Deutsche Bank
Research

Europe | Economics, Foreign Exchange, Rates | Special Report | Date 12 February 2016

The UK & EU: Exit Emergency

Barbara Boettcher
Head of European Policy Analysis
(+49) 69 910-31787
barbara.boettcher@db.com

David Lock
Banks' Analyst
(+44) 20 754-11521
david.lock@db.com

George Buckley
Chief UK Economist
(+44) 20 754-51372
george.buckley@db.com

Jack Di Lizia
Rates Strategist
(+44) 20 754-51865
jack.di-lizia@db.com

Markus Heider
Economist
(+44) 20 754-51865
markus.heider@db.com

Oliver Harvey
FX Strategist
(+44) 20 754-51947
oliver.harvey@db.com

Wolf von Rotberg
Equity Strategist
(+44) 20 754-52801
wolf-von.rotberg@db.com

- Financial market and global economic uncertainty have been key features of the first few weeks of 2016. One of the most important sources of uncertainty for the UK, however, revolves around a known event – the forthcoming referendum on EU membership, likely to be held this summer. While our baseline case is for the UK to vote to remain in the EU by a narrow majority, polls showing "leave" gaining ground highlight the risk.

- *Ahead of the referendum* delayed investment could be a mild negative for GDP. The biggest hit to output is likely to be felt immediately after a Brexit vote during the exit negotiations. In the *longer term* the UK should adapt to life outside the EU: lower GBP, looser monetary policy (inflation permitting) and focus on trade with faster growing countries should come to the rescue.

- The draft renegotiation broadly accommodated the UK's four requests of the EU. While there is a clear path to putting this agreement in place, contentious issues remain up for discussion ahead of the February 18/19 summit. In the event of a Brexit, uncertainty will prevail until the exit terms become clear. In negotiating exit options, all of which have their shortcomings, the EU will need to strike a balance between ensuring continued strong trade with the UK but at the same time sending a clear message to other countries that withdrawal is not costless.

- Our structurally bearish sterling view is based on a slowing of the UK cycle, renewed fiscal tightening and downside risks to UK capital inflows rather than political risks. A possible British exit from the EU due to an 'out' vote in the coming referendum presents another tail risk for the pound, however. A UK exit from the EU is likely to negatively impact sterling and may see our existing forecasts of GBP/USD 1.15 by end-17 and EUR/GBP 0.82 by end-19 front-loaded.

- In the rates space, we see an underperformance of UK cash in the run up to the vote, a steeper curve (front end remaining well anchored) and gilts underperforming on a cross market basis. In the case of a vote to leave, expect more aggressive pricing of cuts at the very front end. Non-resident investors are likely to reduce inflows in the run up to the referendum, with the potential, should uncertainty and Brexit probability rise, of an increase in gilt outflows. In the event of exit, non-resident selling could be exacerbated by concerns over the UK's sovereign rating. Expect the DMO to limit the duration of supply into the vote before backloading issuance once the market has settled following a vote to remain in.

- As for equities, combining the projected changes in valuations and EPS expectations over the coming year, we would pencil in 15% downside for the entire market and 26% for the domestic basket under a Brexit scenario. The foreign basket would gain on EPS but de-rate due to uncertainty and a higher risk premium. The combined effect would be negative and leave 11% downside for the basket, compared to current levels.

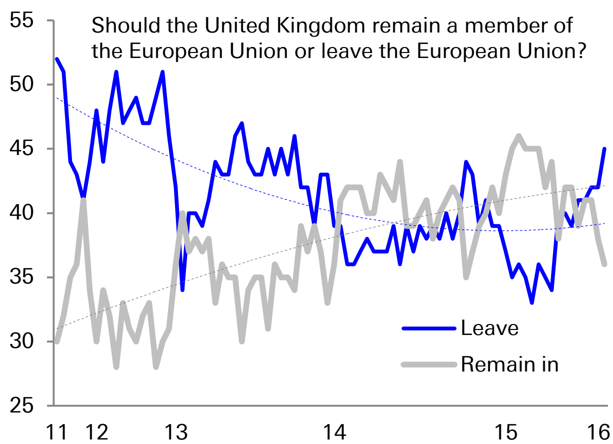
- We see the EU referendum as a risk for bank equity performance principally because of the uncertainty of the implications of Brexit for the outlook of the UK economy, and for the legal and regulatory framework of providing financial services into and out of the EU. A weaker UK economy in the event of Brexit would likely hit profitability thanks to looser monetary policy and credit losses. While financial regulation is unlikely to change materially with the UK out of the EU, there is significant uncertainty over the implications for passporting of financial services into the rest of the EU.

Contents

1. The Macro Picture

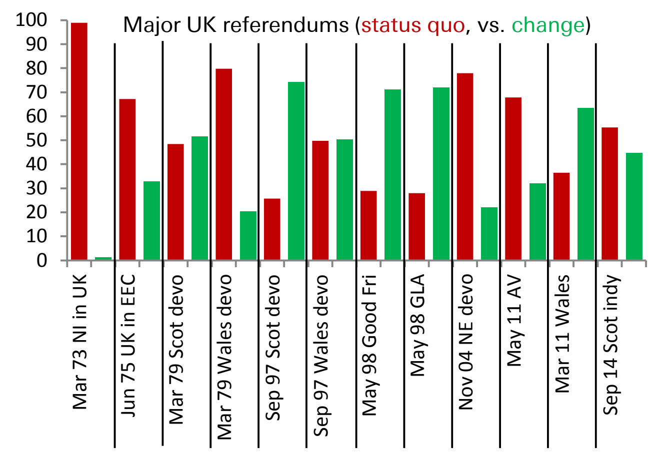
We begin our analysis with the big picture: a look at the opinion polls, the timing of the referendum and some working assumptions about when – and crucially what – the vote might be. We finish by considering the economic impact of the Brexit referendum and its outcome over three distinct time periods: a) in the run up to the referendum, b) in the immediate aftermath of the vote, i.e. in the two or – probably – more years of negotiations post referendum, and c) its impact over the longer-term.

Figure 1.1: Polls are tight, but show 'Out' ahead of 'In'



Source: Deutsche Bank, YouGov

Figure 1.2: Referenda rarely make "regressive" changes



Source: Deutsche Bank, UK Parliament

The polls and likelihood of exit

Figure 1.1 shows just how tight the polls have been over the past two years. Over the past year in particular the polls have moved in favour of exit, and a YouGov poll conducted in the aftermath of the publication of the renegotiation last week found an even larger proportion of people wanting to leave than stay in the EU (the lead rose to 9pp from 4pp at the end of January).

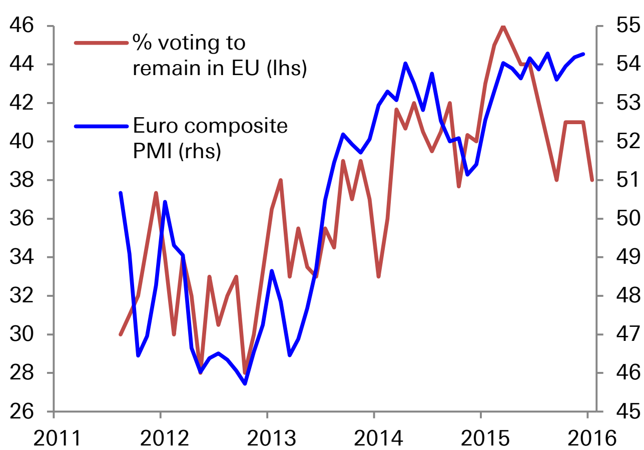
However, there are two important caveats to bear in mind. First, following recent polling errors there is the issue of how much weight we should place on such evidence. After all, the inquiry into the failure of the polls to predict the result of the general election last May found samples were unrepresentative (a "systematic over-representation of Labour voters and under-representation of Conservative voters"), among other problems. Second, when the EU polling question is adjusted to ask how respondents would vote in the event the PM recommended voting to remain in based on a renegotiation that protected British interests (which looks highly likely to be Mr Cameron's stance), substantially more people would opt to remain in than leave (a poll asking this question last autumn reported 47% for In, 29% for Out).

