production agreement like Libya and Nigeria, a stronger-than-expected revival in US shale oil production,

CHART 1: WTI AND BRENT OIL PRICES



Data at 21 June 2017
Source: Thomson Reuters, Pictet WM – AA&MR

CHART 2: WTI OIL PRICE EQUILIBRIUM



* Based on co-integration relationship between oil price, US dollar and world economic growth

Data at 21 June 2017
Source: Pictet WM – AA&MR, calculations based Thomson Reuters

OIL PRICE MODELLING

Our forecast for equilibrium oil prices is based on the long-term relationship between oil prices, global growth, and the US dollar. Over the past two years, which saw market prices drop precipitously and then rise again, this modelling has proved a reliable indicator of oil price trends.

bloated inventories, and plain market speculation.

The result is that by late June oil prices were slightly below our assessment of the oil-price equilibrium (*see box*), whereas our analysis earlier this year was telling us that markets had become far too optimistic about the potential for oil prices. Our model has been showing that spot prices should remain close to USD50 per barrel, considerably below some predictions early this year that oil prices would break the USD60 ceiling in 2017.

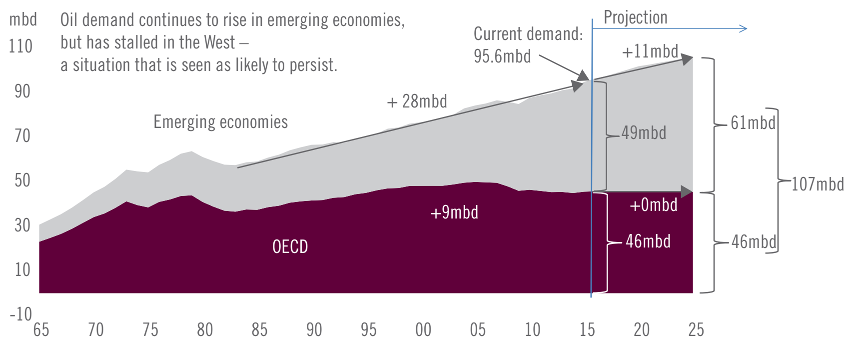
TECH SHOCKS

Two technological shocks help explain why the oil market has been struggling to balance supply and demand. First, technology has allowed a much more rapid-than-expected transition to alternative energy, with the result that oil demand in the developed world is flat and expected to remain so. Second, US shale producers have managed to reduce production costs significantly, so that the break-even price for shale oil may now be as low as USD35 per barrel, compared with about USD80 in 2014.

On 22 June, WTI oil was trading at USD42.8 per barrel, below, but pretty close to, our equilibrium price calculation of USD43.6. Our analysis also suggests that, barring a geopolitical shock, there is little significant momentum to push prices much lower or much higher at the present time.

Based on our central scenario of 3.3% global growth in 2017 and 3.6% in 2018 and assuming the real trade-weighted US dollar remains stable and there are no unforeseen shocks, the oil-price equilibrium could move up to about USD51 over the next 12 months. ■

CHART 3: OIL DEMAND GROWTH HAS STALLED IN ADVANCED ECONOMIES



Data at 30 May 2017
Source: Pictet WM – AA&MR, IEA, Thomson Reuters

USD43.6

Our estimate of equilibrium oil price

Investment Strategy Highlights

An overview of Pictet Wealth Management's stance on asset classes.*

ASSET STANCE

- Markets appear excessively complacent at present. Volatility is unusually low, partly because cross-asset correlation has fallen (making this a good time for active management). This will remain the case even if volatility on individual assets rises (barring a crash).
- Indeed, as central bank support starts to be withdrawn, volatility could well rise. However, economic and earnings growth remain good.
- We are still slightly long equities, since fundamentals are supportive, but have bought put options on the S&P 500 to guard against downside risks.

COMMODITIES

- Oil prices have fallen in recent months but are now close to our assessment of the equilibrium price (around USD44 per barrel). Barring a geopolitical shock, this implies little strong momentum for prices lower or higher.

EQUITIES

- The slowdown in market momentum has occurred later in Europe than in the US, but the former's margin for further outperformance is shrinking.
- Central banks have recently shown signs of becoming a source of volatility rather than stability for markets.
- Until markets start pricing in 2018 earnings later this year, equities may mark a pause and volatility increase. Volatility holds out the potential for increased tactical opportunities.

FIXED INCOME

- Sovereign yields are likely to rise in recognition of policy normalisation and the chance of higher inflation. Balance sheet reduction by the Fed will make a modest contribution to the rise in US rates.
- Credit has become progressively more expensive. USD high-yield looks especially exposed to a rise in volatility.
- Euro high-yield offers a better risk/return trade-off for the moment, especially as the ECB is well behind the Fed in the policy cycle.

OUR CURRENT ASSET CLASS STANCE**

*At 5 July 2017

** Three to six month horizon.

ALTERNATIVES

- Hedge funds are enjoying significant alpha in a particularly conducive environment for M&A strategies in particular.
- Valuations, competition and capital inflows remain high in private equity, but there are still good opportunities for attractive returns in regional, industry and mid-market niches.
- The real estate cycle may be turning. Assets whose income stream can keep pace with rising inflation should become especially attractive.

NOTICE: This asset class stance is provided for illustrative purposes only. In general, asset allocations will differ among investors according, in particular, to their individual circumstances, risk tolerance, return objectives and time horizon. Therefore, the asset allocation in this publication may not be suitable for all investors and shall not be used as the basis of an investment decision.

CHRISTOPHER SEILERN
Senior Financial Analyst
Pictet Wealth Management

Prices may be high, but this is not another tech bubble

While there are certainly some overbought stocks in the tech sector, we are not living a repeat of the dot-com bubble.

Early June was marked by a couple of dramatic trading sessions, when the prices of technology stocks fell sharply. Some of the losses were recovered, and by late June the technology sector's performance was still twice that of the broader market this year.

Yet, one of the most striking aspects of equity markets over the last 12 months has been just how well the technology sector had done. Mainstream media as well as market pundits are raving about this and that tech stock, to the point that the word bubble is now frequently used.

Have technology stocks reached bubble levels? And is the volatility seen in early June a harbinger of worse to come? Should people be worried? In a nutshell, the answer to all three questions is not really, although some circumspection and care are required.

First, on the face of it, there is some truth to bubble talk, as the sector's price-to-earnings (PE) ratio is at a seven-year high relative to the market's. That premium stands at 1.11x today. But we should remember that the broad range for the last five years has been 1.0x to 1.10x, so while current levels are high, they are not ridiculously so.

Second, we are very far from what we saw back in 2000 at the height of the dot-com bubble. Back then, technology's PE ratio peaked at above 55x (more than twice as high as the market average), versus 18x now. Simply put, valuations are high relative to recent history, but still miles below the levels of 2000.

Third, technology companies today create prodigious amounts of cash flows, whereas the dot com bubble was marked by an almost complete absence of fundamental value: everyone knew it was a bubble and the situation was akin to musical chairs, not investing.

