

Global Outlook

Navigating a lower return environment



Navigating a lower return environment

Larry Kantor
BCI, US

Ajay Rajadhyaksha
BCI, US

Michael Gavin
BCI, US

Christian Keller
Barclays, UK

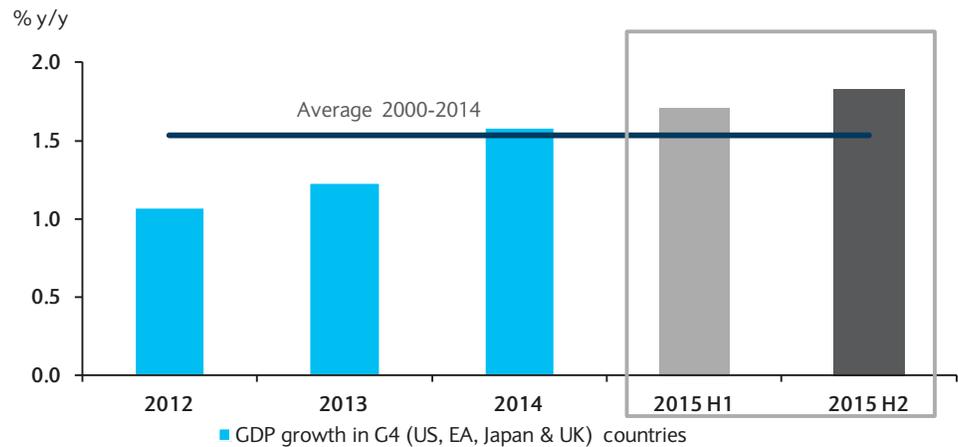
- **More than six years into the recovery, investors should expect lower returns going forward. Valuations in both equities and fixed income are now relatively expensive, and evidence is accumulating that the recovery is becoming self-sustaining, pointing to less supportive monetary policy.**
- **Nevertheless, if growth rebounds as we expect in the second half of the year, equities should perform reasonably well over the next few months, especially in Europe and Japan, where we expect earnings growth to be strong. We would also overweight cyclically sensitive assets (such as EM equities and base metals), regions and sectors.**
- **We do not expect a first Fed rate hike or the Greek crisis to derail the recovery in economies or financial markets. And while a serious setback in China would have lasting effects on the world economy and financial markets, that is not likely to happen this year.**
- **As the divergence in policy between the Fed and the ECB develops, we expect the euro to resume falling, eventually breaking parity.**

Asset returns have been harder to come by since the publication of the last *Global Outlook* in March. The mostly constructive trends of lower oil prices and inflation and easier monetary policies, which had been in place since last summer, have stalled or reversed. And while we expect global economic growth to pick up in the second half of the year, most regions have passed their peak growth rates for this economic cycle (with the notable exception of the euro area). More broadly, with the global expansion now more than six years old, we have moved into a phase of the business cycle in which labor markets are improving and both wage growth and inflation appear to be bottoming, suggesting that the global recovery is becoming self-sustaining and that monetary policy will not be as overwhelmingly supportive. With valuations in both fixed income and equities having become relatively expensive in most markets, investors will need to lower their expectations for returns compared with what has been experienced thus far in the recovery. We are no longer in an environment of a rising tide lifting all boats, even though central banks in Japan and the euro area are still expanding their balance sheets.

That said, the environment for financial assets remains favorable, and valuations are not so stretched as to be characterized as a bubble waiting to burst (with the possible exception of local Chinese stocks). Indeed, inflation remains low and the stance of monetary policy is still extraordinarily supportive. With economic activity on the upswing after a weak first quarter (Figure 1), equities should perform reasonably well over the next few months, especially in areas such as Europe and Japan, where we expect earnings growth to be strong. Other cyclically sensitive assets such as EM equities and base metals should also benefit, especially since China is expected to be an important contributor to the second half growth rebound. Meanwhile, the potential for bond markets to sell off significantly more than they have already is limited by the maintenance of zero policy rates by the major central banks and the fact that both the Bank of Japan (BoJ) and the European Central Bank (ECB) are planning to continue to buy huge amounts of bonds (far in excess of issuance) well into next year. We recommend maintaining a balanced portfolio that modestly favors equities over bonds, especially stocks in Europe and Japan, and that also overweights cyclically sensitive assets, regions and sectors.

As always, there are risks to the baseline that financial assets will remain well supported. Among those that are easy to identify, Greece, China and the prospect for a Fed rate hike stand out. Although more attention has been paid to the Fed and Greece recently, we believe that the situation in China has greater potential for significant and sustained effects on global markets. Of course, any of these risk factors (and many others) can unsettle markets, especially given relatively rich valuations and the fact that we have not experienced a bona fide stock market correction in years. But we would likely be buyers following a significant sell-off on the back of a Fed rate hike or a Greek default (depending on the circumstances), whereas a serious setback in China (which we are not expecting this year) would more likely have lasting effects on the world economy and financial markets.