While the point of the remainder of this note is to explore the possible consequences of Brexit for the economy and financial markets, our working assumption and expectation is that the final renegotiated settlement with the EU proves significant enough that Mr Cameron is able to campaign vigorously, and successfully, to remain in the EU. We explore the EU's response to the UK's renegotiation requests and the possible options for the UK's relationship with the EU in the event of a Brexit in some detail in Section 2.

EU Council President Donald Tusk in his letter on 2 February addressed each of the issues originally set out by the PM last November, though a number of his proposals watered down Mr Cameron's initial requests. The offer included: i) protection of non-euro members, and particularly the Single Market, from euro legislation, ii) promises to improve competitiveness, particularly in relation to reducing regulation and red tape, iii) sovereignty – a "red card" system allowing a bloc of national parliaments to veto EU legislation and allowing the UK to be exempt from further political integration, iv) migration – graduated restrictions to in-work benefits and allowing the UK to limit (but not withdraw) benefit paid to children of migrants who live abroad.

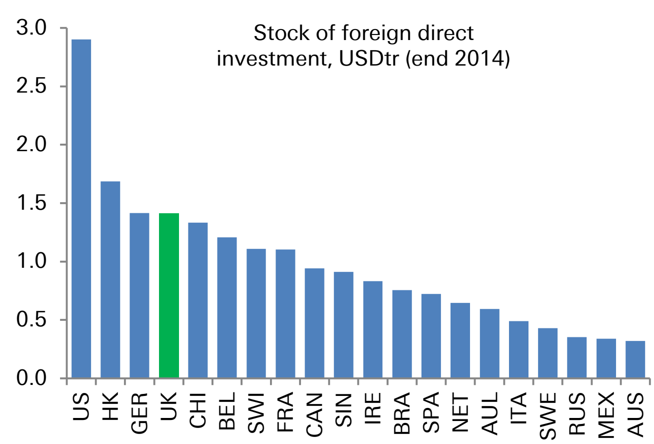
Following this draft renegotiation, a referendum on June 23 now looks highly likely[1], assuming that all sides agree to the detail of the proposals at the upcoming European Council meeting next week. As Mr Tusk said, "there are still challenging negotiations ahead". We expect a vote to remain in the EU by a small margin, perhaps similar to that of Scottish independence (55%/45%). While exit-risk is not negligible, it is worth noting that all the major referenda over the past forty years have either voted for retaining the status quo or adopting a "progressive" rather than "regressive" change (Figure 1.2).

Figure 1.3: It's important to get the timing right



Source: Deutsche Bank, Markit, YouGov, Haver Analytics

Figure 1.4: UK an important destination for investment



Source: Deutsche Bank, CIA

It is understandable why Mr Cameron is keen to hold the referendum so soon. First, he will not want to lose the momentum that will be built up following a ratification of the renegotiation next week, minimising the period of uncertainty which could weight on growth and UK financial markets. Second, there are too many obstacles to the timing of a referendum after this summer, including: the risk of a summer migration crisis (which is likely to impact the vote), the autumn party conference season, the winter season (Nov-Feb, as fewer people might vote), the need to avoid the French (spring 2017) and German (autumn 2017) general elections, and the fact that – assuming the vote is to remain in the EU – the UK would hold the rotating presidency of the EU in the second half of 2017. Third, it would be a big boost to the Conservative government if the vote was done and dusted by the time of the party conference in early October. Europe has been a divisive subject over such a long time for the party that to host its conference without a vote on the issue looming large would provide welcome respite to the PM.

[1] The requirement is that the referendum be held no sooner than six months after passage of the referendum bill (17 December 2015) and around four months will be needed between the announcement of the referendum and the vote taking place. Thus 23 June is the earliest that vote could take place (note that for some time now all UK votes and elections have been held on a Thursday).

Finally, the economic environment could be an important influence on the result of the vote. Our US economists have just this week revised down their forecasts for economic growth substantially thanks to recent weaker outturns, an inventory overhang and – crucially – a more fragile global backdrop. As our European economics team points out, a weaker global stage and the risk of tighter financial conditions could yet dent prospects for euro area growth, particularly as we move into the second half of 2016. Why is this important for the Brexit vote? There is a good relationship between the euro area composite PMI and the percentage of people wanting to remain in the EU, presumably because the better the euro area is doing economically, the more the UK wants to remain a part of the EU. Timing, therefore, is of the essence when it comes to scheduling the referendum.

Economic impact of Brexit vs. continued membership

We examine the impact of Brexit over three distinct time periods: pre-referendum, post-referendum and over the longer-term. This is not a list of pros and cons of EU membership, nor do we pretend to be able to judge the precise impact on GDP of exit relative to remaining in. After all, not only is it difficult to evaluate the benefits of EU membership in the first place (note that the Bank of England in its October 2015 publication *EU membership and the Bank of England* listed various impact assessments of the net benefit to UK GDP associated with EU membership ranging from -5% to +20%) but it is impossible to know what the post-referendum Brexit negotiations would yield in terms of the UK's new relationship outside of the EU. With these caveats, let us begin.

Period 1: Pre-referendum

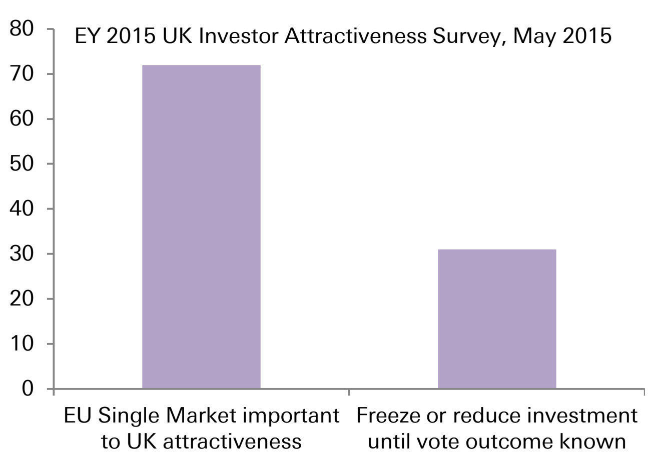
Ahead of the referendum, the most notable impact on the economy is likely to be that of heightened uncertainty and weaker investment. Both may wax and wane with the evolving opinion polls. An early referendum (June 23) would help limit the period of uncertainty and thereby the potential fallout on GDP via the investment channel. In the event of a vote to remain in the EU, investment is more likely to rebound afterwards given that a longer wait before the referendum is held could have the potential not only to *delay* but *divert* inward investment to other countries.

