The European Credit Strategist

Populism and the big risk to margins

Credit Analysis

02 May 2019

Credit Strategy
Europe

Barnaby Martin
Credit Strategist
MLI (UK)
+44 20 7995 0458
barnaby.martin@baml.com

Ioannis Angelakis
Credit Derivatives Strategist
MLI (UK)
+44 20 7996 0059
ioannis.angelakis@baml.com

Elyas Galou
Credit Strategist
BofASE (France)
+33 1 8770 0087
elyas.galou@baml.com

Beyond the "lower bound"

Central banks have been forced to question the "lower bound" for interest rates over the last few weeks, as the return of inflation remains at large. We see this as leading to a further rise in the amount of negative-yielding assets across the globe, necessitating a strong ongoing bid for European corporate bonds. In fact, the "thirst for yield" is eye-watering at present: oversubscription levels for high-grade new issues in April were 5x – way in excess of anything seen during the ECB's CSPP era.

Beta blockers – go down in quality for Q2

Amid the impressive rally, we still contend that "beta" hasn't genuinely outperformed in credit as yet, as spread ratios for classic beta pairs have risen lately. But we think that high-beta will soon take over leadership of the rally, supported by the disappearance of single-A coupons, and the stabilisation of Eurozone growth. Corporate hybrids, in particular, stand out as having lagged senior (corporate) debt this year, and thus we think beta still looks cheap for investors.

Watch US Dollar strength – a fly in the ointment?

While we see an encouraging backdrop for the Euro corporate bond market at present, this doesn't mean that all risks have fallen by the wayside. Lately, a familiar foe has returned: namely that of US Dollar strength. We recall that Dollar strength was a headwind to Euro credit performance in Q2 last year, as it motivated retail investors to flee European assets and chase the allure of US T-Bills. Fast forward to today, and US cash still has the potential to "embarrass" risk assets in Europe: note that 91% of all European corporate bonds, across both high-grade and high-yield, now yield less than 6m US T-bills. Thus, a weaker Dollar from here remains key, in our view.

Populism, deglobalization and the big risk to margins

Earnings season is once again upon us and EPS beats thus far paint a fairly encouraging picture across Europe. Since 2000, margin growth has been a boon for company profits in Europe, but now more than ever, companies are expressing concern over "peak" margins. Yet, many of the risks being echoed (wage growth, weaker trade, tariffs, etc.) have their roots in the rise of populist politics. After all, corporates have been the winners, relative to workers, over the last 20yrs, thanks to globalization, corporate tax cuts, de-unionisation of labour and QE supporting the rise of "Superfirms". But the tables may be turning now: note President Macron's recent pledge to lower household taxes (and boost minimum wages) while eliminating some corporate tax breaks.

The margin winners and the future risks

For investors, therefore, the challenge will be to pick companies where profit margins are likely to be relatively stable going forward – where tech innovation or debt refinancing can still be supportive. Conversely, investors should be wary of companies where margins could negatively surprise in the near term. Who have been the margin winners of late (where things could now go in reverse)? Aside from tech and real estate, the sectors that currently have high margins relative to history are retail, consumers, industrials and (core) European utilities.

11994329

Timestamp: 02 May 2019 12:15AM EDT

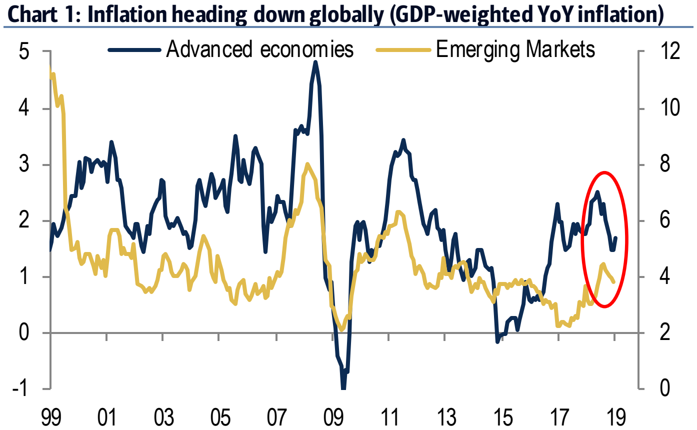
Beyond the "lower bound"

European credit feels like the gift that keeps on giving at present. Even after a strong Q1, markets had a lot more to give in April. High-grade spreads lurched 15bp tighter last month, posting their best month for performance this year, and the strongest tightening since July '16. In fact, both high-grade and high-yield spreads have rallied every month this year (the record, though, is 10 straight months of high-yield tightening in 2009).

Turbo charging spreads of late has been another big dose of the familiar: central bank dovishness. As Chart 1 shows, inflation dynamics have turned more challenging this year for both advanced and emerging economies across the globe. This has forced central banks to question the "lower bound" for interest rates. Over the last few weeks, the ECB, BoJ and SNB have all hinted that cutting rates remains an option if more stimulus is needed down the line. Cue a further jump in negative-yielding assets ... and a continuation of the "thirst for yield" supporting credit markets.

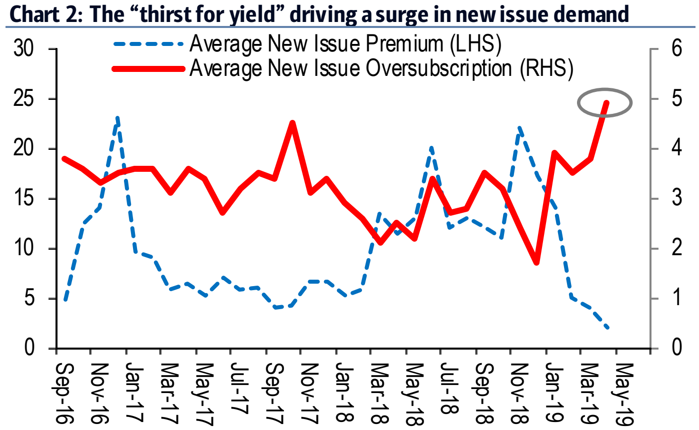
In fact, the grab for yield was eye-watering last month (Chart 2). Average new issue oversubscription for Euro-denominated IG deals reached almost 5x, a record high (and importantly higher than at any time during CSPP, when the ECB was buying in primary).