FIGURE 1
Global growth expected to pick up in H2, with strong support from the G4



Source: Haver Analytics, Barclays Research

The first Fed rate hike in a recovery does not usually disrupt a market uptrend

The first Fed rate hike is probably a red herring

Markets continue to react to any signals regarding the timing of the first Fed rate hike, but we do not expect a major, lasting market setback when it happens (which we believe will be before year-end). The first Fed rate hike in a recovery typically does not disrupt a market uptrend because it is usually motivated by the resumption of self-sustaining growth, rather than the reversal of an unwanted rise in inflation. That is certainly the case now, as inflation has been below the Fed’s target for years and does not seem likely to exceed it in the near future. Simply put, Fed officials believe that the economy no longer requires extraordinary monetary support and also would like to provide some room to cut rates when the next downturn occurs. What matters more than the month of the first hike is the pace of the hiking cycle. The last five Fed hiking cycles have averaged over 230bp per year, or more than 25bp per meeting. But the Fed has emphasized repeatedly that this cycle will be different, and FOMC forecasts currently imply only 4-5 25bp hikes in 2016 and two in 2015. Market participants are even more dovish, pricing in 3-4 25bp hikes in 2016 and one in 2015.

It would be a decidedly different story if and when inflation becomes a problem, because Fed rate hikes would then be aimed at slowing the economy (and earnings) and would continue until that objective was achieved, a process that has often resulted in recession. That scenario would see risk assets re-price down sharply, but that is not a story for this year.

The ECB has the tools in place to act as lender of last resort to both banks and sovereigns if needed

The Greek crisis is not likely to generate sustainable contagion

The situation in Greece is serious, but we do not believe that it is likely to have a lasting and systemic impact outside Greece. The primary reason is the ECB's more aggressive policy stance, including a large QE program that will continue to support euro area financial asset prices and would, thus, likely prevent contagion in the event Greece defaults. In addition, the ECB now has the tools in place to act as lender of last resort to both banks and sovereigns if needed (through the Long-Term Refinancing Operations (LTRO) and Outright Monetary Transactions (OMT) programs, respectively). This should prevent significant deposit flight out of peripheral banking systems and investor flight out of peripheral sovereign debt. It is also worth noting that private sector exposure to Greece has become relatively small, as most Greek debt is now held by official institutions such as the ECB and the IMF, and that European banks are much better capitalized than a few years ago. Finally, other countries that have also been through painful adjustment programs (eg, Spain and Ireland) have recently turned the corner on growth.

Even if a credit extension is negotiated, the Greek problem will not be solved

This is not to diminish the seriousness of the Greek situation. The country does not have the money to meet its obligations over the next few months, and its creditors (consisting of the European Commission, ECB and IMF) have not been willing thus far to provide additional funds under the terms upon which the newly elected government has been insisting. Negotiations have finally shown some progress recently, and it is entirely possible that a compromise will be found and a credit extension granted. But this would only delay the problem, since reasonable projections for Greek growth imply that the country will not be able to repay its debt as it is currently structured. If a credit extension is not agreed, it seems increasingly likely that a default will occur within weeks, probably on an IMF loan due June 30. In response, we would expect the ECB to reduce the Emergency Liquidity Assistance (ELA) that has been propping up Greek banks in the face of large deposit outflows. This would push Greece into imposing capital controls to prevent a banking collapse, with severely negative consequences for the Greek economy. Some investors and policymakers cite the capital controls imposed in Cyprus two years ago as a successful model, but they are simply a stopgap measure. Cyprus accepted an EU/IMF program after controls were imposed and was able to ease them only recently following successful completion of several official reviews. This means that Greece would still need to reach an agreement with the institutions, and this may require a political crisis, snap elections and a more moderate coalition government.

We would treat market setbacks coming from a worsening of the Greek situation as buying opportunities

If there is no agreement even after capital controls, it would probably precipitate a Greek exit from the monetary union. This is not our base case, but even if it happens, we believe that contagion would be contained for the reasons cited above. However, by opening up the possibility of exit from the euro zone, it would increase the chance of future crises in peripheral countries that run into trouble. One way to mitigate this risk would be to strengthen and speed up the euro area integration process (eg, a single banking system and more uniform labor, tax and pension rules). In the meantime, if the situation in Greece gets worse over the next few weeks and generates a market setback, we would view it as a buying opportunity.

Keep a close eye on China

The situation in China poses greater risks than either the Fed or Greece, partly because it is so difficult to assess the extent of the economic slowdown there and also because of China's importance to global growth: China is now the world's second-largest economy, whereas Greece's is less than a quarter that of Los Angeles. Moreover, China was growing at a double-digit pace for decades and has been a major source of global economic growth.

So far, broad measures of economic activity remain consistent with a soft-landing scenario, in which demand softens but does not collapse, economic activity remains close to trend, and labor markets weaken modestly. First-quarter real GDP (up 1.3% q/q) probably grew more slowly than potential, but if growth picks up in Q2 and Q3, as our economists

The market capitalization of Chinese equities has doubled, leaving them vulnerable to a crash

forecast, the shortfall will prove modest. The widely followed PMI measures of confidence and available labor market indicators suggest a gradual softening of activity, not a collapse. Finally, although some measures of inflation have raised concerns about deflation (the PPI, for example), downward pressure still seems largely due to volatile commodity prices. Core CPI inflation is above 1.5% and has actually crept up slightly since the beginning of the year.