Figure 1.5: EU impact assessments

Authors	Impact on GDP level of EU membership
Campos, Coricelli & Moretti (2004)	+20%
CEP (2014)	+2.2% to +9.5%
CBI (2013)	+4% to +5%
Mansfield (2014)	-1.1% to +2.6%
Pain & Young (2004)	+2.25%
Open Europe (2015)	-1.6% to +2.2%
US Intl Trade Commission (2000)	+0.02%
IoD (2000)	-1.75%
IEA (2005)	-3.2% to -3.7%
Civitas (2004)	-4.0%
UKIP (2010)	-5.0%

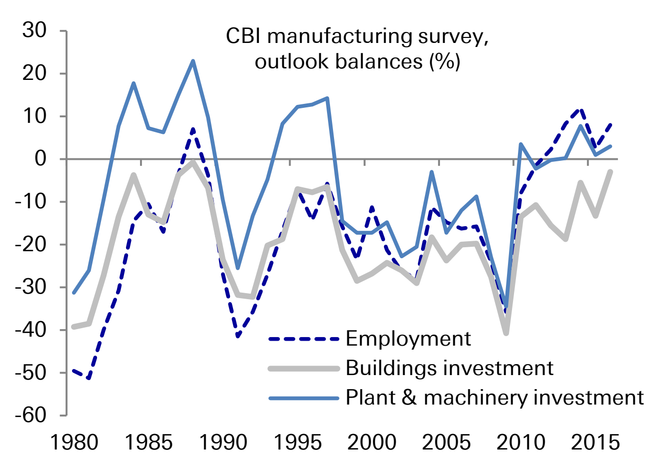
Source: Deutsche Bank, Bank of England

Figure 1.6: Firms wary of investing ahead of EU vote



Source: Deutsche Bank, Ernst & Young

Figure 1.7: Investment/employment intentions are linked



Source: Deutsche Bank, CBI, Haver Analytics

Figure 1.4 shows that the UK is one of the most important destinations globally for foreign direct investment (FDI). And with business investment worth around 10% of GDP, for every 1% that investment is impacted the direct impact on GDP will be around 0.1pp. It is not hard to envisage a situation where annualised investment growth is, say, 2.5pp slower in the run up to the referendum because of this uncertainty, in turn knocking a quarter point off the annualised run rate of GDP growth. Indeed, investment may already have been impacted, with the effect of pent up investment demand being released post a decision to remain in the EU. A survey by Ernst & Young last spring reported that 70% of firms questioned said that the single market was important to the attractiveness of the UK with respect investment, while more than 30% of firms said they would freeze or cut investment until the outcome of the decision was known (Figure 1.6 above).

In summary: in the run up to the referendum we expect economic growth will be impacted negatively, but modestly, primarily through the investment channel. If the vote is to remain in the EU we would expect much of that pent up demand for investment to return in the months following the referendum.

Period 2: Post-referendum

In the event of a vote to remain in the EU we would expect a moderate rebound in confidence, investment, sterling and equity prices. Alternatively, a vote to leave would kick-start the process of exit – the two-year negotiation phase would begin as soon as the government sends its letter of intent to leave the EU to the European Council. A two year period is stated in Article 50 of the Lisbon Treaty (see Figure 2.2 in the following section) following which European treaties would no longer apply to the UK.

However, that does not mean to say a two year negotiation period is likely; rather, the official date of exit can be extended by agreement, or alternatively the negotiation phase can continue past the official date of exit. There is precedent here – the only country (or, in this case, part of a country – the Kingdom of Denmark) to vote to leave the European Economic Community (as it was then) since its inception has been Greenland, whereupon it took almost three years of negotiation over fishing rights to formalise its post-exit relationship with the EU. Given that the UK will have been a member of the EU for far longer than Greenland, and with far more at stake as Europe's second largest economy, we would expect it could take longer than this to finalise the exit-deal thereby prolonging this period of uncertainty.

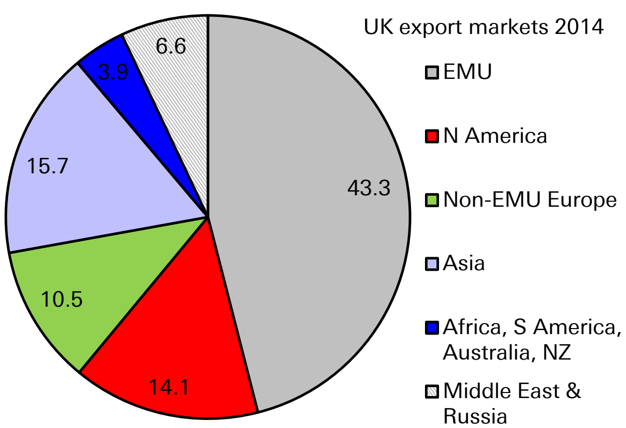
It is during this negotiation period we would expect the most sizable negative impact on output, despite the fact that European treaties would still apply to the UK. The most notable developments are likely to be:

- Materially weaker investment thanks to heightened uncertainty about whether the UK would continue to have access to the Single Market, or if not how lenient the EU would be in negotiating a new trade deal. Weaker investment funding from overseas could raise questions about the sustainability of the current account, which if not reflected in a sufficient enough decline in sterling could adjust by sharply weaker consumer spending (thereby pulling in fewer imports but also risking a sharper downward adjustment in GDP);

- Consumer confidence is likely to fall, particularly as lower investment is associated with falling employment intentions too (Figure 1.7). Debate ahead of the referendum about the number of jobs at risk in the event of the UK leaving the EU could accelerate the decline in confidence. The (perceived or real) risk of sizable job losses combined with weaker confidence would likely raise the saving ratio, reducing consumer spending for any given rate of income growth and hitting aggregate income growth itself. Real incomes may suffer in the event a sizable fall in the currency produces an outsized rise in prices;

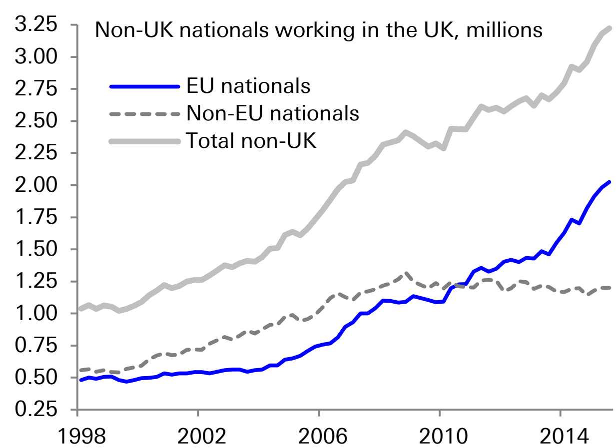
- Asset prices are likely to fall sharply, those most at risk being UK (and to a lesser extent European) equities and London house prices. Financial services stocks could be at the forefront of the decline particularly if exit negotiations failed to replicate the single banking passport allowing overseas banks in the UK to operate in the EU without the need to create a subsidiary. With London house prices already at high valuations and having benefited significantly from overseas demand (not only from emerging and oil producing countries but also from inward migrants), a downward adjustment in prices looks likely;
- The risk of higher tariffs with the EU by the end of the exit negotiations may encourage a re-sourcing of trade by importers on both sides of the Channel during this period. There is much scope for such an eventuality given the scale of trade between the UK and the EU; Figure 1.8 below shows that some 43% of UK exports are destined for the EU in 2014, for example;

Figure 1.8: Risk of a re-sourcing of trade



Source: Deutsche Bank, ONS

Figure 1.9: Rise in non-UK nationals largely due to EU



Source: Deutsche Bank, ONS

- The period of negotiation will be a time of preparation for an uncertain future – not only for the government in brokering the exit terms with the EU, but for firms and individuals making plans for the post-EU environment. Firms with significant exposure to the EU (finance, business services, manufacturing exporters) will likely divert resources away from investment and production to contingency planning. Migrant workers may make plans to return, searching for new opportunities outside of the UK and within the EU (reducing demand for goods & services and the supply of labour in the UK, while at the same time raising wages). Both are likely to dent productivity and thereby trend economic growth;
- A sovereign ratings downgrade (taking other firms ratings – particularly financial – down with it) is a clear risk. S&P moved the UK to negative outlook last summer on account of Brexit risk, noting that "a possible departure from the EU also raises questions about the financing of the economy's large twin deficits and high short-term external debt". A downgrade could raise financing costs and tighten credit conditions, exacerbating the hit to GDP from exiting the EU;
- Then there is the event risk of another referendum on Scottish independence given that Scotland is considered more pro-EU than the remainder of the UK (so polls would lead us to believe). As we saw in the run up to the September 2014 vote, another independence

referendum would likely cause further volatility and uncertainty in the financial markets. However, Scotland may not be granted a vote until the UK's exit deal with Europe is completed, not only for the same reason that cabinet members have been denied speaking out on Europe before the current renegotiation is finalised, but also because of the logistical difficulty of the government negotiating with Europe and fending off an independence campaign simultaneously. Moreover, low oil prices (if they remain at current levels) may well dampen demand for another Scottish vote – or at the least reduce support for the independence campaign when the vote is held.