Chart 1: Inflation heading down globally (GDP-weighted YoY inflation)



Source: OECD, BofA Merrill Lynch Global Research. GDP-weighted inflation. EM (RHS), %.

Chart 2: The "thirst for yield" driving a surge in new issue demand

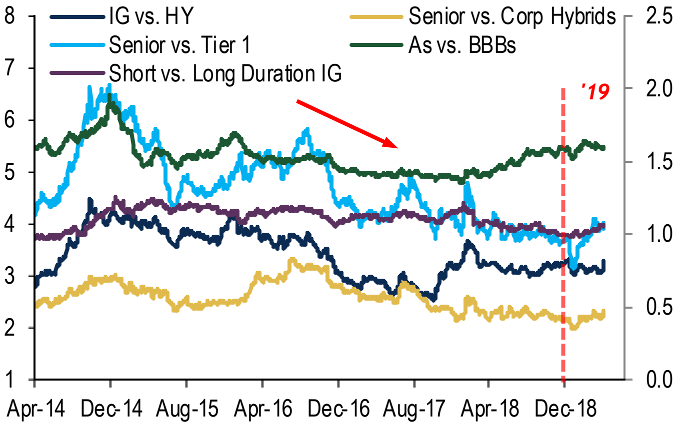


Source: BofA Merrill Lynch Global Research. NIPs in bps, Oversubscription in multiples. €-denominated IG new issues.

Beta blockers – go down in quality for Q2

Amid the impressive rally, we still contend that "beta" hasn't genuinely outperformed in credit as yet. Chart 3 shows the spread ratios of classic beta pairs across the European corporate bond market. In a genuine beta compression, we would expect spread ratios to decline – as they did after June '16 when the ECB began to buy corporate bonds.

Chart 3: Credit beta has still lagged (spread ratios by classic pairs)



Source: BofA Merrill Lynch Global Research. Spread ratios LHS, apart from A/BBB and Long/Short credit (RHS)

Chart 4: Global money supply (M1) has bounced, supporting global GDP

Source: BofA Merrill Lynch Global Research.

This year, however, even though spreads for high-beta feel like they have done well, note that the spread ratios across all of our pairs have drifted higher. Thus, it's still been a defensive rally of sorts in European credit.

But we believe the stars are aligning for genuine beta compression to take place in due course. We see two important drivers of this:

- First, we think that the appetite for highly rated IG credit from European long-only investors will fade a bit given the preponderance of negative-yielding bonds (Japanese Lifers, however, are still likely to buy on a hedged basis). Note that there is now €150bn of negative-yielding single-A rated debt in Euro high-grade. In fact, 3 new issues have been able to price with 0% coupons lately (LVMH, Toyota Finance and ING). Given investors need positive coupons to compensate them for corporate event risk, we see this as driving an eventual preference for high-beta parts of the credit market in Europe.

- Second, while it's been slow going, there are nonetheless signs of growth stabilisation in Europe, as this week's GDP print hinted at. Moreover, global money supply growth (YoY M1) has inflected higher over the last few months, as Chart 4 suggests (and witness the recent bounce in Euro Area M1). As money supply trends have been a reliable lead indicator in the past to the direction of global industrial production, this bodes well for a bounce in global manufacturing in due course. We think this is another eventual catalyst for beta compression in credit.

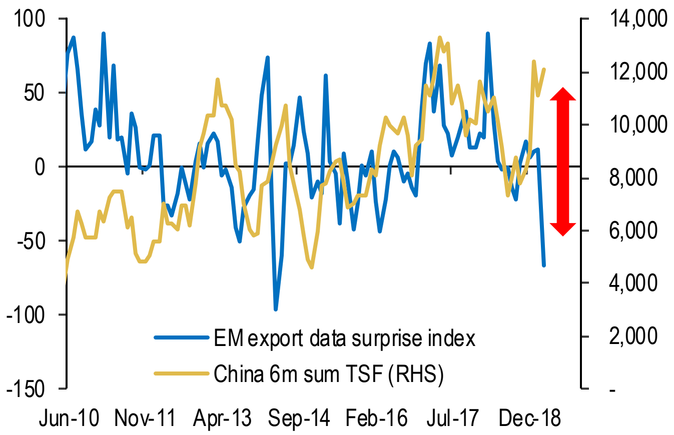
Looking at Chart 3, the corporate hybrid sector stands out has having underperformed, beta-wise, this year.

Watch US Dollar strength – a fly in the ointment?

While we see an encouraging combination of technical and fundamental support for the Euro credit market at present, that doesn't mean that all risks have fallen by the wayside. This week, we saw the return of a familiar story: namely that of US Dollar strength. Credit markets will remember that Dollar strength in Q2 last year was a catalyst for the end of retail inflows in Europe, and a period of much weaker corporate bond technicals.

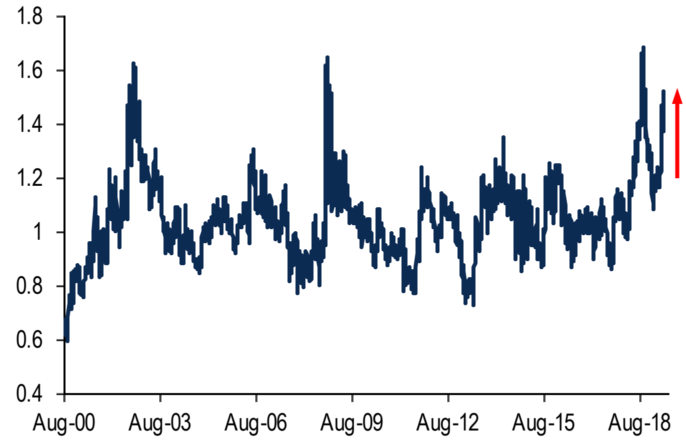
Lately, the US Dollar has likely been supported by a continuation of the global *desynchronised* growth narrative, something which will have surprised the consensus. Expectations were for a recoupling of global growth in '19, driven by a slowing of the US economy. Instead, the US economy has continued to power ahead.