But other data suggest that investors should remain on the alert for downside risks. The sharp improvement in the trade balance reflects very weak import demand and implies that domestic demand has decelerated more sharply than GDP. Other indicators of industrial output (for example, production of automobiles and electricity) also point toward a more broadly based demand reduction. The authorities seem to have successfully taken some of the air out of the property bubble without crashing the economy, but there are now signs that excess has emerged in the local equity market. For years, investors who worried about a Chinese credit bubble could take solace in the fact that Chinese equities underperformed broader EM equity indices from 2009-2012. But that has changed in the last two years, which have seen a massive rally that has more than doubled the market capitalization of Chinese equities and left them vulnerable to a crash. This could feed into (or exacerbate) a further slowdown in the Chinese economy, were one to occur.

China is expected to rebound in H2, but still faces the challenges inherent in restructuring the economy

Our forecast is that the economy will rebound in the second half of the year, as policymakers have the resources to spend additional money on infrastructure even as the credit channel does not work as well as it used to. That said, we doubt that the market would conclude that China is 'out of the woods', given the challenges inherent in the process of restructuring the economy away from its overdependence on credit, investment and exports.

Global growth: a better second half

The backdrop continues to be positive for the euro area and Japan, as Q1 GDP surpassed expectations in both areas. More competitive currencies, lower energy costs and aggressive monetary policy easing are combining to provide a solid underpinning for growth. The US is also recovering, but in this case from a weak Q1 that reflected temporary factors (weather and a port strike) as well as seasonal adjustment problems (the US economy has underperformed in Q1 for years). Partly as a result, we expect growth for the rest of the year to average nearly 3%. One notable feature of the current US landscape is housing, where a recovery that stalled last year seems to be regaining ground. We expect the economy to grow fast enough to continue to push the unemployment rate down and support our forecast that the Fed will begin to hike rates later this year.

Trends in oil prices and currencies still favor Japan and the euro area over the US

The effects of a stronger dollar and weaker oil remain at work, even after recent partial reversals: oil prices remain roughly 40% below the average in the multi-year period before mid-2014 and the trade-weighted USD is still 10-15% stronger compared with the period before its rally. This partly accounts for the relative outperformance of Japan and the euro area vis-à-vis the US relative to expectations. While the US is the largest user of oil in the world and consumers have benefitted from the price drop, it is also one of the world's biggest producers, unlike Japan and the euro area. Meanwhile, the rise in the dollar is depressing the US trade balance and boosting those in the euro area and Japan.