The reverse is true now. Most large-cap technology companies today generate far more cash than high-profile companies in other sectors. Apple's USD53 bn of free cash flows last year, for example, is the equivalent of three Johnson & Johnsons, four Nestles, five ExxonMobils, or five Roches.

TECH STOCKS: PRICE / EARNINGS RATIOS ARE NOT FAR FROM BROADER MARKET'S (1997-2017)

Data at 19 June 2017
Source: Bloomberg, Pictet Equity Research

PRODUCING PLENTY OF CASH

And this cash generation is not just a feature of hyper-mature cash cows. Some of the "less-old-and-still-growing" tech mega caps also produce prodigious cash. Google (17% market share of advertising spend, growing at around 15%) generated USD28 bn last year, Facebook (5% market share, growing at over 30% per year) USD12 bn, and Amazon, with only around 2% of US retail sales, generated USD10 bn. So the case for earnings growth among some of the mega caps in tech remains fairly solid.

But there is also a corner of the sector where valuations are getting a little ridiculous. Tesla (electric cars), nVidia (data centre chips) and even Micron (memory chips) have all seen stock price increases that go far beyond their growth in earnings, or even what could be justified by future growth. Tesla, for instance, has no profits, yet its stock is up 75% in the 12 months to late June, and nVidia is up 233%, with earnings "only" growing by 132%.

So where do we go from here? Clearly, some of the overbought stocks that present a growth deficit are at risk. As for the others, a lot of them will, we believe, grow into their somewhat rich multiples. In some cases, that will happen much quicker than many realise. But in the end, a little pinch of common sense should be the main ingredient when it comes to gauging the potential of tech stocks. ■

18x

Price/earnings ratio for US tech sector

FRANK BIGLER
Head of Equity and Credit Research
Pictet Wealth Management

EUROPEAN M&A

Europe catching up on the US

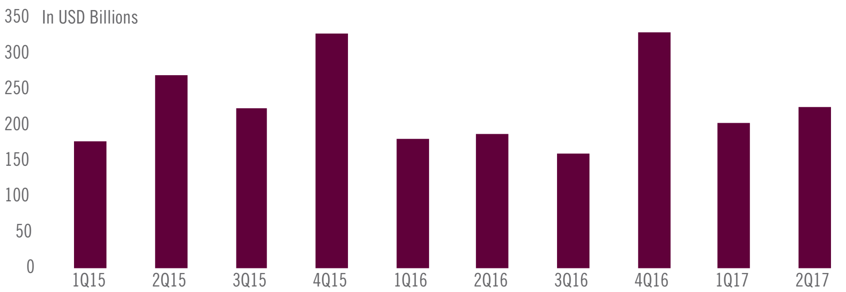
Deal volumes in the Old World picked up considerably in the first half. And there are signs momentum could be maintained for a while yet.

Reflecting cheap funding conditions, inflated equity valuations and cash-rich balance sheets, M&A activity in Europe remained buoyant during the first half of 2017. Strong first-quarter financial results and continued earnings momentum in the second, together with the easing of political risk, are further fueling animal spirits, as illustrated by levels of business confidence not seen for a long time in Europe. The estimated total value of deals amounted to USD429 bn at the end of June, according to Dealogic, up 18% on the same period last year, whereas deal volumes were down 19% in the US and 6% in Asia over the same period.

FAVOURABLE CONDITIONS TO REMAIN

The first quarter started strongly, with two large deals announced: US health care giant Johnson & Johnson bought Switzerland's Actelion and the French optical lens producer Essilor International merged with the Italian frame producer Luxottica. These two deals alone amounted to USD50 bn. The biggest deal announced in the second quarter (and the biggest deal in Europe so far this year) was the purchase by Atlantia, an Italian toll road and airport operator, of Spain's Abertis for a total value of USD34 bn. There were also a number of smaller deals. While some can be clearly deemed strategic, with companies buying technology or market share, others stem from far less fundamental considerations. This is most obviously the case with Chinese groups, whose activism in European M&A many believe is a front for capital flight from China. But the Chinese banking regulator likely has put an end to this trend by ordering that domestic lenders check the systemic risk presented by large companies' acquisition strategies.

VALUE OF TARGETED M&A IN EUROPE



Data at 26 June 2017
Source: Dealogic

Looking ahead, we expect that the European Central Bank, like the US Federal Reserve, will take a very prudent approach to unwinding policy accommodation. Consequently, financial conditions are likely to remain favourable at least through the rest of 2017 and into 2018 in Europe.

GROWING FREE CASH FLOW

Over the past few weeks, several groups have issued debt to finance large deals announced late last year. For example, Reckitt Benckiser came to the market to refinance a USD8 bn bridge loan to help complete its acquisition of Mead Johnson. The issuance was well received, with the final terms coming down as much as 23 basis points from initial price indications. The order book was 2.7x oversubscribed, illustrating the market's appetite for such offerings. This low-interest environment and fixed-income investors' search for extra yield present a unique opportunity for companies to finance deals on favourable terms.

In addition, corporations' cash on hand is likely to expand in tandem with the current improvement in business conditions. We expect cash flow for Stoxx Euro 600 companies to grow by 18% this year. Capital spending is not seen as increasing meaningfully given utilisation rates are not particularly elevated and there is still idle capacity. We are therefore not surprised to see market expectations for 22% year-on-year growth in free cash flow in 2017 over the USD300 bn figure for 2016. Finally, a solid business backdrop (even if growth momentum declines slightly in the second half of this year as we expect) will continue to drive animal spirits in European board rooms, making strategic decisions easier to take.

We therefore expect M&A activity to remain strong. Looking for new growth drivers in a mature market, large consumer goods companies appear particularly predisposed to more deals. Cash-rich sectors like health care and technology will also continue to be active as they seek to complement their product offerings. But even more cyclical sectors, which have joined the fray more recently, could become increasingly active, as witnessed by Peugeot's takeover of rival carmaker Opel from General Motors. ■

GREGORY KUNZ
Consumer Sector Analyst
Pictet Wealth Management

A retail revolution in the making

Announced in mid-June, Amazon's proposed takeover of premium retailer Whole Foods is a ground-breaking response to changing consumer trends. An interview with Gregory Kunz.

Beyond considering it one of the most far-reaching examples of convergence between physical and e-tailing, how do you interpret Amazon's proposed takeover of Whole Foods?

Remember that Amazon has been running its e-commerce grocery subsidiary called Amazon Fresh for 10 years already. While it remains small, it shows Amazon has ideas about how online grocery retailing could work in the US, which remains far behind Europe and other countries in this regard. Online food sales in the US represent less than 2% of the total, compared with 17% in South Korea, for example. Through its database, Amazon already has huge insight into customer behavior and is even beginning to use machine learning to manage fresh stock; combined with Whole Foods it is well placed to make a network of retail stores interact better with an online sales platform.