Chart 5: China stimulus has been slow to boost other EM exports



Source: BofA Merrill Lynch Global Research, Bloomberg data surprise indices. 6m sum of China TSF (RHS, CNY bn).

Chart 6: US$ strength driving EM wobbles (ratio of EMFX and G7FX vol)



Source: BofA Merrill Lynch Global Research. Ratio of JPMVXYEM and JPMVXYG7 indices.

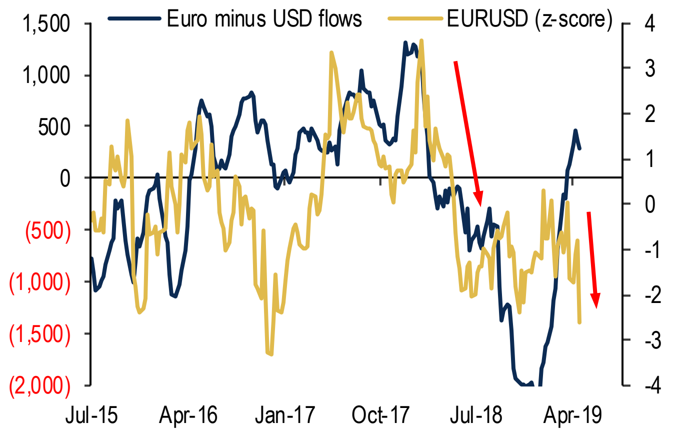
But, as Chart 5 shows, while China is doing an impressive job at stimulating (note the jump in Total Social Financing), export dataflow for other EM economies remains disappointing (South Korea and Taiwan exports are still very weak). China's stimulus may be less effective this time around (vis-à-vis '15/'16) given the rebalancing of the Chinese economy more towards domestic consumption and away from investment.

If USD strength continues, Euro credit investors should keep an eye on two important "pressure points" across the market, we think. Both played out in Q2 last year, when the USD likewise went through a period of appreciation:

- First, a return of EM volatility. EM has been a winner in 2019 amid central banks' dovish pivot. YTD inflows into global EM debt funds have amounted to an impressive $25bn (close to surpassing the pace of inflows in '17). But US Dollar strength may be a harbinger of a rise in EM FX volatility. Chart 6 shows that the ratio of EM FX vol to G7 FX vol has risen again since the end of March.

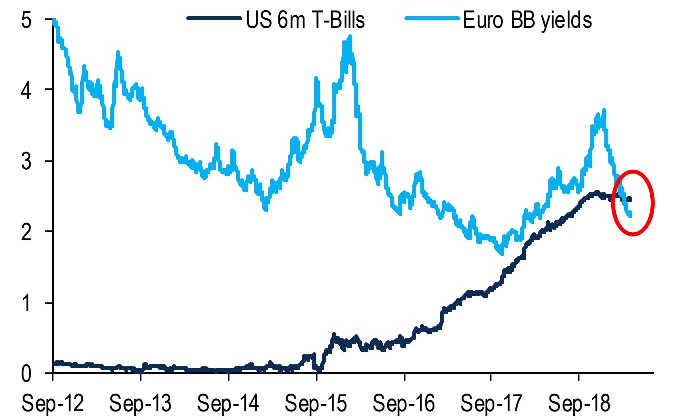
- Second, and more directly relevant to European corporate bonds, is that USD strength could precipitate a weakening of Euro credit inflows and motivate European retail investors to flock to US fixed-income – and in particular T-bills. This was a very relevant theme in Q2 last year. Back then, it wasn't just credit funds that began to experience outflows; in fact all asset classes in Europe saw withdrawals by retail investors (including money markets, equities and government debt) and there were few signs of classic haven buying. With US "cash" (in the form of T-bills) having emerged as a competitive asset class globally, European retail money was simply leaking to the front-end of the US fixed-income market unhedged. Chart 7 shows the link between USD strength and Euro credit outflows.

Chart 7: Dollar strength heralded a tougher time for Euro credit retail inflows in Q2 last year (high-grade credit flows)



Source: EPFR Global, BofA Merrill Lynch Global Research. 6m Eur-USD Z-score RHS. 10w average flows $mn.

Chart 8: US "cash" still remains very competitive. 6m US T-bills now yield more than 91% of all European corporate bonds (IG + HY)



Source: BofA Merrill Lynch Global Research, %.

US cash can still "embarrass" risk assets in Europe

Fast forward to today, and note that US "cash", in the form of 6m T-bills, has become even more competitive relative to European credit (Chart 8). **In fact, we find that 91% of European corporate bonds across both high-grade and high-yield now yield less than 6m US Bills**.

Thus, a continuation of USD strength might be enough of a motivation to push some retail investors away from risky assets in Europe and towards the relative safety of US bills (where clients can gain from the yield differential, and profit from a rising currency). Coupled with expectations of relatively high May issuance, this could become a risk to technicals.

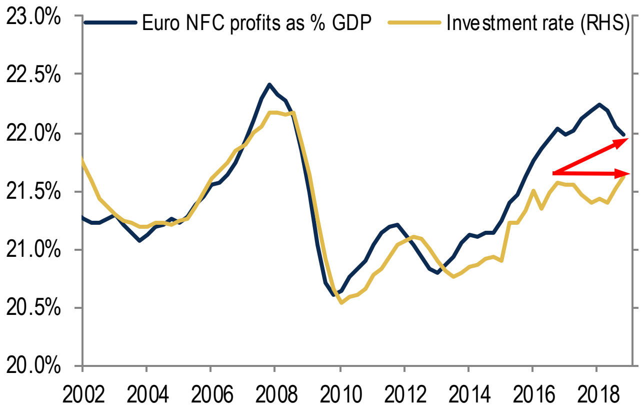
Stay tuned to the Dollar over the next few weeks.