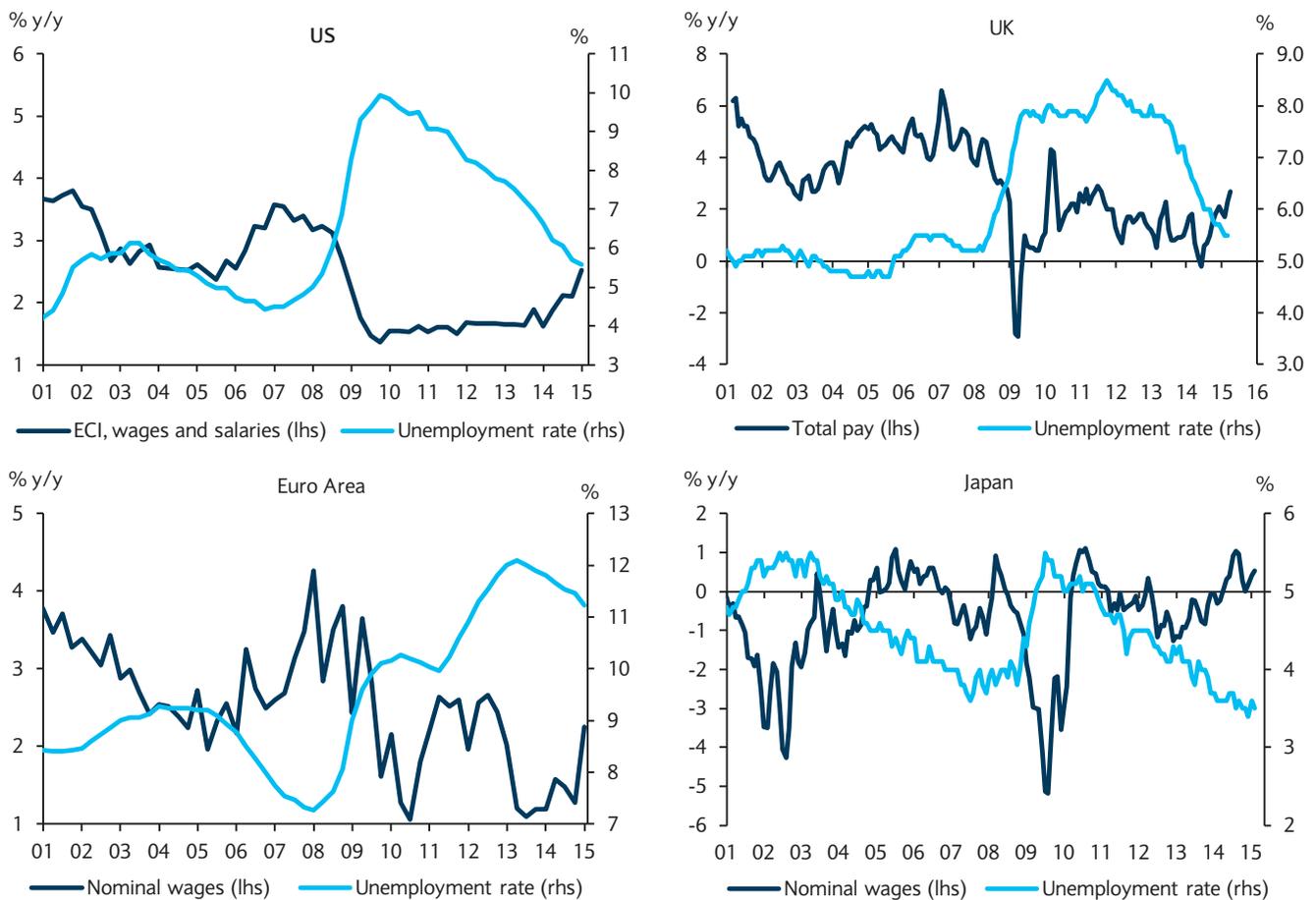
Growth developments in EM economies outside of China remain mixed. The outlook for EM Asia ex-China is relatively bright, supported in particular by robust growth expectations for India—even if, a year after parliamentary elections, the high expectations for India's structural reform agenda have not always been met. While growth in EM Europe remains generally buttressed by the recovery in the euro area, we are more pessimistic than the consensus on Russia, where we forecast a deeper recession extending into 2016. Brazil's current recession should bottom in the coming months, and its external sector should benefit from an uptick in Chinese activity. Mexico's economy should be boosted by better H2 growth in the US.

Taken together, we expect global growth to accelerate to 3.9% in H2, up from just 2.9% in H1. Within the G3, the growth recoveries in Europe and Japan imply a convergence to the US. At the same time, the gap between EM and DM growth should stay narrow by historical standards, but will probably start widening gradually again due to stabilizing Chinese growth, a rising India and a gradual bottoming out in Brazil.

Deflationary risks have faded

Signs that inflation trends in core economies may have finally passed inflection points are probably more notable than the improvement in growth (Figure 2). Inflation in the euro area has surprised on the upside, reducing fears of a deflationary spiral. Stabilizing oil prices and other volatile components (eg, unprocessed food) have helped, although could prove to be temporary. However, falling unemployment rates and rising wages in the context of domestic-demand driven growth and very accommodative financial conditions (including emerging signs of a rebound in bank lending) suggest that risks of deflation have fundamentally diminished. Moreover, the disinflation episode in the US seems to be coming to an end, and the ongoing strengthening in labor market conditions should lead to a firming in inflation over time. In Japan, consumer price trends remain volatile, complicated by last year's VAT hikes. But households' inflation expectations have been rising and robust corporate profits and tightening labor market conditions have started to translate into rising wages (even if at very low rates).

FIGURE 2
Wages are beginning to pick up in response to tighter labor markets



Source: Haver Analytics, Barclays Research

While inflation appears to be bottoming, it is far from being a problem

This is no call for rapidly emerging inflation pressures but merely a forecast that deflationary risks have faded. We expect inflation to remain below central bank targets in Japan, Europe and the US (albeit moving close by 2016 in the US). Also, persistent PPI deflation in China and the euro area point to existing overcapacity in these large economies, which should limit increases in tradable goods prices. Against this backdrop, central bankers seem firmly inclined to err on the side of caution regarding the risk of tightening policy too early. This is evidenced by the ECB's robust re-commitment to its QE program, as well as the Fed's cautious communication in June. We see little risk of the ECB prematurely foregoing its aggressive QE policy; we still expect the BoJ to add to its QQE in April 2016, as we foresee the 2% inflation target as far from being reached; and we also see risks that the initial Fed hike could be delayed beyond our forecast of September.

Tilt toward equities, stay long Europe and Japan

Even though we are calling for stronger global growth in H2, we do not think that our optimism on this score is much greater than the consensus has already priced into financial markets. As activity strengthens, the bottoming and gradual firming of underlying inflationary pressure is likely to concentrate investors' minds on the eventual normalization of monetary conditions in the major economies, most imminently in the US. Even if monetary normalization is a distant prospect in Japan and the euro area, it seems unlikely that markets will be bolstered by news of yet more monetary support than is already there. In other words, we expect key drivers of the six-year equity market rally – conservative valuations, economic outperformance, and inexorably more supportive monetary policy – to be absent, or at least have a much reduced impetus going forward.