There are, however, likely to be some ameliorating factors during the negotiation period to offset the above negatives. In particular, with sterling substantially lower and the Bank of England unlikely to raise rates in this environment (indeed the MPC may be more likely to cut rates – the currency-induced rise in inflation permitting) monetary (but not financial) conditions should be substantially looser. Aside from supporting exports and reducing imports sterling's anticipated fall may – at the margin – limit the decline in foreign direct investment. However, this is unlikely to be anywhere near sufficient to offset the broader tightening in financial conditions that might arise from an exit vote. Moreover, before the negotiations are completed the UK's *modus operandi* with the EU will remain unchanged which provides an adjustment buffer for the UK economy.

It is worth considering at this juncture the risk of a second referendum. There are two ways this could happen, though it is unlikely that the authorities on either side of the Channel would ever concede this as a possibility ahead of the upcoming vote. 1) Being the second largest country in the EU and providing an important political buffer between the Union's core members, the UK's membership is important to the EU on an existential scale. As such, there is an outside chance that a vote to leave (if such a vote were to materialise we think it would be by only a small margin) is greeted with a more positive counter negotiation from the EU which in turn could be presented to the British public in a second referendum. 2) More likely, a referendum on the negotiation out of the EU following a vote to leave could be presented to the British public to agree the exit terms.

In summary: While weaker sterling and easier monetary policy should help limit the fallout on GDP post a Brexit vote there is a limit to how much support this can provide given the potential impact of the decision on investment, confidence, asset prices, trade, productivity and event risk such as a sovereign ratings downgrade or a second Scottish independence referendum. Moreover, while sterling's fall could provide a helpful offset to exporters, it would of course squeeze real household incomes. As such, we believe the scale of the impact on GDP over this period will be sizable. The case for a 1pp or greater hit to UK annual economic growth can easily be made[2], though much depends on the progression of the exit negotiations with the EU.

Period 3: The longer term – post-exit

The effect on the UK economy in the long-run will depend critically on what sort of relationship is brokered between the UK and the EU by the end of the negotiation phase. For further detail on this see the following section which

---

[2] Note that relative to some studies, which envisage an outright recession after a vote to leave, this looks like a relatively modest impact. However, this is an *average* hit to annual growth over the assumed three years of negotiation (i.e. 3% in total), which could produce a recession if concentrated over a shorter time horizon. We expect the imapct to be spread over a number of years rather than concentrated in the first because it may take time for decision-making to be altered in the aftermath of an exit vote. In addition, it may make sense for economic agents to wait for the final outcome of the negotiations before making important economic decisions. Moreover, EU legislation will continue to apply to the UK (and thus to UK trade with the EU) during all or much of the negotiation period.

considers in detail what a Norwegian-, Swiss-, Turkish- or WTO-style relationship with the EU might look like. The conclusion of Section 2 is that the UK will retain access to the Single Market, but it will not be costless: either membership of the EEA will limit the UK's ability to influence the rules it is required to adopt, or the EU will extract sizable concessions for partial access to the Single Market in the same way as it has for Switzerland. However, it is important to bear in mind that unlike Switzerland (or Norway for that matter), which has never been a member of the EU, the UK is unlikely to be the recipient of much EU goodwill after an exit vote, thus the risk of a 'messy divorce' settlement remains high. And, as the popular saying goes: "if you're not at the table, you're on the menu"…

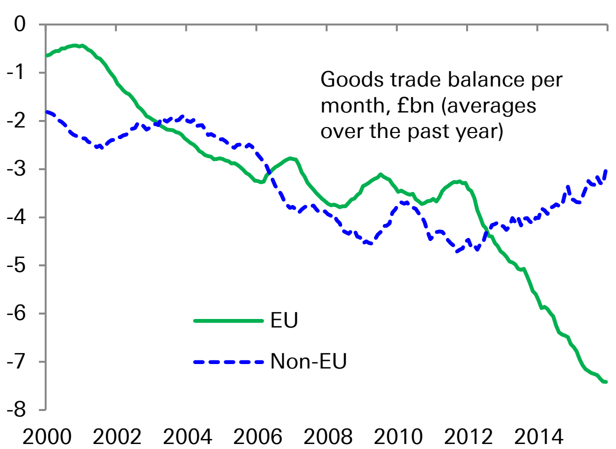
In our view, in the event of Brexit the EU will aim to strike a balance between:

- Negotiating a deal with the UK that is good enough to protect trade – this will be particularly important given that the UK's deficit with the EU is far wider than that with non-EU countries and getting larger, as Figure 1.10 below shows. Indeed, over the past five years, non-oil goods' import volumes to the UK from the EU have grown at an average annual rate of 4.5%, much faster than the 1% growth in non-oil exports to the EU;

And

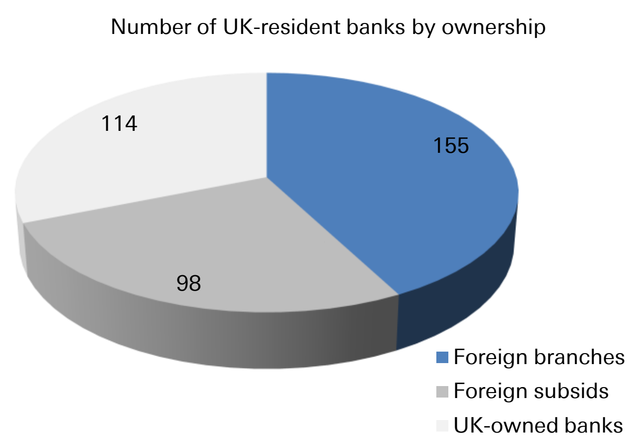
- A more punitive trade deal that sends a clear message to other countries thinking of staging a renegotiation against a backdrop of an in/out referendum that leaving the EU is not costless (i.e. minimising the moral hazard). This may well be the dominant argument for the EU during the Brexit negotiations given the existential risks that an important member state leaving the EU could generate.

Figure 1.10: UK imports from the EU have risen sharply



Source: Deutsche Bank, ONS, Haver Analytics

Figure 1.11: Risk of overseas banks moving business



Source: Deutsche Bank, Bank of England

It would be somewhat heroic at this stage to attempt to articulate an accurate vision of what the relationship between the UK and the EU might look like over the long-term in the event of Brexit. But a tough deal giving the UK partial access to the Single Market outside of the EEA (whether the UK would be able to retain its banking passport in this case is debatable, particularly given that over time financial rules would be expected to diverge between the UK and EU, making the concept of equivalence difficult to retain) would be our baseline case. We judge that the impact would be negative for the UK and EU economies in the long run relative to the case of remaining in the EU, primarily the result of weaker trade as it proves difficult to replicate the current mutually beneficial free trade area, and also weaker inward investment into the UK. Another sizable challenge will be the push for a second referendum on Scottish independence, which could well lead to an exit and thereby break-up of the UK if oil prices have, by that stage, returned to more reasonable levels.