Populism, deglobalization and the big risk to margins

Earnings season is once again upon us and EPS beats thus far (52%) paint a fairly encouraging picture across Europe. Since 2000, margin growth has been a boon for corporate profits in Europe. In recent years, margins have surged further, in part due to factors such as ECB QE (reducing debt costs), low wage growth (especially relative to worker productivity), flourishing global trade (and the decline in global corporate tax rates) and the emergence of "Superfirms".

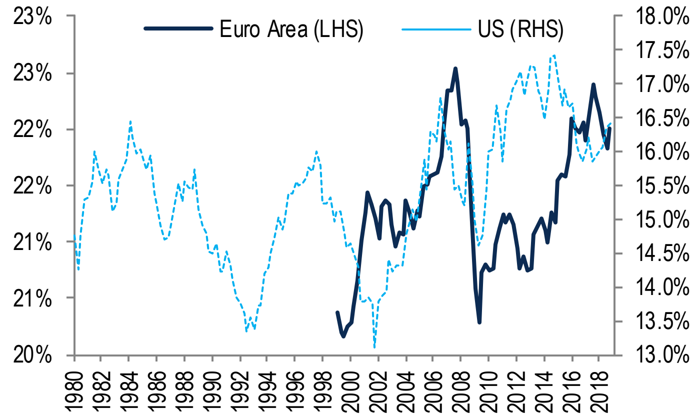
Chart 9, for instance, shows how European non-financial corporate profits have continued to rise over the last few years despite stalling investment flows. Note that prior to this, corporate profit growth tracked investment levels very closely. What explains the recent "outperformance" of corporate profits? The continued climb in margins, in our view. Accordingly, non-financial corporate profits, as a ratio of Euro Area GDP, are close to pre-Global Financial Crisis highs.

Chart 9: Non-fin corporate profits have risen since the sovereign crisis



Source: Eurostat, BofA Merrill Lynch Global Research. Investment rate, RHS.

Chart 10: Net operating profit of non-financial corporates, as % GDP

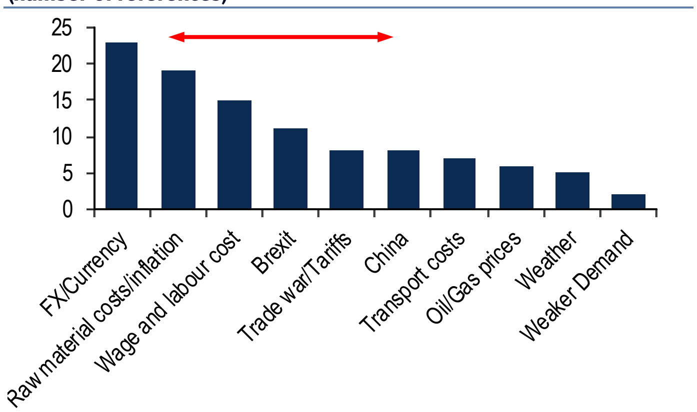


Source: BofA Merrill Lynch Global Research, DataStream.

The risk of "peak" profit margins

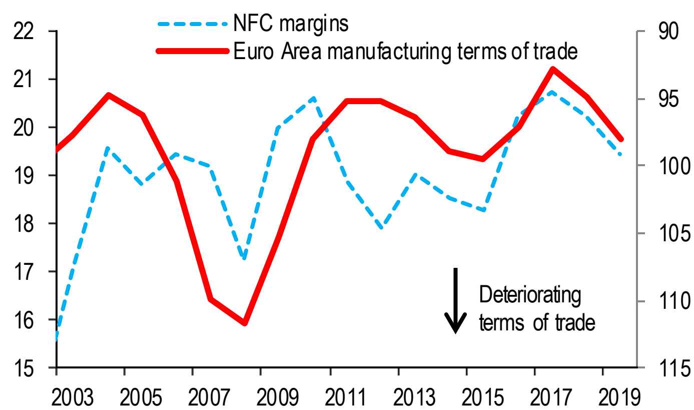
That said, Chart 9 suggests that European corporates' profit margins might have peaked. Indeed, one can see that non-financial margins have dipped slightly over the last year. Rather than a one-off, though, profit margin compression is being highlighted by more and more companies now as a future risk.

Chart 11: Stoxx 600 issuers citing negatives in Q1 '19 earnings calls (number of references)



Source: BofA Merrill Lynch European Equity & Quant Strategy, FactSet. Number of mentions.

Chart 12: Euro Area PMIs (output vs. input price indices) point to future headwinds for corporate margins



Source: BofA Merrill Lynch Global Research, Markit. "Terms of Trade" defined as the ratio of Euro Area PMI Manufacturing Output/Input prices, LHS (reversed, rebal to 100).

Chart 11, from our equity strategy team, shows the main earnings risks that European companies have cited on their results calls. Many of the above-mentioned (hitherto supportive) factors are now being viewed by issuers as a threat to future earnings: tariffs, less global trade, rising labour costs, slower China trade, etc.

Consumers over corporates for 2019

Many of these risks have their roots in the recent rise of populist politics, be it the focus on tariffs (prompting "deglobalization" and faltering world trade), minimum wage hikes and barriers to migration (requiring firms to hire more costly domestic labour) or political scrutiny of "Superfirms" (taxing big tech, etc.).

In France, for instance, President Macron has recently proposed (following the conclusion of the "*grand debat*") a round of household income tax cuts, partly paid for by the removal of special tax breaks for some French corporations. And last year, Macron announced minimum wage measures to support frustrated voters, following the *gilet jaunes* protests. Thus, populist politics seem skewed to favouring consumers over corporates. And with the European Parliamentary Elections pending, expect consumer-friendly, corporate-unfriendly narratives to persist across the political spectrum.