Despite the prospect of a less turbo-charged economic and financial environment, we think investors should tilt their portfolios away from fixed income and toward equities in the coming months. Equities and fixed income are both fully priced for a generally benign environment, but at this point in the cycle, with inflation still low, positive economic developments are likely to weigh more heavily on bonds than equities. That said, it is not as though bonds are grossly over-priced, and we see no fundamental reason for anything comparable to April's downdraft or the 2013 taper tantrum.

A rise in inflation premiums should more than offset lower real rates

It is worth noting that the April bond sell-off (led by bunds) was driven almost exclusively by real rates rising. When yields rise on expectations that economic conditions are getting better, inflation breakevens widen (and often lead the way) as investors buy into the reflation trade. But the April sell-off (like the 2013 taper tantrum) was mainly a term premia unwind in real rates; at 7bp on 10-year bunds on April 17, term premia had clearly compressed too much. The sharp sell-off, though, has now left real rates in major developed economies (including Germany and the US) at fairly attractive levels. For example, 10-year real rates in bunds are higher than before ECB QE was priced in; that should not persist in a world where the ECB is buying several times the net issuance in bunds. By contrast, inflation breakevens are far below historically normal levels and (especially in the euro area and Japan) well below inflation targets. We expect the implied skepticism about central banks' ability to reach inflation targets to fade in the months to come. This should create modest headwinds for bond markets, even as the level of real rates provides support.

Equity markets are seldom undermined by the early stage of monetary tightening cycles

As for equities, inflation in all major currency areas is still low enough that (modestly) higher inflation is more to be welcomed than feared, and the odds of a rapid acceleration to market-disruptive levels seem low. Equity markets are seldom undermined by the early stage of monetary tightening cycles, and the coming cycle looks decidedly unthreatening. The FOMC seems determined to normalize gradually with minimum disruption to markets, and we do not think the Fed's hand will be forced by an unwelcome surge of inflationary pressure. Monetary authorities in the euro area and Japan are likely to face little pressure to

Our overweight allocation to equities in Europe and Japan continues to be driven by the expectation of strong earnings growth

reverse their extraordinarily expansionary monetary programs even if, as we expect, markets increasingly respond to evidence that it is working.

The more positive case for equities lies in our expectation of strong earnings growth, particularly in Europe and Japan. This is not a new theme, but it remains a potentially powerful driver of returns in an environment in which fixed income may struggle to reward investors. Our equity strategists expect earnings in Europe (ex-UK) to rise 15% in 2015. European valuations are far from distressed levels, but as we go to press, the DAX is down c. 5-10% from its 2015 highs in local currency terms, creating a buying opportunity. If anything close to our earnings forecast materializes, European equities should perform well, in absolute terms and relative to the US, where the cyclical context holds more limited promise for earnings. The major caveat to the European story is, of course, the potential for an adverse market response to negative developments in Greece. Given our view that the fundamental risks to the remainder of the euro area are limited, we recommend buying Europe on Greece-related weakness.

In Japan, the c. 15%-plus H1 return suggests that equity markets have, at least to some degree, priced the earnings growth and more shareholder-friendly policies that underpinned our preference for this market last quarter. We nevertheless think that the market remains likely to outperform in the remainder of the year, despite valuations that are in some ways more challenging than in Europe or the US. Investors still seem overly sceptical about the ongoing recovery and normalization of inflation, while the BoJ remains firmly committed to its massive balance sheet expansion, which seems destined to push Japanese investors out the risk curve, including into equities.

Remain selectively engaged in emerging markets

EM equities should benefit from improved valuation following the recent sell-off, as well as the expected bounce in global growth in H2

The global backdrop is likely to be somewhat more supportive of emerging markets in the remainder of the year. The selloff in EM assets has improved valuations and EM risk premia are now above where they were following the taper tantrum, although it has not been across the board. The improvement in global growth that we are forecasting for H2 should help as well. That said, dollar strength, evolving uncertainties related to Greece, bond market volatility associated with expectations of Fed tightening and the still-narrow differential between EM and DM growth all suggest caution, and we are thus quite selective in our EM recommendations. As is the case for our preferred allocation for developed markets, we favour EM equities over bonds, given the expected strength in the G3 and Chinese economies, as well as the run-up to Fed tightening.

Still room for dollar appreciation against the euro

We expect the euro to resume falling, eventually breaking parity

While dollar strength has stalled in recent months in response to the Q1 slowdown in the US economy and further signs that Fed tightening, when it comes, will be unusually gradual, we still expect some renewed strength in the dollar in the months ahead, particularly against the euro. While we adhere to the notion that Fed tightening will be gradual, we still believe that it will commence this year and expect the ECB to follow through on its massive QE program. As this divergence in policy develops, we expect the euro to resume falling, eventually breaking parity. We are less bullish on the dollar versus the yen, especially as the monetary authorities in Japan seem much less determined to weaken the currency than those in the euro area. This is not surprising, given that Japan is not facing a crisis (as is the case in the euro area) and that the yen has weakened considerably more than the euro (since the yen began to weaken in late 2012, whereas euro weakness began only a year ago). More broadly, even after a significant rally over the past year, the dollar has merely returned to the middle of its historic range. One can make the case that with the Fed far ahead of other central banks in terms of progress toward monetary normalization (with the exception of the Bank of England), the dollar would be expected to be strong relative to historic norms.