Fundamentally, Amazon's move can be seen as a response to the way that retail is changing. We can see that in the steady decline of malls in the US. Increasingly, people feel no need to spend precious leisure time shopping, unless it offers some sort of unique experience. This might be procured by a visit to a luxury brand store to spend a lot of money on a single item like a handbag, but not by a shopping expedition for cheap tee-shirts. In the same way, in groceries, one can imagine the development of a 'click and pay' proposition for consumer staples and everyday items, while physical space is increasingly devoted to high-margin products not easily sold on-line, such as high-quality fresh food. With this in mind, Whole Foods' positioning at the very high end of the grocery market in the US (with a gross profit margin of almost 35%) represents a perfect fit for Amazon's online marketing expertise.

What other avenues is Amazon likely to explore with Whole Foods?

Amazon could use Whole Food stores as distribution hubs, scaling up its existing online grocery delivery business and it could re-imagine how retail spaces are conceived, with Amazon's online marketing used to entice consumers to try them. The tie-up also holds out the possibility of building up own-label sales, which are also less developed in the US than in Europe. Together, Amazon and Whole Foods could build up a private-label business as a quality proposition and progressively squeeze out national brands. Potentially, we could even see additional pressure building on Food & Beverage manufacturers to adapt their strategy and be relevant to the new consumers.

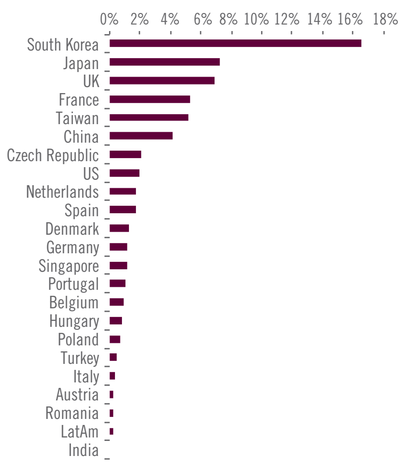
What does this deal mean for other retailers?

The Amazon-Whole Foods tie-up has clearly sent shockwaves throughout the management boards of other retailing firms. We think that some retailers will now feel obliged to make a serious online push and aim for more optimal usage of their networks. In other words, the opening of ever more physical stores to better reach clients belongs to the past; having a solid omni-channel proposition is now paramount.

We also think the Amazon-Whole Foods deal could accelerate consolidation among food retailers. The huge investments a retail revolution may require could be too much for some weaker players, who may simply disappear. Despite thin margins, food retailing generates lots of cash. But retailers that have become hooked on cash distribution while sacrificing critical capital expenditures may find themselves closer to a point of no-return following the Amazon deal.

In addition, some grocery retailers, especially in the US, would benefit from refreshed value propositions. But digital disrupters like Amazon need not be the only catalyst. We should not forget that hard discounters are putting increasing pressure on existing players and that Lidl just opened its first US store in June. Lidl and other discounters could well force existing players in the US to adapt their own offer in response through even more competitive pricing and, potentially, a stronger focus on quality. ■

ONLINE FOOD RETAIL PENETRATION



Data at 31 December 2016
Sources: Kantar, Statista, JP Morgan

YANN GOFFINET
Senior financial analyst
Pictet Wealth Management

Perking up and ready for fresh challenges

Reports of the death of the banking system have been much exaggerated, with European banks recovering and the short-term outlook in the US positive, although China still presents important credit risks. So argues Yann Goffinet in a recent interview.

How would you judge the state of the banking sector in the US after your recent trip there?
After a few months of outperformance around the election of Donald Trump last November, the performance of US banks has been disappointing. This is despite the fact that increases in interest rates (two Fed hikes so far this year, with one more to come, in our view) are helping banks' net interest margins, as about two-thirds of bank loans are priced off Libor, which is rising in tandem with US Fed rates. However, investors have come to doubt the ability of the Trump administration to fulfill promises on tax reforms and infrastructure spending that would have been positive for the economy and for banks.

Consequently, bond yields have come back down, giving up half the rise in yields seen before and following the November election. There is a strong correlation between banks' equity performance and bond yields: the relative performance of banking stocks tends to increase in tandem with 10-year government bond yields. (This is true in yields in both the US and in Europe). Banks will look more attractive again when bond yields move decisively higher again, as we expect.

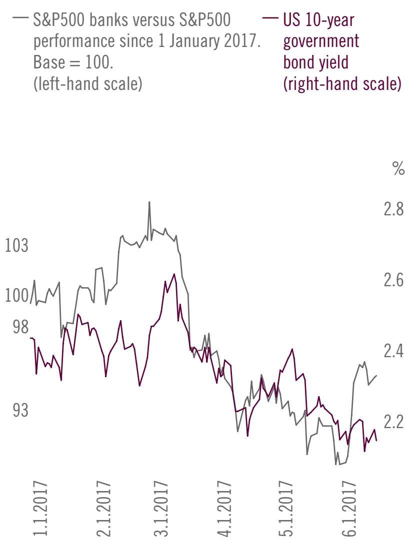
It seems to us a potential revival of any kind of fiscal stimulus (whether tax reform, or infrastructure spending) is not being priced, yet the Republicans are increasingly feeling the pressure to deliver on the Trump agenda ahead of mid-term elections next year. This could well give US banks another leg up. Growth in bank lending has fallen in recent months, but could well take off again if we get a catalyst like tax cuts or simply reduced uncertainty.

The market may not be discounting other developments affecting US banks. Regulations introduced since the financial crisis require banks to hold large amounts of capital and liquidity to make them safer. But the pendulum may be swinging back towards less bank regulation. In early June, the US Treasury department announced about 100 proposals to lower the burden of regulation on banks, two-thirds of which do not require Congressional approval to be enacted. If adopted, these proposals should lead to more credit creation and lower expenses for banks, as well as lower capital and liquidity requirements.

So, after years of having to comply with ever more stringent rules, deregulation is clearly in the air. As is often said, "personnel is policy" and the administration intends to nominate to key regulatory positions experts willing to embrace its desire to see the burden of regulation on banks reduced. One example may be Randal Quarles, perceived by many to be 'banker friendly', and who is tipped to take over as the Federal Reserve's top banking supervisor.

Where do you see the risk of a new financial crisis?
Looking around developed markets today, there are pockets of risk in areas such as consumer credit, credit cards and car loans in the US and, potentially, in the UK. Low interest

CHART 1: S&P 500 BANKS AND US 10Y BOND YIELD CORRELATION



Data at 23 June 2017
Source: Pictet Equity Research, Bloomberg

rates mean that corporations have also leveraged up, notably in the US, through share buy-backs in the case of some large-cap groups, for instance, or through debt issuance in the high-yield area.