Relative to the previous period during which exit negotiations were taking place, in the longer term any negative impact on economic growth in the UK is likely to be less significant as the UK adjusts to life outside the EU. Key adjustment mechanisms that may soften the blow from exit are as follows:

- The expected fall in sterling may, through the J-curve effect, initially raise the trade deficit as imports become more costly. But over the longer term a more competitive currency (our FX analysts believe that GBP is currently one of the most overvalued currencies in the world) should be positive for UK exports and negative for imports. We should not forget, however, that lower sterling, via its impact on import prices, could also squeeze real household incomes and consumption;
- The Bank of England, in response to weaker UK economic growth outside the EU, is likely to keep policy looser than would have been the case had the UK remained in and delivered stronger growth as a result. Easier policy (either a delay to interest rate hikes, interest rate cuts and/or more QE depending on the specific economic circumstances at the time) should only partially offset any hit to potential growth;
- The ability of the UK to redirect its efforts to increase trade with faster growing economies. This is, of course, a contentious issue. On the one hand, it is commonly argued that as a larger trading bloc the ability of the EU to negotiate beneficial trade agreements with other countries is much greater than that of a smaller single country such as the UK. However, another view is that by being a less threatening competitive force the UK may be able to complete external trade deals outside of the EU more quickly. An example here is Switzerland, which in 2013 completed a free trade deal with China after only two years of negotiations. This compares with the EU where a number of years of trade negotiations with China have failed produce a free trade agreement covering the EU in entirety. TTIP negotiations began relatively recently in mid 2013 however the notion of a bilateral free-trade area between the US and EU dates back far longer. Given the uncertainty surrounding the final date of completion for TTIP it is difficult to determine when protracted talks may conclude;
- This compares with the EU where after over 10 years talks with China to secure a deal discussions are still ongoing. The TTIP deal between the EU and US will have taken the best part of three decades to secure by the time it is operational, while the Doha trade talks highlight the risk of failure from being too ambitious;
- It might be that the EU is not an "optimal policy area", in much the same way as the euro area may not be an "optimal currency area". What do we mean by this? The broadening of the EU to some 28 countries makes political integration more difficult – one size fits all is less appropriate for such a large bloc. This is particularly true for the EU with multiple currencies & languages, a diverse range of income per capita and a wide geographical spread (notably from north to south). With the UK able to craft more tailored policies to its specific needs outside the EU this could benefit growth, thereby offsetting some of the trade/investment-induced weaker trend growth that may have resulted from Brexit;

- Finally, while some sectors would be impacted more than others (for example cars, wine, wheat & aluminium), the EU's external tariffs have fallen over time. The average is currently around 1% having declined from 5-6% in the mid-1990s, reducing the cost of exit relative to what it would have been in the past (see *The economic impact of EU membership on the UK,* House of Commons Library, September 2013).

Conclusions

Tying the above discussion together is not a simple task. There are many uncertainties – not only do we not know what the relationship between the UK and the EU will look like under a Brexit scenario, but there are also no similar precedents upon which we can draw to understand what the financial market/ economic sensitivity might be to a decision to leave.

In summary, in each of the periods we identify we think the economic impact of Brexit would be negative. First, in the run up to the referendum weaker investment (in particular) might prove a modest drag on GDP. With the referendum expected in such short shrift we expect this swift schedule to limit the fallout on economic growth ahead the vote – we suspect the impact will be sub-0.25pp off annual GDP growth. We expect the most significant negative impact to be felt in the 2-3 years (maybe more) of negotiations post a Brexit vote. It is not difficult to envisage a hit to annual GDP growth well in excess of 1pp per year during this period, though if the authorities take the opportunity to manage the situation well it could be less than this. Finally, as time passes the UK should have chance to adapt to life outside the EU, such that in the long run the negative impact on economic growth should be much smaller. Sterling, monetary policy and a redirection of trade in particular should aid the adjustment process.

George Buckley (44) 20 754-51372

2. Brexit – Uncharted Territory

- The EU and the UK are set to conclude a new settlement on the terms of the British EU membership. A deal on the upcoming EU summit on February 18/19 could pave the way for the in-out referendum most likely on 23 June or otherwise in early autumn 2016.
- The EU has broadly accommodated the four British pledges - economic governance, competitiveness, sovereignty and immigration. Major drivers for the political goodwill have been (i) the broader recognition of the need for certain reforms in the EU, (ii) an increased and shared awareness for sensitive topics particularly migration, and (ii) concerns over the negative economic and political repercussions of a Brexit on the EU itself.
- The draft settlement combines clear and immediate actions, tasks for the EU Commission to prepare changes to existing legislation and political commitment to incorporate UK demands in future treaty changes. A number of details in the most contentious issues are still up for discussion, though, and might be agreed upon only at the EU summit.
- However, even with a fair deal for the UK the risk of an out-vote in the referendum remains. In such a case the UK and the EU would enter unchartered territory. Although the EU Treaty includes a procedure for the withdrawal process of a member state – in contrast to an exit of EMU – this will not prevent substantial economic and political turmoil in the post-referendum period.
- Uncertainty will prevail until the shape of the post-membership relation between the UK and the EU becomes clear. It could well be longer than the two year period foreseen in the treaty depending on how quick EU partners were prepared to return to the negotiation table. The prospect of a European super election year 2017 with the Netherlands, France, Germany and possibly Italy going to the polls is unlikely to speed up talks.
- There are a number of options available to the UK in case of a Brexit but they all have their shortcomings. The final design of a new structured relationship between the EU and the UK will need to strike a balance: on the one hand ensuring a trade-focused outcome for the UK, while at the same time disincentivising other member states from pursing a referendum-strategy aimed at tailor-making their own relationship within (or out of) the EU.

Striking a fair deal for the UK *and* the EU

On February 2, EU Council President Tusk tabled the draft for the new settlement for the UK within the European Union.[3] Notwithstanding substantial political noise, the state of the negotiations should allow the reform deal between the EU and the UK to be closed at the EU summit on Feb 18/19. Building the necessary political goodwill among EU members has been supported by three factors: (i) Recognition that the EU needs a certain overhaul has been widespread for quite some time. Calls for a better functioning of the EU, a review of the balance of competences and bringing the EU closer to the people have been raised in the past by a number of member states. While the

[3] Letter by President Donald Tusk to the Members of the European Council on his proposal for a new settlement for the United Kingdom within the European Union, February 2, 2016 http://www.consilium.europa.eu/en/press/press-releases/2016/02/02-letter-tusk-proposal-new-settlement-uk/

EU has never been a homogenous bloc, past crisis years and current challenges have repeatedly emphasised differences and difficulties to find swift and efficient compromises against this background. (ii) Increased migration and the EU's (perceived) difficulties to cope with the refugee crisis has set the common ground for addressing the scope and eligibility of social benefit payments in the EU and fighting so-called welfare tourism. (iii) Finally, while the UK has the reputation of being a difficult partner (after all it has negotiated more policy opt-outs than any other EU member), negative repercussions of a Brexit on the EU would be significant. The UK is the second largest EU economy (15% of EU GDP), remains an ardent supporter of free trade and liberal economic policy and has been playing a crucial role in extending the scope of the Single Market. Without the UK the balance between Germany and France/Italy would shift and the EU as a whole would risk becoming more inward looking and protectionist. Also, the EU relies on the British global weight in foreign and security policy. Britain accounts for a share of around 23% of the European defence expenditure and remains one of only two European members with a permanent seat on the UN Security Council. Given the increasing geopolitical threats and tensions the diplomatic and military strength the UK contributes to the EU is an indispensable asset.

The draft settlement shows willingness to accommodate demands and progress in each of the four "baskets" put forward by the UK – even though for some aspects the text remains somewhat vague. On a number of points the final wording is still up for discussion in the run-up to the EU summit – and the devil may well be in the details.

The easier part of the renegotiation has been the British demand to take concise action for improving the state of the European economy in a global world. The UK had called for measures on cutting red tape, progress on the new trade and investment strategy, measures to boost the Single Market – particularly with respect to developing the digital market and the Capital Markets Union. The different elements should be brought together in a strategy with a clear long-term commitment to boost competitiveness and productivity in the EU. The current compromise envisages complementing the existing initiatives[4] by the establishment of two new procedures: (i) A mechanism to review the body of existing legislation for its compliance with the principle of subsidiarity and (ii) a burden reduction mechanism setting specific targets for reducing burdens for business, both to be part of a new declaration by the EU Commission. The chapter on competitiveness is consistent as it connects to existing initiatives like the Better Regulation Agenda. However, it is likely to fall short of expectations, hardly spelling out concrete steps.