Oil likely to remain range-bound, upside potential in industrial metals

The weakness in global manufacturing in the first half of this year has contributed to depressed prices for industrial metals such as copper, iron ore and steel. With global growth expected to rebound significantly in H2, and with China forecast to contribute significantly to that recovery, we foresee a rebound in metals prices. Oil is another story, as we expect prices to remain range-bound. Pressures on the upside include an unusual amount of supply outages and what appears to be a strong summer driving season. But the upside is likely to be capped by producer hedging (sales of forward contracts at around \$65 per barrel), the continued global inventory overhang and the prospect of US producers beginning to extract oil from wells that have already been drilled but have been put on hold until prices recover.

Analyst Certification

I, Larry Kantor, hereby certify (1) that the views expressed in this research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

Important Disclosures:

Barclays Research is a part of the Investment Bank of Barclays Bank PLC and its affiliates (collectively and each individually, "Barclays"). For current important disclosures regarding companies that are the subject of this research report, please send a written request to: Barclays Research Compliance, 745 Seventh Avenue, 14th Floor, New York, NY 10019 or refer to <http://publicresearch.barclays.com> or call 212-526-1072.

Barclays Capital Inc. and/or one of its affiliates does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that Barclays may have a conflict of interest that could affect the objectivity of this report. Barclays Capital Inc. and/or one of its affiliates regularly trades, generally deals as principal and generally provides liquidity (as market maker or otherwise) in the debt securities that are the subject of this research report (and related derivatives thereof). Barclays trading desks may have either a long and / or short position in such securities, other financial instruments and / or derivatives, which may pose a conflict with the interests of investing customers. Where permitted and subject to appropriate information barrier restrictions, Barclays fixed income research analysts regularly interact with its trading desk personnel regarding current market conditions and prices. Barclays fixed income research analysts receive compensation based on various factors including, but not limited to, the quality of their work, the overall performance of the firm (including the profitability of the Investment Banking Department), the profitability and revenues of the Markets business and the potential interest of the firm's investing clients in research with respect to the asset class covered by the analyst. To the extent that any historical pricing information was obtained from Barclays trading desks, the firm makes no representation that it is accurate or complete. All levels, prices and spreads are historical and do not represent current market levels, prices or spreads, some or all of which may have changed since the publication of this document. The Investment Bank's Research Department produces various types of research including, but not limited to, fundamental analysis, equity-linked analysis, quantitative analysis, and trade ideas. Recommendations contained in one type of research may differ from recommendations contained in other types of research, whether as a result of differing time horizons, methodologies, or otherwise. Unless otherwise indicated, trade ideas contained herein are provided as of the date of this report and are subject to change without notice due to changes in prices. In order to access Barclays Statement regarding Research Dissemination Policies and Procedures, please refer to <https://live.barcap.com/publiccp/RSR/nyfipubs/disclaimer/disclaimer-research-dissemination.html>. In order to access Barclays Research Conflict Management Policy Statement, please refer to: <https://live.barcap.com/publiccp/RSR/nyfipubs/disclaimer/disclaimer-conflict-management.html>.

Barclays legal entities involved in publishing research:

Barclays Bank PLC (Barclays, UK)
Barclays Capital Inc. (BCI, US)
Barclays Securities Japan Limited (BSJL, Japan)
Barclays Bank PLC, Tokyo branch (Barclays Bank, Japan)
Barclays Bank PLC, Hong Kong branch (Barclays Bank, Hong Kong)
Barclays Capital Canada Inc. (BCCI, Canada)
Absa Bank Limited (Absa, South Africa)
Barclays Bank Mexico, S.A. (BBMX, Mexico)
Barclays Capital Securities Taiwan Limited (BCSTW, Taiwan)
Barclays Capital Securities Limited (BCSL, South Korea)
Barclays Securities (India) Private Limited (BSIPL, India)
Barclays Bank PLC, India branch (Barclays Bank, India)
Barclays Bank PLC, Singapore branch (Barclays Bank, Singapore)
Barclays Bank PLC, Australia branch (Barclays Bank, Australia)

Disclaimer:

This publication has been produced by the Investment Bank of Barclays Bank PLC and/or one or more of its affiliates (collectively and each individually, "Barclays"). It has been distributed by one or more Barclays legal entities that are a part of the Investment Bank as provided below. It is provided to our clients for information purposes only, and Barclays makes no express or implied warranties, and expressly disclaims all warranties of merchantability or fitness for a particular purpose or use with respect to any data included in this publication. Barclays will not treat unauthorized recipients of this report as its clients. Prices shown are indicative and Barclays is not offering to buy or sell or soliciting offers to buy or sell any financial instrument.