Profit margins – don't look down

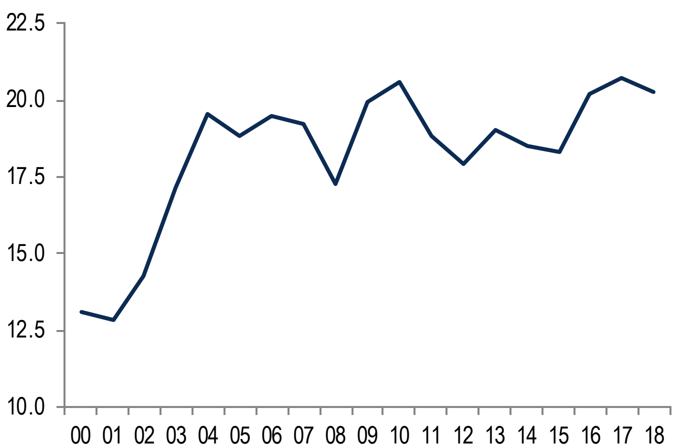
For investors, therefore, the challenge will be to pick companies where profit margins are likely to be relatively stable going forward (where tech innovation or debt refinancing can still help, for instance) and to avoid those companies where margins could negatively surprise.

And Chart 12 suggests that negative margin announcements across Europe will only rise from here. Historically, trends between the Euro Area Manufacturing PMI output price and input price indices have been a good proxy for average profit margin changes across European non-financial corporates. Note that the most recent PMI release hinted at input costs starting to rise in conjunction with weak pricing power for companies.

The margin winners and losers of late

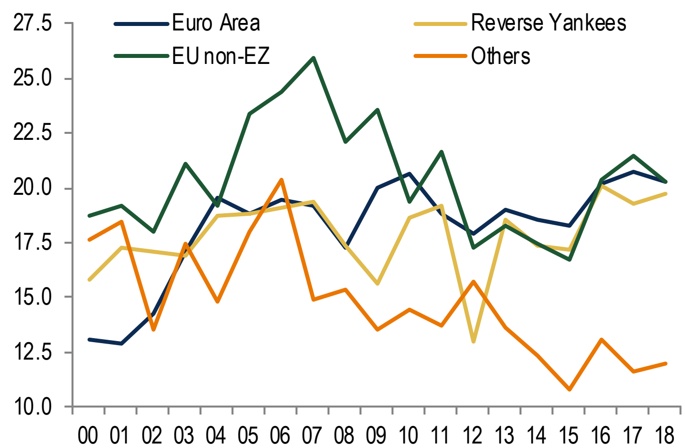
Chart 13 shows average EBITDA margins for European non-financial bond issuers. We use a large sample of € high-grade issuers, across many domiciles (Europe and ex-Europe). We find that average EBITDA margins are still around a record high. Chart 14 breaks out margins by issuer domicile: here we can see that margins are, relatively, even stronger for European-domiciled firms (we note that overall margins for Euro IG credit have been dragged down by EM-related issuers who have not fully recovered from commodity price declines).

Chart 13: EBITDA margins are close to a high for European IG issuers...



Source: BofA Merrill Lynch Global Research. Average EBITDA Margins (%). Bloomberg.

Chart 14: ...but non EZ-domiciled names have seen weaker margins



Source: BofA Merrill Lynch Global Research. EBITDA Margins (%).Bloomberg.

In which sectors are current margins looking toppish (and thus these sectors may expose investors to some margin disappointment down the line?)

Chart 16 shows current sector EBITDA margins across European IG credit. We show the results in z-score terms:

- Understandably, the tech sector not only has very high EBITDA margins today, but the current margins for the sector are high versus history. For the sector, margins will always be predicated on the ability for companies to innovate, which is tough to call into question.
- The real estate sector also has very strong margins (excluded from Chart 15, but the sector's margin is close to 100%), which also have grown rapidly of late. As tenants bear the rental and maintenance costs, the sector's margins tend to be very high.

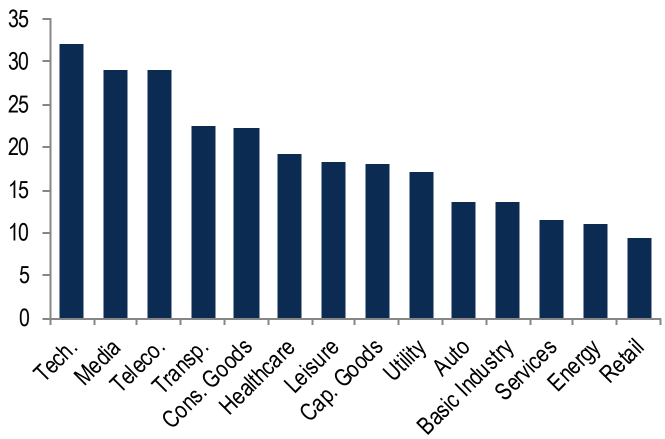
But away from these specific sectors:

- Note that the retail and consumer sectors have seen strong EBITDA margin growth lately, aided by low commodity/input prices, globalization of production, and low labour costs.

- Likewise for European industrials (capital goods, rather than metals/miners, etc.), where globalization (maximising supply chains) has helped keep production costs down.

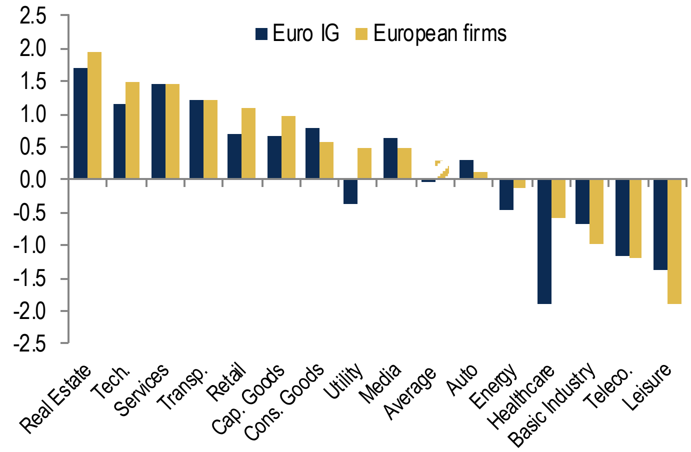
- European utilities also have EBITDA margins that are higher than history (z-score of +0.5), although less so for peripheral issuers (Italy in particular).