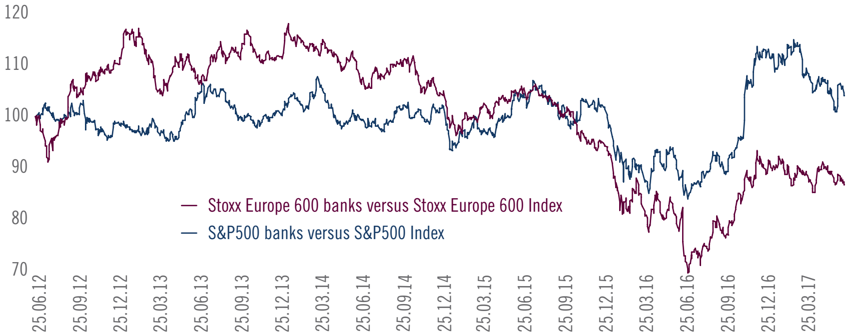
But China constitutes the biggest risk in my view. China reacted to the financial market turmoil of summer 2015 and early 2016 by pushing more credit out to the economy to calm things down. Corporate debt alone now represents about 170% of GDP, and total credit is probably north of 250% of GDP, which is very high for a country at China's stage of development. The Bank for International Settlements recently suggested that China has an elevated credit-to-GDP gap, and has become 'high risk' on this count. Chinese banks are naturally exposed to this credit mountain. The authorities have the wherewithal to keep the show on the road for another year or two, and they are starting to clamp down on excessive lending and financial speculation, hoping that their efforts will not have a significant negative impact on the broad economy. Nonetheless, there might well be a day of reckoning.

And European banks?

European banks are on a upward curve. Bar asset quality issues in some countries, most notably Italy, large banks are now relatively well capitalised and profitability is improving, helped by the recovery of the euro area economy. Even earnings upgrades for the sector have matched those of the broader stock market this year (+5% on forward earnings estimates).

The sector has also seen some significant clean-ups of late. The takeover of Banco Popular by Banco Santander in Spain was hailed as a 'textbook bail-in' by the Single Resolution Board (SRB), set up by the European authorities to deal with failing banks. Basically, European regulators took control of Banco Popular in early June, wiping out the lender's shareholders and junior bondholders, and sold it on within 24 hours to Santander for a symbolic €1. This deal passed off smoothly, and could well have formed a template for other failing banks. But then a state bailout of Banca Monte dei Paschi was waved through. This use of taxpayer money to enable the transfer of the good parts of two Veneto-based banks to Intesa Sanpaolo and avoid hitting bondholders before liquidating them did not follow the new rule book, suggesting European banking union still has room for progress.

CHART 2: RELATIVE PERFORMANCE OF US AND EUROPEAN BANKS SINCE 2012



Data at 23 June 2017
Source: Pictet Equity Research, Bloomberg

The European Central Bank (ECB) is widely expected to tighten policy next year. How will that affect Europe's banks?

An improving economy should make it easier for the ECB to announce a path for withdrawing liquidity support for markets next year. But this will need to be done carefully because it could lead to spread widening on government debt in some peripheral countries, with repercussions for their banks.

There is also talk that the ECB might shift its negative interest rate policy, which has left the deposit facility rate for banks at -0.40% since March 2016. The impact of negative rates has been mixed. Introduced to boost lending and inflation, they have had the effect of taxing banks with the largest excess reserves (generally banks in core euro area countries) since most customers were not charged for their bank deposits. So even a small adjustment to the deposit rate could have a positive effect on banks' net interest margins and further improve sentiment toward the sector.

On a longer-term theme, what is your view of disintermediation, in other words the reduction of banks' role as intermediaries in financial transactions?

This is probably more an issue for Europe, where capital market funding remains less developed than in the US. But Europe may slowly catch up, helped by the EU's efforts to build a 'capital markets union'. Brexit has complicated these efforts, but there is clearly an ambition to make it easier for various types of borrowing to access sources of funding other than bank loans.

The US experience over the last 30 years shows that the development of market financing may go hand in hand with bank concentration. But the deepening of the market there has also enabled financial institutions to offload part of their balance sheet, improving returns on assets and equity. The process will probably be similar in Europe, where disintermediation could potentially spur a new wave of cross-border consolidation, as some bank CEOs are arguing. Disintermediation could also improve bank revenues based on fees to the detriment of interest margins. Banks' asset management and investment banking businesses could also benefit. ■

The SNB stands guard

Having weathered the Frankenshock, the Swiss economy is set for an upturn in growth and inflation. However, the Swiss National Bank faces a number of challenges.

NADIA GHARBI
Europe Economist
Pictet Wealth Management

Switzerland has proved to be more resilient than expected to the sharp rise in the Swiss franc in early 2015, the so-called 'Frankenshock'. But while real GDP expanded by 1.3% in 2016, we expect the Swiss economy to grow by 1.4% in 2017 and 1.7% in 2018, which is still below its potential.

Domestic demand is likely to have a substantially positive impact on growth this year and while the strength of the Swiss franc will continue to weigh on exports, the effect is likely to ease somewhat and might be partly offset by stronger global demand. Last year, Switzerland's good exports performance was mainly driven by the pharmaceutical and chemical sector. Provided there is no further significant currency appreciation, export growth this year could prove more broad based. The situation in the labor market continues to improve, but at a moderate pace. The unemployment rate has fallen to 3.3% from a spike of 3.5% in mid-2016. Nevertheless, enterprises remain cautious in recruiting new staff, in particular in the manufacturing sector.

Switzerland is expected to return to positive headline inflation after years when falling commodity prices and Swiss franc kept it in negative territory. We expect the rate of inflation to reach +0.5% on average this year and +1.0% in 2018. Housing prices continue to increase, but at a slower pace than before.

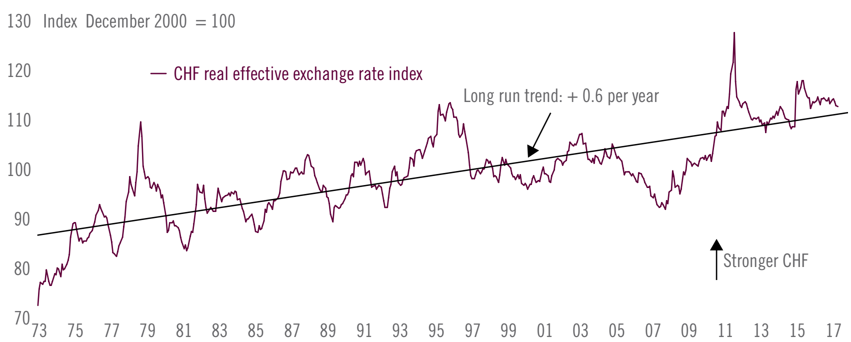
Since the discontinuation of the minimum exchange rate against the euro at the beginning of 2015, the Swiss National Bank (SNB) has maintained unchanged its accommodative monetary policy, which is based on two key pillars: a negative interest rate (currently at -0.75%) and a willingness to intervene in the foreign exchange rate market as necessary. Last year, its monetary policy led the central bank to purchase some CHF67 billion in foreign currency. In all, including valuation changes as well as interest and dividend income, the SNB's foreign exchange reserves increased by CHF86 billion in 2016.