Without limiting any of the foregoing and to the extent permitted by law, in no event shall Barclays, nor any affiliate, nor any of their respective officers, directors, partners, or employees have any liability for (a) any special, punitive, indirect, or consequential damages; or (b) any lost profits, lost revenue, loss of anticipated savings or loss of opportunity or other financial loss, even if notified of the possibility of such damages, arising from any use of this publication or its contents.

Other than disclosures relating to Barclays, the information contained in this publication has been obtained from sources that Barclays Research believes to be reliable, but Barclays does not represent or warrant that it is accurate or complete. Barclays is not responsible for, and makes no warranties whatsoever as to, the content of any third-party web site accessed via a hyperlink in this publication and such information is not incorporated by reference.

The views in this publication are those of the author(s) and are subject to change, and Barclays has no obligation to update its opinions or the information in this publication. The analyst recommendations in this publication reflect solely and exclusively those of the author(s), and such opinions were prepared independently of any other interests, including those of Barclays and/or its affiliates. This publication does not constitute personal investment advice or take into account the individual financial circumstances or objectives of the clients who receive it. The securities discussed herein may not be suitable for all investors. Barclays recommends that investors independently evaluate each issuer, security or instrument discussed herein and consult any independent advisors they believe necessary. The value of and income from any investment may fluctuate from day to day as a result of changes in relevant economic markets (including changes in market liquidity). The information herein is not intended to predict actual results, which may differ substantially from those reflected. Past performance is not necessarily indicative of future results.

This material has been issued and approved for distribution in the UK and European Economic Area by Barclays Bank PLC. It is being made available primarily to persons who are investment professionals as that term is defined in Article 19 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005. It is directed at, and therefore should only be relied upon by, persons who have professional experience in matters relating to investments. The investments to which it relates are available only to such persons and will be entered into only with such persons. Barclays Bank PLC is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority and is a member of the London Stock Exchange.

The Investment Bank of Barclays Bank PLC undertakes U.S. securities business in the name of its wholly owned subsidiary Barclays Capital Inc., a FINRA and SIPC member. Barclays Capital Inc., a U.S. registered broker/dealer, is distributing this material in the United States and, in connection therewith accepts responsibility for its contents. Any U.S. person wishing to effect a transaction in any security discussed herein should do so only by contacting a representative of Barclays Capital Inc. in the U.S. at 745 Seventh Avenue, New York, New York 10019.

Non-U.S. persons should contact and execute transactions through a Barclays Bank PLC branch or affiliate in their home jurisdiction unless local regulations permit otherwise.

Barclays Bank PLC, Paris Branch (registered in France under Paris RCS number 381 066 281) is regulated by the Autorité des marchés financiers and the Autorité de contrôle prudentiel. Registered office 34/36 Avenue de Friedland 75008 Paris.

This material is distributed in Canada by Barclays Capital Canada Inc., a registered investment dealer, a Dealer Member of IIROC (www.iiroc.ca), and a Member of the Canadian Investor Protection Fund (CIPF).

Subject to the conditions of this publication as set out above, the Corporate & Investment Banking Division of Absa Bank Limited, an authorised financial services provider (Registration No.: 1986/004794/06. Registered Credit Provider Reg No NCRCP7), is distributing this material in South Africa. Absa Bank Limited is regulated by the South African Reserve Bank. This publication is not, nor is it intended to be, advice as defined and/or contemplated in the (South African) Financial Advisory and Intermediary Services Act, 37 of 2002, or any other financial, investment, trading, tax, legal, accounting, retirement, actuarial or other professional advice or service whatsoever. Any South African person or entity wishing to effect a transaction in any security discussed herein should do so only by contacting a representative of the Corporate & Investment Banking Division of Absa Bank Limited in South Africa, 15 Alice Lane, Sandton, Johannesburg, Gauteng 2196. Absa Bank Limited is a member of the Barclays group.

In Japan, foreign exchange research reports are prepared and distributed by Barclays Bank PLC Tokyo Branch. Other research reports are distributed to institutional investors in Japan by Barclays Securities Japan Limited. Barclays Securities Japan Limited is a joint-stock company incorporated in Japan with registered office of 6-10-1 Roppongi, Minato-ku, Tokyo 106-6131, Japan. It is a subsidiary of Barclays Bank PLC and a registered financial instruments firm regulated by the Financial Services Agency of Japan. Registered Number: Kanto Zaimukyokucho (kinsho) No. 143.

Barclays Bank PLC, Hong Kong Branch is distributing this material in Hong Kong as an authorised institution regulated by the Hong Kong Monetary Authority. Registered Office: 41/F, Cheung Kong Center, 2 Queen's Road Central, Hong Kong.