On economic governance and the UK's concern about an outvoting of the non-euro area countries – possible with the new qualified majority[5] rules in the Lisbon Treaty – the draft lists principles to mutually respect the rights of euro and non-euro members and a safeguard clause. It is a legitimate call to better reconcile the interests of the euro area and the EU-28 in the sense that neither rules pertaining to the single market could be imposed on non-euro countries nor political solutions for the euro area are forced to be implemented outside the EU Treaties. The list in the proposal consequently includes: that the single market will be preserved even if there is further euro area integration; that

[4] The EU has already taken a number of steps to improve on better regulation (e.g. prioritizing on planning and putting forward fewer proposals, work on REFIT and agreeing a new Interinstitutional agreement) and put forward strategies in the areas that matter for competitiveness and the UK (Capital Markets Union, Digital Single Market) to promote growth and jobs in the EU.

[5] Combined, the eurozone countries account for 67.8% of the member states and 66.6% of the population meaning that the new voting rules establish a permanent majority for the euro area where qualified majority voting is required.

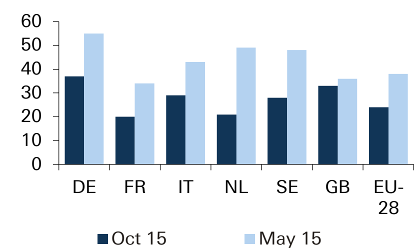
there will be no discrimination against non-euro members in decision-making; that non-euro area countries will not pay for operations concerning the common currency; banking union rules should not apply to members outside the euro area. According to the proposal, compliance with these principles would be backed up by a safeguard mechanism. The safeguard mechanism would force the EU as a whole to resume discussion of a legislative act which a non-euro member state considers against its interest. The Council would then do all within its powers, within a reasonable space of time, to reach a satisfactory solution.[6] The proposed safeguard mechanism is not supposed to constitute a veto or undue delay of urgent decisions, however. Being one of the more contentious issues since the general decision-making process of the EU is impacted, the final details and conditions for triggering the safeguard mechanism (e.g. number of member states required to use this provision) still have to be agreed upon.

The basket on sovereignty primarily included the rejection of the UK to be forced to work towards an "ever closer union" and the enhancement of the role of national parliaments. While it was clear that the provision on the ever closer union would not be skipped, the proposal clarifies on its interpretation and obligations for the UK. The ever closer union reference does not offer a basis for an ever extending scope of competences for EU institutions. It is also compatible with different paths of integration for different countries. Also, the UK would not be committed to further political integration into the EU. Finally, the "ever closer union" issue would be taken up with the next revision of the Treaties. On the second aspect, the proposed changes can be seen as an enhancement of the existing procedures.[7] Now, if a number of national parliaments (threshold of 55% of the allocated votes) consider a draft EU legislation non compliant with the principle of subsidiarity, the issue would be escalated to the Council which will have to discuss it. Should the Council deem the concerns appropriate and if amendments should not accommodate the parliaments' concerns the Member States will discard the draft legislation. Better and earlier involvement of national parliaments could help to strengthen ownership on European policy issues. However, with this "red card" for national parliaments the already complex decision-making process in the EU might become even more complicated and time-consuming in the day-to-day work.

Finally, the most sensitive basket is that on migration and access to social benefits as it caught the most attention and is a particular crucial point for the British public. The draft settlement proposes an alert and safeguard mechanism to respond to an exceptional inflow of workers from other member states. This emergency brake – technically to be used by all EU member states – could be activated on the grounds of a member state's overstrained public services or labour market problems. It would limit the access of EU workers newly entering the country's labour market for in-work (tax credits) benefits to a period of up to four years. Apart from that mechanism, the settlement provides for welcome clarification of current EU rules on access for welfare benefits. In particular it underlined most recent rulings by the ECJ that member states are allowed to reject benefit claims of economically inactive citizens without right of residence and it stipulates that migrant job seekers are not eligible for social assistance. Both clarifications should help to substantially ease the problem of welfare tourism and give member states more flexibility in addressing misuse. For the emergency brake, details of application and duration still needs to be discussed but the concessions to the UK are far reaching and would substantially limit the equal treatment of EU workers. In

Figure 2.1: Immigration considered one of the public's main concerns at the EU level

Responses by ... % of those polled



Sources: Eurobarometer 82 publ. Dec. 2014 and 83 Jul. 2015, Deutsche Bank Research

[6] This compromise resembles the so-called Ioannina Compromise from 1994.

[7] Currently, one third or more of national parliaments are needed to hand in a "reasoned opinion" and collectively push the Commission to interrupt a legislative project.

addition, a complementing declaration states that the Commission considers the situation in the UK exceptional enough to justify the UK to trigger the mechanism in expectation of full ex-post approval once the legal basis has been implemented.

Post-referendum: The legal framework to withdrawal

A British vote to leave the EU would trigger difficult negotiations on the future relationship between the EU and the UK. While there are several possible options (see below) one is politically unrealistic – namely designing a special status for the UK as a "second-tier" member that allows the UK to continue to participate in the internal market and the related decision-making while obtaining the right to opt out of most actions of the EU. Apart from the political dimension, i.e. the willingness of the EU members and the European institutions to grant a country that just turned its back to the club such a privilege the current EU Treaties do not provide the possibility for such a move. Thus, the treaties would need to be modified accordingly which would require a joint agreement and a ratification of the changes by all member states which might include a referendum in some of them.

Bearing in mind the discussions in the course of the euro crisis about the legal (im-)possibility of exiting monetary union it might come as a surprise that there is a provision for the withdrawal of an EU member state. Article 50 was introduced by the Lisbon Treaty and the second paragraph provides the procedure for leaving and the possibility to negotiate a withdrawal agreement between the leaving member state and the rest of the EU (see box). The provision – notwithstanding the political difficulties involved – aims at facilitating the way forward as is reflected in the fact that neither a common accord of the Council (just qualified majority after the consent of the European Parliament) nor ratification by other member states of the withdrawal agreement is required. This is despite the fact that the EU Treaty needs some amendments such as modifying the list of member states (Article 52) or the redefinition of the qualified majority weights (UK accounts for 29 votes or 8.5% weighted votes) which themselves could have considerable effects on the balance of power between larger and smaller member states. Also, with the British parliamentary delegation being the third largest group (73 seats) in the European Parliament, these seats would need to be reallocated.

During the period to negotiate, sign and ratify a withdrawal agreement the UK legally remains a full member of the EU and can continue to exercise its full rights in the EU institutions with the exception of the provisions of Article 50 (4). The political reality might be different, though, as the influence of the UK on decisions taken by the EU and its institutions is likely to be weakened substantially once ceasing of the membership is official.

The whole withdrawal process is triggered with an official notification by the UK to the European Council about its intention to leave. From the date of notification the membership would cease in two years unless a withdrawal agreement sets a different date or the remaining member states (unanimously) and the UK agree to extend the time limit. It might well be that given the complexity of a withdrawal – including the fact that the UK has to prepare national legislation to substitute for EU acts – the two-year period will not be sufficient. Also, transitional measures might be necessary given the closely intertwined and interdependent economies of the UK and the EU. These might include issues such as the application of EU policies, e.g. agricultural policy or the future of civil servants with British nationality working for the EU

Figure 2.2: The Lisbon Treaty withdrawal clause

Article 50

(1) Any Member State may decide to withdraw from the Union in accordance with its own constitutional requirements.

(2) A Member State which decides to withdraw shall notify the European Council of its intention. In the light of the guidelines provided by the European Council, the Union shall negotiate and conclude an agreement with that State, setting out the arrangements for its withdrawal, taking account of the framework for its future relationship with the Union. That agreement shall be negotiated in accordance with Article 218(3) of the Treaty on the Functioning of the European Union. It shall be concluded on behalf of the Union by the Council, acting by a qualified majority, after obtaining the consent of the European Parliament.