In the near term, the SNB is unlikely to make any significant change in its monetary policy. While rising slightly, inflation is still close to zero and the output gap is negative. Moreover, the SNB continues to see the Swiss franc as "significantly overvalued". Finally, as a small and open economy, Switzerland is highly dependent on developments elsewhere. As a consequence, the SNB is unlikely to pre-empt the European Central Bank (ECB) in normalising its monetary policy. Based on our expectations of a gradual ECB exit from quantitative easing, the SNB could deliver a first rate hike around the middle of 2018. In the meantime, interventions in the foreign exchange market are likely to remain the policy tool of choice to counter excessive upward pressure on the Swiss franc.

CURRENCY LOSSES

Apart from escaping the negative interest rate territory, the SNB is also facing several challenges. The central bank is the third-largest holder of foreign exchange reserves in the world. Its balance sheet has increased sevenfold since the financial crisis and now dwarfs Swiss GDP. As a safe-haven currency, the Swiss franc remains vulnerable to appreciation pressure, periodically forcing the SNB to intervene in the FX market. Thus, one of the SNB's main challenges will be to cope with a growing balance sheet. Another challenge is the fluctuations in its annual results. The SNB's balance sheet is more exposed than before to market volatility, in particular to exchange rate fluctuations. Losses cannot be ruled out as the SNB, does not hedge against currency fluctuations, because this would lead to an appreciation of the Swiss franc. Occasional losses are not fundamentally a problem for the SNB as it could still operate even if its equity capital were to become negative for a certain period. But the longer the overvaluation of the currency lasts, the more challenging the situation will be for the SNB. ■

CHF REAL EFFECTIVE EXCHANGE RATE INDEX



Data at 10 June 2017
Source: Pictet WM – AA&MR, SNB

SWISS EQUITIES

Expensive, but worth it

The strong performance of the Swiss market in recent years is down to a range of highly adaptable stocks operating in an attractive business environment. But can this last?

PASCAL FRANC

Senior Investment Manager

Pictet Wealth Management

The benchmark Swiss Performance Index (SPI) has produced a total return on average 2% higher per annum than that of the MSCI World over the past 30 years (in Swiss francs), with this outperformance extending further in 2017. Behind the index's strong performance is a series of high-quality companies capable of producing returns through good times and bad and benefitting from Switzerland's long-term strengths in terms of infrastructure, education, taxes and politic stability.

SPI companies typically display well-balanced business models capable of navigating through the business cycle and producing innovative products that have a reputation for reliability. They typically have robust financial profiles, with strong free cash flows, excellent cost controls, and sustainable dividend policies. Highly diverse, SPI companies have been at the vanguard of internationalisation, often focusing their expansion on fast-growing markets. The lift company Schindler, for example, has had a presence in China that goes back to the 1980s.

Swiss companies have also demonstrated their adaptability by the way they have dealt with the strength of the Swiss franc, especially in the wake of the 'Frankenshock' of early 2015, when the Swiss National Bank abandoned attempts to keep a cap on the currency against the weak euro. Swiss companies did not collapse, in spite of a decline in CHF-denominated revenues— in large part because franc-denominated costs are low in the case of Swiss-based multinational companies like Nestlé (just 2% of whose total costs are booked in Switzerland), Clariant (4%) and Novartis (10%). In spite of the strong currency, goods exports rose again last year, with weakness in the watch sector compensated by the less price-sensitive pharmaceuticals and chemicals sectors, which account for over 40% of Swiss exports.

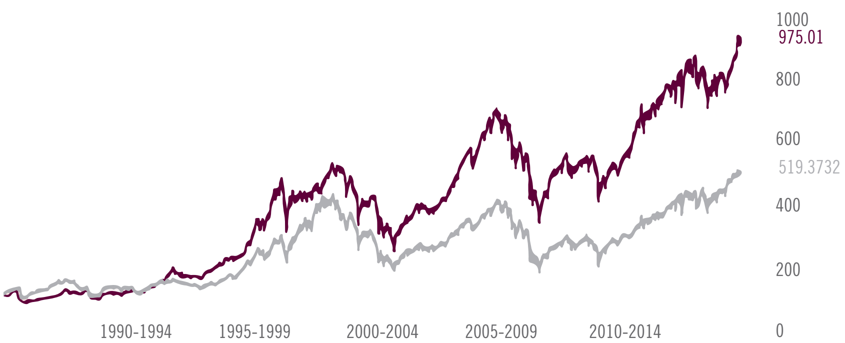
QUALITY AT A PRICE

But quality is rarely cheap, and that is certainly the case with Swiss stocks. Lately, relative valuations on the SPI have been close to the top of their 10-year range. But with a European recovery underway and with stabilisation of the franc (albeit at a high level), SPI companies like look they will do fine this year, with earnings per share (EPS) of around 16% estimated for 2017. We believe there are several large-cap stocks on the SPI with attractive catalysts and that still offer upside potential, alongside a number of other solid, but also solidly valued, companies that could be worth considering were an attractive entry point to open.

The SPI Mid and Small Caps index (SPISMC) consists of around 180 firms accounting for around 18% of total Swiss market capitalisation. This index has even more clearly outperformed global indices than the SPI, with a compound annual growth rate of over 10% in the past 20 years, compared with 5% for the MSCI World. Its outperformance has actually accelerated since the Frankenshock.

Unlike the SPI, dominated by defensive stocks in areas such as pharma, chemicals and financials, the SPISMC contains a myriad of mainly cyclical and somewhat illiquid, volatile stocks. EPS estimates for Swiss mid- and small-caps (+19% in 2017) carry a solid premium that reflects their recent success, but also suggests that valuations might be becoming stretched. Indeed, looking at projections for revenue growth and EBIT (earnings before interest and tax) metrics, many cyclical mid-cap stocks seem to be discounting a smooth growth scenario stretching over the next 10 years. This is highly optimistic, and there is little room for disappointment when it comes to cyclical small and mid-caps in Switzerland, whatever their quality. ■

SWISS PERFORMANCE INDEX VS. MSCI WORLD INDEX, 1986-16 JUNE 2017



Source: Pictet Equity Research, Bloomberg, 20 June 2017

Risks rise for US high yield

A rise in volatility, instable oil prices and more restrictive credit conditions all threaten this sector.

LAURÉLINE CHATELAIN
Fixed Income Strategist
Pictet Wealth Management

US high yield has performed strongly, with the BofA Merrill Lynch (BoAML) US High Yield index posting a total return of 7% (in US dollars) from Donald Trump's election in November 2016 to 26 June 2017. There is traditionally a good degree of positive correlation between the performance of high yield and equities (in other words, both tend to rise together). By way of illustration, the S&P 500 returned 14% over the same period.

The yield from US high yield can be dissected into two main components. The first is the risk-free rate, equivalent to the US Treasury yield of five years maturity, similar to the average duration of the BofAML US High Yield index. The second is the credit spread, which represents the premium investors demand for taking additional credit risk. Along with the coupon, the credit spread determines the main part of a high-yield bond's total return.