Chart 15: Average EBITDA margins by sector (real estate excluded)



Source: BofA Merrill Lynch Global Research. Bloomberg

Chart 16: Changes in sector EBITDA margins (z-score, from 2000-today)



Source: BofA Merrill Lynch Global Research, Bloomberg

- On the flip side, telecom EBITDA margins today are much lower than history (z-score of -1) given the rise in competitive pressures weighing on the sector.

Populism, deglobalization and "peak" margins

We think many of the recent supportive factors for European corporates' EBITDA margins are at risk of faltering, especially in a world of growing populist politics.

In particular, we think the themes of (1) deglobalization; (2) social support/fiscal spending; and (3) the scrutiny of superfirms, pose a challenge to future profit margins.

Deglobalization: the growth in world trade has supported margins

Without doubt, globalization has been a huge boon to corporate profit margins over the last decade. Companies have been able to expand production chains globally (Chart 17) to not only produce more efficiently, but also to tap into a base of low cost workers.

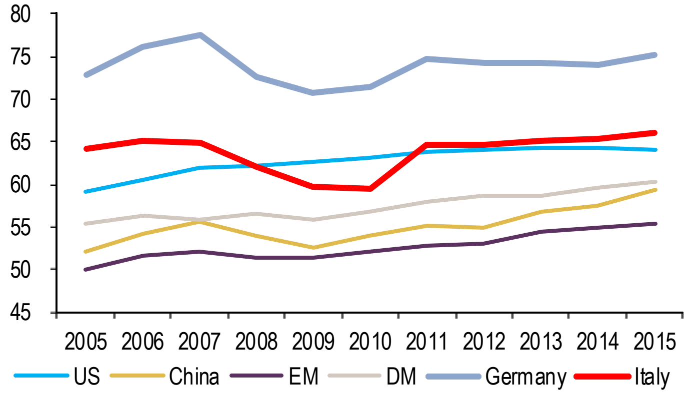
Moreover, by selling to new, fast-growing markets across the globe, European companies have been able to reap higher selling prices for their goods, and thus expand profit margins.

- Chart 18 shows that EBITDA margin growth has been more pronounced for European exporter credits since 2012 (post the periphery crisis). Conversely, domestically focussed European issuers have seen much less (in fact, hardly any) margin expansion over this period.

The "deglobalization" that is emerging from today's brand of populist politics (trade tariffs, "produce and buy locally", barriers to migration) puts these margin gains at risk, we think.

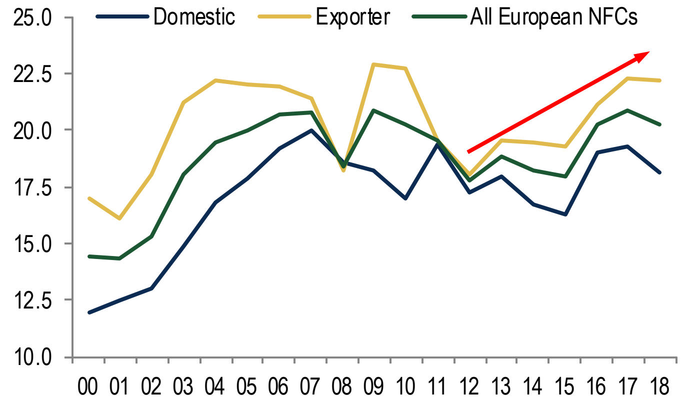
Bank of America Merrill Lynch

Chart 17: Globalization has been a great tailwind for Europe (especially the periphery). DHL's Global "connectivity" scores: rising for Europe.



Source: BofA Merrill Lynch Global Research, DHL Global Connectivity scores.

Chart 18: Euro non-financial high-grade EBITDA margins (%): exporters have seen stronger margin growth over the last decade

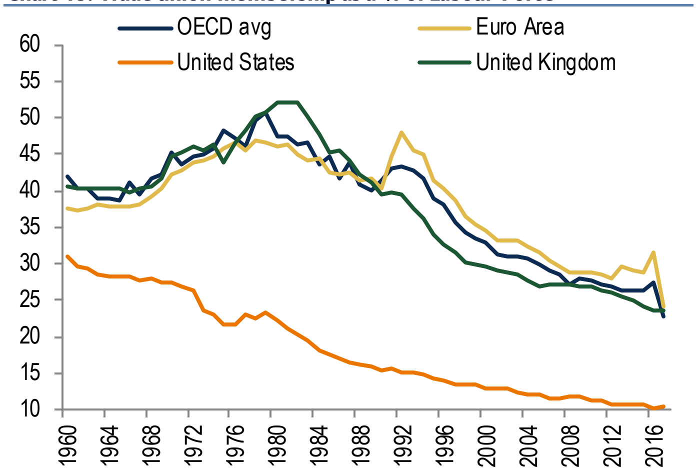


Source: BofA Merrill Lynch Global Research. Average EBITDA Margins (%). Bloomberg.

The push for greater social support, and workers > companies

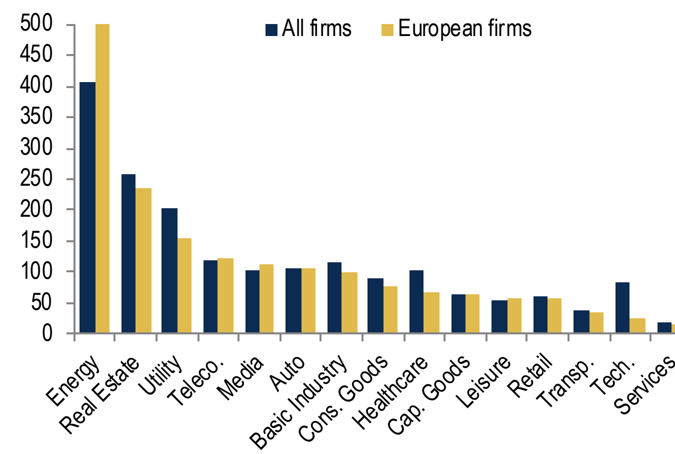
Another big contributing factor to margin expansion over the last 10-20yrs has been supressed wage growth. Workers have lost out amid the decline in trade union membership (Chart 19) and the subsequent rise in temporary (zero hours) employment.