(3)The Treaties shall cease to apply to the State in question from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification referred to in paragraph 2, unless the European Council, in agreement with the Member State concerned, unanimously decides to extend this period.

(4) For the purposes of paragraphs 2 and 3, the member of the European Council or of the Council representing the withdrawing Member State shall not participate in the discussions of the European Council or Council or in decisions concerning it.

A qualified majority shall be defined in accordance with Article 238(3) (b) of the Treaty on the Functioning of the European Union.

(5) If a State which has withdrawn from the Union asks to rejoin, its request shall be subject to the procedure referred to in Article 49.

institutions. Thus, even with the EU Treaty providing the provision for withdrawal a lot of open (legal) questions remain.

Post-withdrawal relations: many unknown variables

In concluding the withdrawal arrangement the EU Commission – which is negotiating on behalf of the remaining member states - should take account of the framework for the leaving member's future relationship with the EU (Article 50 (2)). While there are different legal opinions on whether the withdrawal treaty itself can already encompass all terms for the future relationship or whether there needs to be two distinctive agreements (because of different decision and ratification procedure to be applied), on a pragmatic level both will be closely linked. For a future relationship different options[8] are available focusing around the British desire to maintain trade relations and have continued access to the single market. All of them tend to have drawbacks for the UK, though. Also, talks might not be quick and easy to conclude. Hence, there remains considerable uncertainty both with respect to the basic set-up for the course of the negotiations and their potential outcome. In most scenarios the UK would have to negotiate trade deals with its other global trade partners as it would no longer trade under the EU or EEA banner.

A first option could be a new structured relationship between the EU and the UK for which the withdrawal treaty establishes custom-made arrangements. The UK would likely follow a sectoral approach by trying to "pick and choose" among policies beneficial for the country such as full access to the internal market while at the same time rejecting commitments that are against UK's interest or unpopular among the British public. This strategy of "cherry picking" has no big sympathy among EU members let alone the European institutions. Member states' interests will be affected in different ways. In this context it should be remembered that the European Council has to agree on the guidelines for an (extended) withdrawal agreement unanimously which means that each member country has a veto on the guidelines. The EU would insist that free movement of goods, services, capital and persons come in one package and that access to the internal market would require compliance with the respective rules and legislations. This is in particular true if the UK wanted to maintain the European Passport for financial services and avoid being determined "third country equivalent" which would negatively impact on London as financial centre. This comprehensive structured relationship would come without the UK having a say on the adoption of new laws and at continued financial contribution.

A second option could be the UK following the Norwegian example, i.e. re-joining the European Economic Area. This would have the advantage of simplicity as the legal framework exists. It encompasses participation in large parts of the single market and the four freedoms (incl. free movement of people) without the obligation to take part in other EU policies such as agriculture, home affairs or foreign and defense policy. However, EU rules on competition including state aid have to be followed. Also, since those countries are outside the EU's customs union, the EU applies "rules of origin" to its trade which means that if goods contain significant content from non-EU countries, EU tariffs are applied. Again, the UK would be bound to EU acts without being involved in decision-making and pay financial contributions unlikely to be much less than under current membership. Given the limitations to sovereignty connected with this PM Cameron has already voiced his reservation against such a model.

[8] For a deeper discussion on the options see Jean-Claude Piris "If the UK votes to leave: The seven alternatives to EU membership", CER paper January 2016

A third option for the UK could be to seek a Swiss-style agreement. Over the years Switzerland has concluded around 20 major agreements and more than 100 sectoral agreements with the EU but it has none on services, in particular on financial services. Switzerland is under no formal obligation to adopt EU legislation but EU legislation and rules still remain prevalent. It is neither bound by the judgments of the European Court of Justice or the EFTA Court. However, in practice, Switzerland has implemented EU acts into domestic rules and respects the interpretation of the ECJ. The formal bilateral relations have become difficult since the Swiss people in a referendum voted against unlimited immigration from the EU which would breach EU Treaties. A proposal by Switzerland to allow the country to introduce quantitative limits was rejected by the EU. The current stand-off has confirmed the EU in its longer held view[9] that this type of bilateral arrangement has significant shortcomings. In 2014 the EU Commission started negotiations with Switzerland with the clear aim to strengthen the obligations for Switzerland in the bilateral relations in return for continued access to the internal market. Given the uneasiness of the EU over how these bilateral agreements currently work – something mentioned in the context of the EEA as well – there will be low appetite for the EU partners to apply such a model to future EU-UK relations.

A fourth option could be to negotiate a free trade agreement. Yet, here the UK would seek to have a much more ambitious scope compared to those already in place around the world. Some observers point to the EU's agreement with Canada (which has sometimes been portrayed as a blueprint for TTIP). The CETA (Comprehensive Economic and Trade Agreement) is the broadest trade agreement the EU has negotiated so far. The five-year long negotiations on CETA were concluded in 2014. Provided approval by the EU Council and the European Parliament (and Canadian legislation, of course) it could enter into force in 2017. The agreement will eliminate tariffs on all industrial (and agricultural) products but differences in regulations and standards will remain and constitute barriers to trade. More important, financial services are excluded from the agreement which means that many services in the EU cannot be provided without establishing a subsidiary in Europe. Thus, the internal market with lower cross-border restrictions, harmonised standards etc. is a different economic animal. For the UK to enjoy access to this market the EU will likely insist on the UK keeping up with common legislation to ensure a level playing field for all market participants. This includes applying a number of horizontal measures such as health and safety standards, consumer protection or competition rules. In particular the European Parliament would demand these obligations to be part of the agreement.

There are other alternatives to EU membership for the UK including – in the extreme - simply operating under WTO rules. Yet, neither these nor the four scenarios discussed above would solve the dilemma the UK is facing in building a new relationship with the EU: fully fledged access to the Single Market, in particular to financial services, is unlikely to come without obligations in other policy areas and constraints to the UK's sovereignty that will not be mitigated by the formal influence enjoyed as a proper EU member.

Going forward: uncertainty and volatility will increase

The strong interest of the EU partners to keep Britain in - and avoid the negative repercussions of a Brexit for the EU itself – is reflected in the draft settlement that broadly accommodates the British demands. The reform deal, still likely to be concluded at the upcoming EU summit on February 18/19, will

[9] Limits were already stated in the December 2010 declaration of the European Council.

present a clear plan for the EU Commission to review secondary legislation and political commitments by the EU partners to incorporate British demands in the next Treaty revision. The binding character of the declaration will likely resemble the so-called Edinburgh compromise struck by Denmark in 1992. The exact date for the referendum still needs to be fixed with some media reports pointing to June or September 2016.[10] However, despite this favourable deal the referendum itself remains a risk given the inherent unpredictability of popular plebiscites. The polls show a very close call between the in and the out camps - without providing a clear trend, though.

A leave vote in the referendum would open up a political and economic vacuum. The uncertainty over the future relationship between the EU and the UK will negatively impact markets. This uncertainty could well last for a longer period of time despite the fact that the EU treaties provide for the withdrawal of a member state. Much depends on how soon member states are prepared to return to the negotiating table. The election cycle with the Netherlands, France, Germany and maybe Italy going to the polls in 2017 might not help to focus attention on this difficult process.

There are a number of options on how to build a new relationship between the EU and the UK in the event of Brexit. None of them seems to be attractive enough to satisfy the British economic and political interests at the same time. Bearing in mind the negative impact for the European economy and policies such as foreign and security policy the EU will constructively seek a new agreement, but access to the Single Market will not come without a price for the UK. Negotiations and related uncertainty over the final details might take longer than perceived by many.