Due to their close correlation to equities, US high-yield bonds are highly sensitive to implied volatility movements on the S&P 500 VIX index (VIX), with spreads over US Treasuries widening when volatility spikes. US high yield is also impacted by US and global macroeconomic momentum, with spreads tightening when the economy accelerates and widening when momentum slows. The energy sector's large share of the BofAML US High-Yield index (14%), mainly shale oil producers, also makes it sensitive to oil prices. US high yield spreads widen when the oil price falls significantly, as seen at the beginning of 2016. A renewed fall of the oil price below USD40/b (on 26 June the West Texas Intermediate oil price stood at below USD44) could constitute a risk for the performance of US high yield if it led to more defaults among energy issuers.

The default rate is important when calculating the total return on US high yield, as a default incurs a loss for investors equal to the bond's principal value less the recovery rate obtained once all the company's assets have been liquidated. The US high yield default rate stood at 3.9% in May 2017 and, according to Moody's calculations based on current trends, could fall further, to about 2.7% by the end of 2017.

Historically, lending conditions for medium and large enterprises are a significant leading indicator of the default cycle. Easing lending conditions normally boost credit growth. But lending conditions tend to become tougher when the US Federal Reserve (Fed) is tightening monetary policy. Having raised rates three times since late 2015, we anticipate the Fed will hike rates once more in 2017 and three more times in 2018, while it could also start to reduce its balance sheet (by USD30 bn in 2017 and USD379 bn in 2018, according to our estimates).

DEFAULT RATE TO RISE

At the same time, it is looking less probable that the US Congress will pass any significant tax or spending measure this year, and we only expect a fiscal stimulus equivalent to 1% of US GDP from 2018 onwards. So fiscal policy is unlikely to stimulate US economic growth sufficiently to compensate for the cooling down induced by the Fed's more restrictive stance. As a result, we estimate the US high-yield credit default rate could rise to about 5% by end-2018.

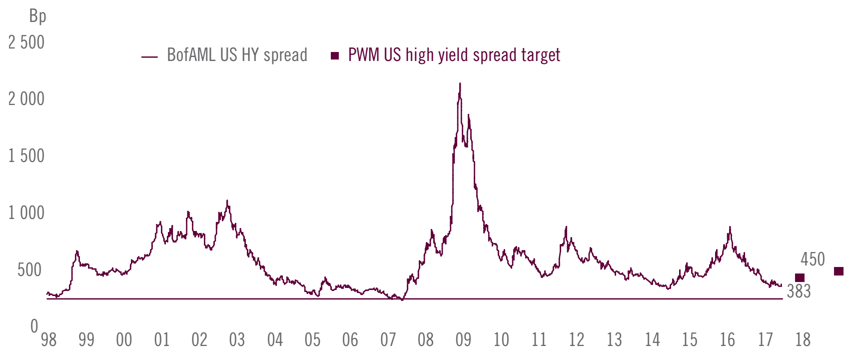
At Pictet Wealth Management, we have developed a multi-factor model of US high-yield credit spreads that helps us to forecast US high-yield credit spread levels based on the above-mentioned factors as well as on our macroeconomic scenario for 2017-2018 (*see chart on next page*). Assuming that the VIX remains at its current low level of around 10, the US high-yield spread

420-450bp

Our estimate of USD high-yield spread at end-2017 could widen from its 26 June level of 383 basis points (bps) over Treasuries to a range of 420 - 450 bps by the end of 2017 and to 500 bps by end 2018. However, should the level of implied volatility rise to around 14, the US high-yield spread could widen more.

Given our expectations for US Treasury yields to rise, such widening would lead to negative total returns on US high yield. And investors also have to remember that US high yield becomes particularly illiquid in times of market stress. Since this makes the unwinding of positions extremely difficult, Pictet Wealth Management has adopted a bearish stance on this market. ■

BOFAML US HIGH YIELD SPREAD & PWM US HIGH YIELD SPREAD TARGET FOR END-2017 AND END-2018



Data at 25 June 2017
Source: Pictet Wealth Management AA&MR

EDGAR VAN TUYLL
Chief Quantitative Strategist
Pictet Wealth Management

QUANTITATIVE INVESTING

Would you like a rat to manage your money?

Some believe the day is near when markets will be dominated by algorithms and data-driven trades. But automation has its limits; there will always be room for the human factor.

Thanks to the exponential rise in computing power, theoretical advances, and some impressive real world results in fields outside financial investment, machine learning has been experiencing a renaissance. Assets held by computer-driven hedge funds doubled to USD918 bn in the eight years to end-2016, according to HFR Global Hedge Fund report.

The last foray into investment by machine learning (a branch of artificial intelligence (AI) that equips computers to learn without being explicitly programmed) was in the early 1990s, when quantitative funds began to make extensive use of 'weak' AI (machines focused on a narrow task and with a certain propensity for learning from new data). Since then, the potential for machine learning to unearth tradable signals in digital data continues to generate huge interest–justifiably so, in our view. But while we believe that some well-established quantitative funds (applying weak AI to specific problems under the supervision of human experts) are likely to continue to grow fast, we think that newer forms of quants based around 'strong' AI (where the machine can apply itself to every problem on its own without human intervention) are a fad.

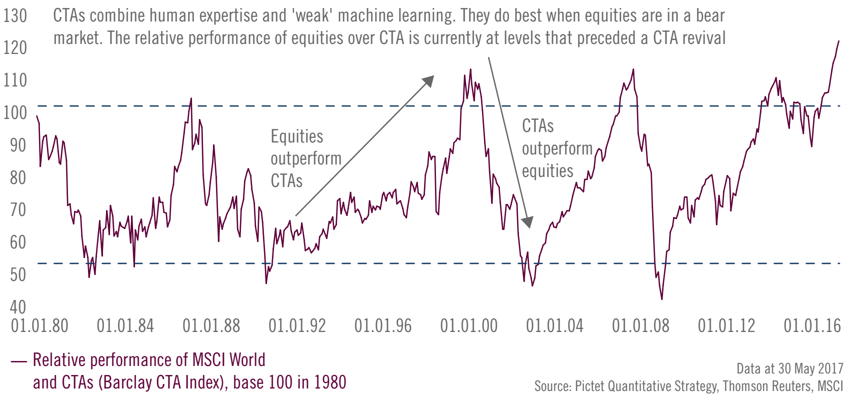
First, machines, like inexperienced humans, tend to use models based on past trends that actually prove inadequate for predicting the future. It is telling that Quantopian, a crowd-sourced on-line platform where members build and run computerised trading programmes, has so far invested in only 15 quantitative strategies, even though it has about 120,000 members.

Second, while algorithmic-driven trading has progressed by leaps and bounds, and while trend-following strategies based on quants have returned 9.5% annualised since 1980 (using the Barclay Hedge CTA Index as a proxy), returns have been a disappointing 0.5% annualised since 2009 as monetary easing together with unusually low volatility and high correlations have reduced opportunities. Traditional balanced portfolios performed much better. And although some quantitative stock selection funds continue to perform strongly, it is worth remembering that this sub-segment tumbled badly in August 2007, a full year before the financial crash hit–among other reasons because funds were all running nearly identical, highly leveraged strategies. Quantitative fund managers have since learned to avoid doing this, but machines based only on back tests without fundamental explanations may make similar beginner errors.