Chart 19: Trade union membership as a % of Labour Force



Source: OECD, BofA Merrill Lynch Global Research

Chart 20: Revenue per employee, '000 € per head



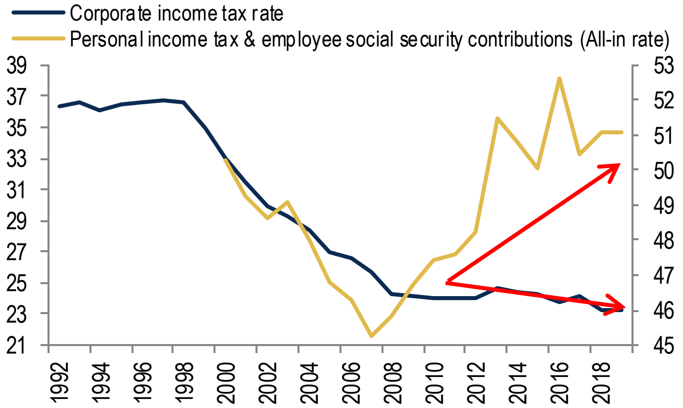
Source: BofA Merrill Lynch Global Research (Energy, all firms, is €670,000).

Yet, this has served to exacerbate poverty risk across Europe (especially for those in employment), fuelling populist support. As a result, greater focus is emerging on bolstering minimum wage levels (in France, for instance) and the concept of Citizens Income, for instance.

- Chart 20 shows Revenue per employee for European IG credit sectors. Sectors to the right have low sales/employee ratios – and investors should keep an eye on them for profit vulnerabilities down the line, if more minimum wage increases arise.

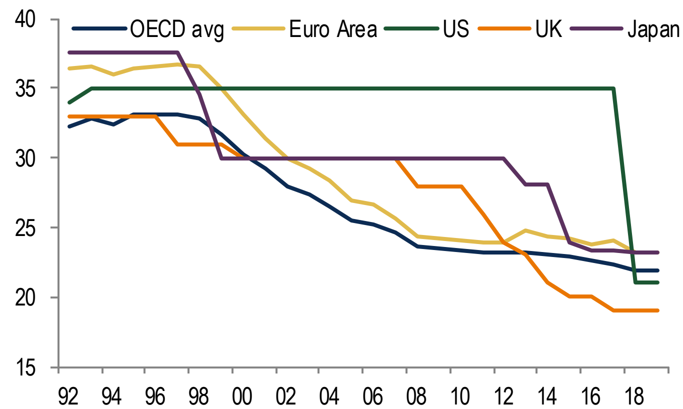
More broadly, taxation has favoured companies over workers during the last 20yrs. Corporate tax rates have been cut across the world and are now broadly harmonised (note US corporate tax reform, Chart 22). But going forward, this means less opportunity for companies to profit from tax arbitrage.

Chart 21: Corporates, rather than workers have been favoured post Global Financial Crisis (corporate rate, LHS)



Source: OECD, BofA Merrill Lynch Global Research

Chart 22: Populism to date has meant big corporate tax cuts (statutory corporate income tax rates, %)



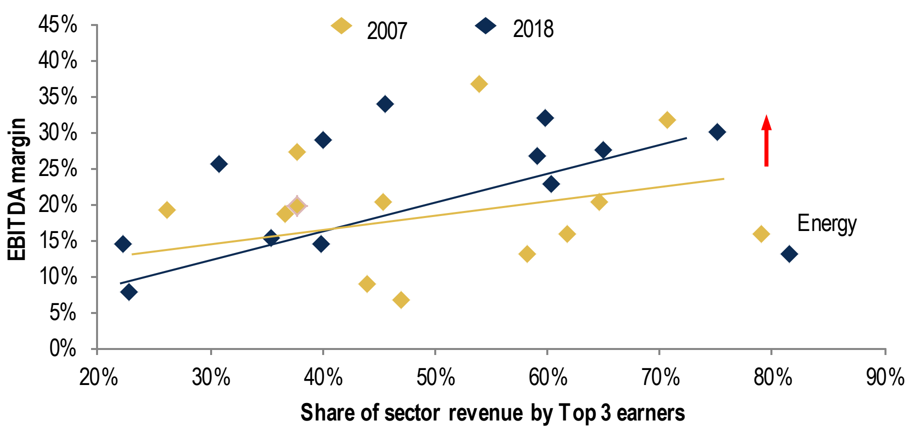
Source: OECD, BofA Merrill Lynch Global Research

If anything, some of this preferential treatment for corporates (Chart 21) may reverse. Note in France, President Macron has recently proposed (following the conclusion of the "*grand debat*") a round of household income tax cuts, partly paid for by the removal of special tax breaks for some French corporations.

The rise (and now scrutiny) of "Superfirms"

The post Global Financial Crisis era of rate cuts and QE has allowed companies to expand and thus dominate their respective sectors.

Chart 23: "Superfirms" have the ability to reap better margins in today's world. We find a stronger link today between "Superfirms" and EBITDA margins in Europe



Source: BofA Merrill Lynch Global Research

This has given rise to the modern day concept of "Superfirms": companies that have a disproportionately high share of their sector revenues, allowing them to muscle out the competition (moreover, debt-funded technological expansion has created strong barriers to entry for many of these companies).

But, in our view, "Superfirms" have been able to extract more cost cutting – either by holding down workers' wages or by cheaper sourcing of inputs into the supply chain.