Information on securities/instruments that trade in Taiwan or written by a Taiwan-based research analyst is distributed by Barclays Capital Securities Taiwan Limited to its clients. The material on securities/instruments not traded in Taiwan is not to be construed as 'recommendation' in Taiwan. Barclays Capital Securities Taiwan Limited does not accept orders from clients to trade in such securities. This material may not be distributed to the public media or used by the public media without prior written consent of Barclays.

This material is distributed in South Korea by Barclays Capital Securities Limited, Seoul Branch.

All Indian securities related research and other equity research are distributed in India by Barclays Securities (India) Private Limited (BSIPL). BSIPL is a company incorporated under the Companies Act, 1956 having CIN U67120MH2006PTC161063. BSIPL is registered and regulated by the Securities and Exchange Board of India (SEBI) as a Portfolio Manager INP000002585; Stock Broker/Trading and Clearing Member: National Stock Exchange of India Limited (NSE) Capital Market INB231292732, NSE Futures & Options INF231292732, NSE Currency derivatives INE231450334, Bombay Stock Exchange Limited (BSE) Capital Market INB011292738, BSE Futures & Options INF011292738; Merchant Banker: INM000011195; Depository Participant (DP) with the National Securities & Depositories Limited (NSDL): DP ID: IN-DP-NSDL-299-2008; Investment Adviser: INA000000391. The registered office of BSIPL is at 208, Ceejay House, Shivsagar Estate, Dr. A. Besant Road, Worli, Mumbai – 400 018, India. Telephone No: +91 22 67196000. Fax number: +91 22 67196100. Any other reports are distributed in India by Barclays Bank PLC, India Branch.

Barclays Bank PLC Frankfurt Branch distributes this material in Germany under the supervision of Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin).

This material is distributed in Malaysia by Barclays Capital Markets Malaysia Sdn Bhd.

This material is distributed in Brazil by Banco Barclays S.A.

This material is distributed in Mexico by Barclays Bank Mexico, S.A.

Barclays Bank PLC in the Dubai International Financial Centre (Registered No. 0060) is regulated by the Dubai Financial Services Authority (DFSA). Principal place of business in the Dubai International Financial Centre: The Gate Village, Building 4, Level 4, PO Box 506504, Dubai, United Arab Emirates. Barclays Bank PLC-DIFC Branch, may only undertake the financial services activities that fall within the scope of its existing DFSA licence. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

Barclays Bank PLC in the UAE is regulated by the Central Bank of the UAE and is licensed to conduct business activities as a branch of a commercial bank incorporated outside the UAE in Dubai (Licence No.: 13/1844/2008, Registered Office: Building No. 6, Burj Dubai Business Hub, Sheikh Zayed Road, Dubai City) and Abu Dhabi (Licence No.: 13/952/2008, Registered Office: Al Jazira Towers, Hamdan Street, PO Box 2734, Abu Dhabi).

Barclays Bank PLC in the Qatar Financial Centre (Registered No. 00018) is authorised by the Qatar Financial Centre Regulatory Authority (QFCRA). Barclays Bank PLC-QFC Branch may only undertake the regulated activities that fall within the scope of its existing QFCRA licence. Principal place of business in Qatar: Qatar Financial Centre, Office 1002, 10th Floor, QFC Tower, Diplomatic Area, West Bay, PO Box 15891, Doha, Qatar. Related financial products or services are only available to Business Customers as defined by the Qatar Financial Centre Regulatory Authority.

This material is distributed in the UAE (including the Dubai International Financial Centre) and Qatar by Barclays Bank PLC.

This material is distributed in Russia by OOO Barclays Capital, affiliated company of Barclays Bank PLC, registered and regulated in Russia by the FSFM. Broker License #177-11850-100000; Dealer License #177-11855-010000. Registered address in Russia: 125047 Moscow, 1st Tverskaya-Yamskaya str. 21.

This material is distributed in Singapore by the Singapore branch of Barclays Bank PLC, a bank licensed in Singapore by the Monetary Authority of Singapore. For matters in connection with this report, recipients in Singapore may contact the Singapore branch of Barclays Bank PLC, whose registered address is One Raffles Quay Level 28, South Tower, Singapore 048583.

Barclays Bank PLC, Australia Branch (ARBN 062 449 585, AFSL 246617) is distributing this material in Australia. It is directed at 'wholesale clients' as defined by Australian Corporations Act 2001.

IRS Circular 230 Prepared Materials Disclaimer: Barclays does not provide tax advice and nothing contained herein should be construed to be tax advice. Please be advised that any discussion of U.S. tax matters contained herein (including any attachments) (i) is not intended or written to be used, and cannot be used, by you for the purpose of avoiding U.S. tax-related penalties; and (ii) was written to support the promotion or marketing of the

transactions or other matters addressed herein. Accordingly, you should seek advice based on your particular circumstances from an independent tax advisor.

© Copyright Barclays Bank PLC (2015). All rights reserved. No part of this publication may be reproduced or redistributed in any manner without the prior written permission of Barclays. Barclays Bank PLC is registered in England No. 1026167. Registered office 1 Churchill Place, London, E14 5HP. Additional information regarding this publication will be furnished upon request.