SYMBIOSIS WITH HUMANS

Third, each time a revolutionary new technology has appeared (steam

RELATIVE PERFORMANCE OF CTAS AND EQUITIES, 1980-2017.



Data at 30 May 2017
Source: Pictet Quantitative Strategy, Thomson Reuters, MSCI

engines, electricity, atomic power), it has been seen as eventually replacing human workers. But each time the world has turned out to be far more complex; instead of simply replacing humans, a symbiosis between humans and machines has always turned out to be needed to move forward. This holds equally true for investment management.

A fourth problem relates to machine learning itself. Machine learning can sift through masses of data and come up with investment recommendations based on historic asset prices, company performance or macro-economic developments. But machine learning is not 100% accurate. What their error rate is and what rate is tolerable for investors when a machine is unable to give reasons for its errors? We don't know yet. On these grounds alone, machine learning justifies the need for continued human interaction. Machine learning can be used to hunt for relationships between often very disparate data points. But it would be senseless to put blind faith in machines and trade accordingly.

A fifth problem is the technology's limitations. Artificial neural networks are a computational model used in machine learning. Like other machine-learning methods that do not require explicit programming, neural networks can be used to undertake a wide variety of tasks like computer vision and speech recognition, which are difficult for ordinary rule-based programming to accomplish. However, neural networks are still only capable of replicating roughly the same number of brain connections (synapses) as a rat (160 billion), still far short of those in an average human brain (estimated in adults at 100-500 trillion). Would you like a rat to manage your money?

AN IDIOT SAVANT

Some of the world's leading AI experts, such as Professor Qiang Yang of Hong Kong's Science and Technology University, readily concede there are conditions under which AI does poorly–for example, in environments where there is little by way of deep previous data, or where there is a lack of set rules or means of measuring success. AI currently functions like an idiot savant specialised in a single area, not a polymath. This suggests that AI might not be particularly useful in helping a hedge fund to invest money without human expertise. Day-to-day management, very big picture thinking, creativity, and establishing meaningful relationships are just some areas where AI scores disappointingly. As Professor Yang wrote in a recent issue of Pictet Report (Winter 2016), 'Robots cannot learn by themselves – nor can they innovate as humans do. (...) Computers will not completely replace humans, who will still be the innovators. Robots will be the intern assistants advising the human decision-makers.'

And even the most powerful supercomputers in existence are still far from resolving the most complex computational problems in areas such as genomics and finance. Some observers believe that to make the next leap will require quantum computers that operate on entirely different principles from traditional ones. But quantum computers are still in their infancy. A truly useful quantum computer will require solving tricky problems like the very technical issue of 'quantum decoherence'. It will also need to add far more qubits (quantum bits, seen as the building blocks of such computers), because quantum computing is growing exponentially, scaling up at a rate of twice to the power of the number of qubits available. While AI already looks like revolutionising the world of investment, there will still be work for asset managers for some time to come. ■

QUANTS' FAST GROWTH

Quantitative funds are the fastest-growing segment of the investment industry, reaching close to USD 1tn of assets in 2016, according to HFR Global Hedge Fund report (HFR). These funds are run by algorithms, mathematical formulae that aim to reduce the need for human judgment by replicating it or developing new forms of decision making.

Quantitative funds include smart beta (a version of index funds that goes beyond market cap criteria), alternative beta (a long/short version of smart beta), and quantitative hedge funds (many of them trend-following funds). They saw the highest inflows of all hedge funds in 2016, according to HFR, and smart beta funds were the fastest-growing ETF segment last year.

Recently, some quantitative hedge funds have been experimenting with 'pure' machine learning whereby a machine learns to invest based on its analysis of data feeds and without any human intervention, at least after its initial training.

DISCLAIMERS

Europe

Contributors: Christophe Donay, Lauréline Chatelain, Cesar Perez Ruiz, Frederik Ducrozet, Jean-Pierre Durante, Frank Bigler, Gregory Kunz, Yann Goffinet, Luca Desantis, Edgar van Tuyll, Pascal Franc , Christopher Seilern and Nadia Gharbi.

Editors: Isidore Ryan. Content completed on 30 June 2017.
Design: Stéphane Bob, Forth Studio Paper: Printed on FSC-Certified paper.

Distributors: Banque Pictet & Cie SA, Pictet & Cie (Europe) SA. This marketing communication is not intended for persons who are citizens of, domiciled or resident in, or entities registered in a country or a jurisdiction in which its distribution, publication, provision or use would violate current laws and regulations.

The information, data and analysis furnished in this document are disclosed for information purposes only. They do not amount to any type of recommendation, either general or tailored to the personal circumstances of any person. Unless specifically stated otherwise, all price information is indicative only. No entity of the Pictet Group may be held liable for them, nor do they constitute an offer or an invitation to buy, sell or subscribe to securities or other financial instruments. The information contained herein is the result neither of financial analysis within the meaning of the Swiss Bankers Association's Directives on the Independence of Financial Research, nor of investment research for the purposes of the relevant EU MiFID provisions. All information and opinions expressed in this document were obtained from sources believed to be reliable and in good faith, but no representation or warranty, express or implied, is made as to its accuracy or completeness.

Except for any obligations that any entity of the Pictet Group might have towards the addressee, the addressee should consider the suitability of the transaction to individual objectives and independently assess, with a professional advisor, the specific financial risks as well as legal, regulatory, credit, tax and accounting consequences.

Furthermore, the information, opinions and estimates in this document reflect an evaluation as of the date of initial publication and may be changed without notice. The Pictet Group is not under any obligation to update or keep current the information contained herein. In case this document refers to the value and income of one or more securities or financial instruments, it is based on rates from the customary sources of financial information that may fluctuate. The market value of financial instruments may vary on the basis of economic, financial or political changes, currency fluctuations, the remaining term, market conditions, the volatility and solvency of the issuer or the benchmark issuer. Some investments may not be readily realizable since the market in the securities can be illiquid. Moreover, exchange rates may have a positive or negative effect on the value, the price or the income of the securities or the related investments mentioned in this document. When investing in emerging countries, please note that the political and economic situation in those countries is significantly less stable than in industrialized countries. They are much more exposed to the risks of rapid political change and economic setbacks.

Past performance must not be considered an indicator or guarantee of future performance, and the addressees of this document are fully responsible for any investments they make. No express or implied warranty is given as to future performance. Moreover, forecasts are not a reliable indicator of future performance.

The content of this document can only be read and/or used by its addressee. The Pictet Group is not liable for the use, transmission or exploitation of the content of this document. Therefore, any form of reproduction, copying, disclosure, modification and/or publication of the content is under the sole liability of the addressee of this document, and no liability whatsoever will be incurred by the Pictet Group. The addressee of this document agrees to comply with the applicable laws and regulations in the jurisdictions where they use the information reproduced in this document.