Chart 23 shows the link in Europe between "Superfirms" (sectors where the top 3 earners have a high percentage of sector revenue) and EBITDA margins. We find that (1) EBITDA margins are generally higher for "Superfirms"; and (2) "Superfirms" have been able to extract greater margin gains today relative to a decade ago.

Yet, amid the populist push, European leaders are increasingly angling for greater oversight of some “Superfirms”. France, for instance, will now tax tech giants on their digital sales.

Disclosures

Important Disclosures

BofA Merrill Lynch Credit Opinion Key
BofA Merrill Lynch Global Research provides recommendations on an issuer's bonds (including corporate and sovereign external debt securities), capital securities, equity preferreds and CDS as described below. Convertible securities are not rated. An issuer level recommendation may also be provided for an issuer as explained below. BofA Merrill Lynch Global Research credit recommendations are assigned using a three-month time horizon.
Issuer Recommendations: If an issuer credit recommendation is provided, it is applicable to bonds and capital securities of the issuer except bonds and capital securities specifically referenced in the report with a different credit recommendation. Where there is no issuer credit recommendation, only individual bonds and capital securities with specific recommendations are covered. CDS and equity preferreds are rated separately and issuer recommendations do not apply to them.

BofA Merrill Lynch Global Research credit recommendations are assigned using a three-month time horizon:
Overweight: Spreads and /or excess returns are likely to outperform the relevant and comparable market over the next three months.
Marketweight: Spreads and/or excess returns are likely to perform in-line with the relevant and comparable market over the next three months.
Underweight: Spreads and/or excess returns are likely to underperform the relevant and comparable market over the next three months.

BofA Merrill Lynch Global Research uses the following rating system with respect to Credit Default Swaps (CDS):
Buy Protection: Buy CDS, therefore going short credit risk.
Neutral: No purchase or sale of CDS is recommended.
Sell Protection: Sell CDS, therefore going long credit risk.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. *VOLATILITY RISK RATINGS*, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. *INVESTMENT RATINGS* reflect the analyst's assessment of a stock's: (i) absolute total return potential and (ii) attractiveness for investment relative to other stocks within its *Coverage Cluster* (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster*
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

***INCOME RATINGS*, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend.** *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Merrill Lynch report referencing the stock.

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.
BofA Merrill Lynch Research Personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.
BofA Merrill Lynch fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

From time to time research analysts conduct site visits of covered issuers. BofA Merrill Lynch policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits.
Prices are indicative and for information purposes only. Except as otherwise stated in the report, for the purpose of any recommendation in relation to: (i) an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report; or (ii) a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including Bank of America Merrill Lynch trading desks.
The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities that may not be offered or sold in one or more states or jurisdictions. Readers of this report are advised that any discussion, recommendation or other mention of such securities is not a solicitation or offer to transact in such securities. Investors should contact their BofA Merrill Lynch representative or Merrill Lynch Global Wealth Management financial advisor for information relating to fixed income securities.
Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended.
SECURITIES DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.
Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.
The securities discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these securities are exempt from registration or have been qualified for sale.
Officers of MLPF&S or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.
This report, and the securities discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors.
Information relating to Affiliates of MLPF&S and Distribution of Affiliate Research Reports:
BofA Merrill Lynch Global Research policies relating to conflicts of interest are described at https://rsch.baml.com/coi
"BofA Merrill Lynch" includes Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") and its affiliates. Investors should contact their BofA Merrill Lynch representative or Merrill Lynch Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein

for such investor. "BofA Merrill Lynch" and "Merrill Lynch" are each global brands for BofA Merrill Lynch Global Research.

MLPF&S distributes, or may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF); BAMLI DAC (Milan): Bank of America Merrill Lynch International DAC, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; Merrill Lynch (Japan): Merrill Lynch Japan Securities Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; DSP Merrill Lynch (India): DSP Merrill Lynch Limited, regulated by the Securities and Exchange Board of India; Merrill Lynch (Indonesia): PT Merrill Lynch Sekuritas Indonesia, regulated by Otoritas Jasa Keuangan (OJK); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (Russia): OOO Merrill Lynch Securities, Moscow, regulated by the Central Bank of the Russian Federation; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Spain): Merrill Lynch Capital Markets Espana, S.A.S.V., regulated by Comisión Nacional del Mercado De Valores; Merrill Lynch (Brazil): Bank of America Merrill Lynch Banco Multiplo S.A., regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company: Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.

This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by Merrill Lynch (Japan), a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by DSP Merrill Lynch (India); and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Bank of America N.A., Australian Branch (ARBN 064 874 531), AFS License 412901 (BANA Australia) and Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distribute this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of BANA Australia, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. Bank of America Merrill Lynch International DAC, Frankfurt Branch (BAMLI DAC (Frankfurt)) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Merrill Lynch entities, including BAMLI DAC and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Merrill Lynch group. You may be contacted by a different BofA Merrill Lynch entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please use this link http://www.bankofamerica.com/emaildisclaimer for further information.

This information has been prepared and issued by MLPF&S and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Merrill Lynch.

This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Merrill Lynch clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.

Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Merrill Lynch, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.

BofA Merrill Lynch is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.

This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.

Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.

UK Readers: The protections provided by the U.K. regulatory regime, including the Financial Services Scheme, do not apply in general to business coordinated by BofA Merrill Lynch entities located outside of the United Kingdom.

MLPF&S or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. MLPF&S or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.

BofA Merrill Lynch, through business units other than BofA Merrill Lynch Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Merrill Lynch is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.

In the event that the recipient received this information pursuant to a contract between the recipient and MLPF&S for the provision of research services for a separate fee, and in connection therewith MLPF&S may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom MLPF&S has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by MLPF&S). If such recipient uses the services of MLPF&S in connection with the sale or purchase of a security referred to herein, MLPF&S may act as principal for its own account or as agent for another person. MLPF&S is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Bank of America Merrill Lynch