Banque Pictet & Cie SA is established in Switzerland, exclusively licensed under Swiss Law and therefore subject to the supervision of the Swiss Financial Market Supervisory Authority (FINMA).

Distributors: Banque Pictet & Cie SA, Pictet & Cie (Europe) SA

Asia

Distributors: This document is distributed by Bank Pictet & Cie (Asia) Ltd ("BPCAL") in Singapore and Pictet & Cie (Europe) S.A., Hong Kong branch ("Pictet HK branch") in Hong Kong.

The information, tools and material presented in this document are provided for information purposes only and are not to be used or considered as an offer, an invitation to offer or solicitation to buy, sell or subscribe for any securities, commodities, derivatives, (in respect of Singapore only) futures, or other financial instruments (collectively referred to as "Investments") or to enter into any legal relations, nor as advice or recommendation with respect to any Investments. This document is intended for general circulation and it is not directed at any particular person. This document does not have regard to the specific investment objectives, financial situation and/or the particular needs of any recipient of this document. Investors should seek independent financial advice regarding the appropriateness of investing in any Investments or adopting any strategies discussed in this document, taking into account the specific investment objectives, financial situation or particular needs of the investor, before making a commitment to invest.

BPCAL/Pictet HK branch has not taken any steps to ensure that the Investments referred to in this document are suitable for any particular investor, and accepts no fiduciary duties to any investor in this regard. Furthermore, BPCAL/Pictet HK branch makes no representations and gives no advice concerning the appropriate accounting treatment or possible tax consequences of any Investment. Any investor interested in buying or making any Investment should conduct its own investigation and analysis of the Investment and consult with its own professional adviser(s) as to any Investment including the risks involved with transactions on such Investment.

This document is not to be relied upon in substitution for the exercise of independent judgment. The value and income of any Investment mentioned in this document may fall as well rise. The market value may be affected by, amongst other things, changes in economic, financial, political factors, time to maturity, market conditions and volatility, and the credit quality of any issuer or reference issuer. Furthermore, foreign currency rates of exchange may have a positive or adverse effect on the value, price or income of any Investment mentioned in this document. Accordingly, investors must be willing and able to, and effectively assume all risks and may receive back less than originally invested.

Past performance should not be taken as an indication or guarantee of future performance and no representation or warranty, expressed or implied, is made by BPCAL/Pictet HK branch regarding future performance.

This document does not constitute the investment policy of BPCAL/Pictet HK branch, or an investment recommendation, and merely contains the different assumptions, views and analytical methods of the analysts who prepared them. Furthermore, the information, opinions and estimates expressed herein reflect a judgment at its original date of publication and are subject to change without notice and without any obligation on BPCAL/Pictet HK branch to update any of them. BPCAL/Pictet HK branch may have issued or distributed other reports or documents that are inconsistent with, and reach different conclusions from, the information presented in this document.

While the information and opinions presented herein are believed to be from sources believed to be reliable, BPCAL/Pictet HK branch is not able to, and do not make any representation or warranty as to its accuracy or completeness. Accordingly, BPCAL/Pictet HK branch accepts no liability for loss arising from the use of or reliance on this document presented for information purposes only. BPCAL/Pictet HK branch reserves the right to act upon or use any of the information in this document at any time, including before its publication herein.

BPCAL/Pictet HK branch and its affiliates (or employees thereof) may or may not have long or short positions in, and buy or sell, or otherwise have interest in, any of the Investments mentioned herein, and may or may not have relationships with the issuers of or entities connected with Investments mentioned in this document. BPCAL/Pictet HK branch and their affiliates (or employees thereof) may act inconsistently with the information and/or opinions presented in this document.

The information used to prepare this document and/or any part of such information, may have been provided or circulated to employees and/or one or more clients of BPCAL/Pictet HK branch before this document was received by you and such information may have been acted upon by such recipients or by BPCAL/Pictet HK branch.

This document is provided solely for the information of the intended recipient only and should not be reproduced, published, circulated or disclosed in whole or in part to any other person without the prior written consent of BPCAL/Pictet HK branch.

Singapore
This document is not directed to, or intended for distribution, publication to or use by, persons who are not accredited investors, expert investors or institutional investors as defined in section 4A of the Securities and Futures Act (Cap. 289 of Singapore) ("SFA") or any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject BPCAL and any of its affiliates or related corporations to any prospectus or registration requirements.

BPCAL has obtained an exemption from the Monetary Authority of Singapore ("MAS") under section 100(2) of the Financial Advisers Act ("FAA") for the provision of financial advisory services to High Net Worth Individuals (as defined in the MAS Guidelines on Exemption for Specialised Units Serving High Net Worth Individuals FAA-G07) (the "Exemption") and is exempted from the requirements of sections 25, 27, 28 and 36 of the FAA, the MAS Notice on Recommendations on Investment Products (FAA-N16), MAS Notice on Appointment and Use of Introducers by Financial Advisers (FAA-N02), MAS Notice on Information to Clients and Product Information Disclosure (FAA-N03) and MAS Notice on Minimum Entry and Examination Requirements for Representatives of Licensed Financial Advisers and Exempt Financial Advisers (FAA-N13).

Please contact BPCAL in Singapore in respect of any matters arising from, or in connection with this document.

Hong Kong
This document is not directed to, or intended for distribution, publication to or use by, persons who are not "professional investors" within the meaning of the Securities and Futures Ordinance (Chapter 571 of the Laws of Hong Kong) and any rules made thereunder (the "SFO") or any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject Pictet HK branch and any of its affiliates or related corporations to any prospectus or registration requirements.

If you do not want Pictet HK Branch to use your personal information for marketing purposes, you can request Pictet HK Branch to stop doing so without incurring any charge to you.

In distributing investment products as agents for third party service providers, Pictet HK Branch is an agent of the third party service provider and the product is a product of the third party service provider but not Pictet HK Branch. In respect of an eligible dispute (as defined in the Terms of Reference for the Financial Dispute Resolution Centre in relation to the Financial Dispute Resolution Scheme) arising between Pictet HK Branch and you out of the selling process or processing of the related transaction, Pictet HK Branch is required to enter into a Financial Dispute Resolution Scheme process with you; however any dispute over the contractual terms of the product should be resolved between directly the third party service provider and you.

Pictet & Cie (Europe) S.A. is incorporated in Luxembourg with limited liability. It is an authorized institution within the meaning of the Banking Ordinance and a registered institution (CE No.: AQ515) under the SFO carrying on Type 1 (dealing in securities), Type 4 (advising on securities) and Type 9 (asset management) regulated activities. The registered address of Pictet HK branch is 9/F, Chater House, 8 Connaught Road Central, Hong Kong.

Warning: The contents of this document have not been reviewed by any regulatory authority in Hong Kong. You are advised to exercise caution in relation to the offer. If you are in any doubt about any of the contents of this document, you should obtain independent professional advice. Please contact Pictet HK branch in Hong Kong in respect of any matters arising from, or in connection with this document.

PERSP ANG 0817

PICTET
1805