Barbara Boettcher (49) 69 910 31787

[10] For an indicative timeline House of Commons Briefing Paper 7486 „The EU referendum campaign“, 27 January 2016, http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7486

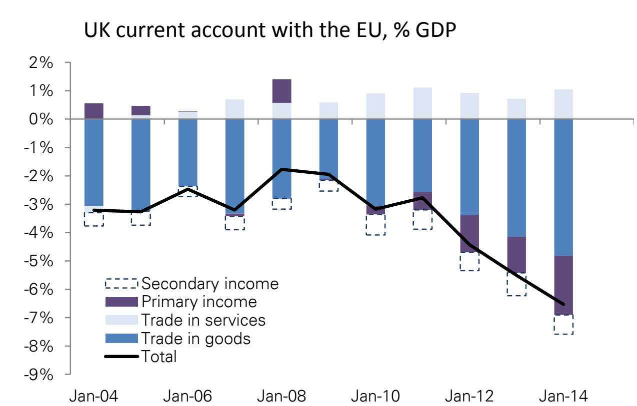
3. Impact of Brexit on Sterling

- Our structurally bearish sterling view is based on a slowing of the UK cycle, renewed fiscal tightening and downside risks to UK capital inflows rather than political risks. A possible British exit from the EU due to an 'out' vote in the coming referendum presents another tail risk for the pound, however. We will present a detailed analysis of "Brexit"'s implications for sterling in an upcoming special report. In the meantime, our discussion here outlines three transmission mechanisms for the pound in the event of an EU exit.

Brexit could see an improving UK current account

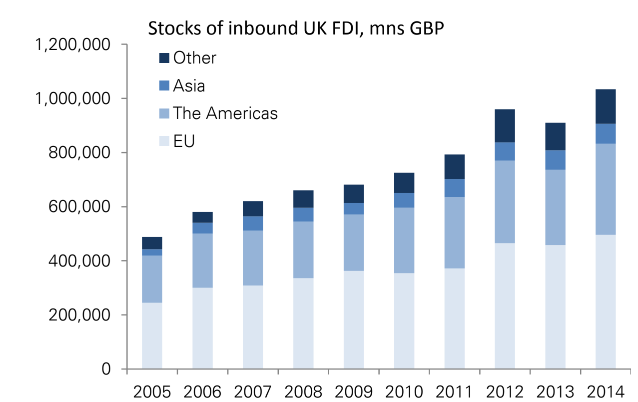
A British exit from the EU could result in higher import and export tariffs and non-tariff barriers to trade. This would impact the UK's current account. The UK currently runs a sizeable current account deficit with the EU, at over 6.5% GDP (Figure 3.1). This is mainly due to wide deficits in the goods and primary income balances (at nearly -5% and -2% of GDP respectively), while the UK runs a modest surplus in services (1% GDP). Assuming tariffs and non-tariff barriers are applied symmetrically by the EU and UK, an EU exit might therefore be expected to improve the trade in goods deficit and worsen the trade in services surplus, at least in the short term. As the goods deficit is significantly larger, the overall effect should be to narrow the UK's trade deficit due to import compression.

Figure 3.1: The UK's current account deficit with the EU mostly concentrated in goods and primary income



Source: Deutsche Bank, ONS

Figure 3.2: The EU is the largest source of inbound UK FDI



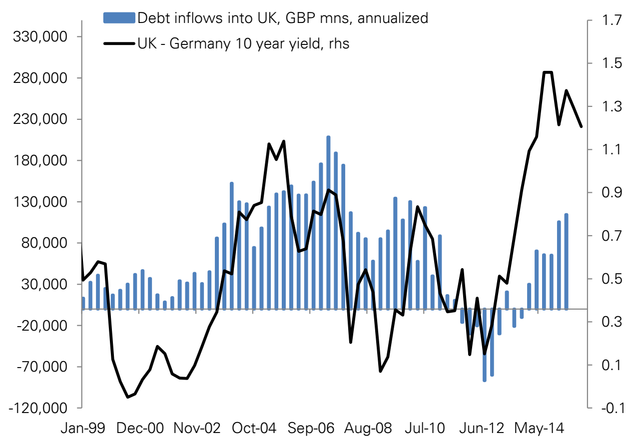
Source: Deutsche Bank, ONS

An offset may be that non-tariff barriers on the UK's services exports are higher than any tariffs on goods imports. Another is that if a UK exit is accompanied by a much weaker currency, this may worsen the trade balance in the short term due to the J-curve effect. Most importantly, it is unclear to what extent if at all tariff and non-tariff barriers would be imposed in the result of Brexit. This will depend on the outcome of negotiations between the UK and its former EU partners. We aim to discuss the potential impact of Brexit on the UK's external balance in more detail in the upcoming special report.

But also see capital inflows shrink

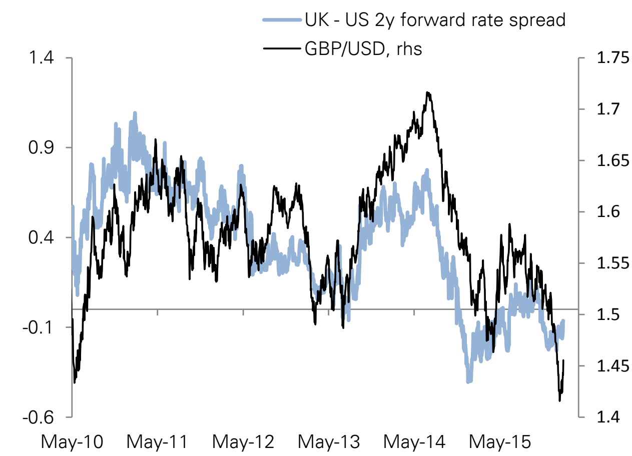
In recent decades, sterling has tended to have a weak or even negative relationship with the UK's current account. By contrast it has been positively correlated with changes in the financial account. The UK has generated record foreign direct investment (FDI) and portfolio inflows in recent years. If a UK exit from the EU were to result in a slowing of inbound foreign capital, this would have a negative impact on the pound.

Figure 3.3: A more dovish Bank of England would weigh on fixed income inflows into the UK



Source: Deutsche Bank, Bloomberg Finance LP, Macrobond

Figure 3.4: And imply a weaker pound through rate differentials



Source: Deutsche Bank, Bloomberg Finance LP

On the FDI side, there are two reasons why a UK exit could result in smaller inflows. First, EU investment represents approximately half of the UK's inbound FDI stock, and a change to the UK's trading or regulatory relationship with the EU could mean companies have less incentive to invest, and may even disinvest. While there is some evidence that the UK's place in the Single Market has been a positive factor influencing both EU and other foreign companies' investment in the UK, disentangling this from others, such as the UK's relatively low rate of corporation tax or business-friendly regulatory environment, is extremely difficult. A more obvious cause of slowing inbound FDI would be uncertainty. A UK exit from the EU would see an up-to two year period of renegotiation, with many aspects of the UK's economic, legal and regulatory relationship with its largest trading partner set to change. Corporates could delay potential investment decisions until the outcome of this is known.

More dovish monetary policy could arrest portfolio inflows

Slowing FDI could be exacerbated by smaller portfolio inflows if a UK exit from the EU resulted in a more dovish Bank of England, as our economist expects (see Macro Section 1 of this publication). A key element to our bearish sterling call was the Bank of England's dovish turn since November last year. Without support from a near-term tightening cycle, the UK will find it difficult to sustain very large portfolio inflows with fixed income inflows closely tracking UK rate spreads (Figure 3.3). Insofar as a UK exit could encourage the Bank of England to delay tightening further, or even to ease policy to offset business or consumer uncertainty, this would reinforce bearish dynamics. An additional risk, highlighted by our rates strategy team in this report, is that UK exit from the EU sees a rating downgrade, seeing further foreign selling of UK fixed income.

Conclusion

A UK exit from the EU is likely to negatively impact sterling and may see our existing forecasts of GBP/USD 1.15 by end-17 and EUR/GBP 0.82 by end-19 front-loaded. A potential pause in FDI inflows due to uncertainty about the UK's future relationship with the EU, and a more dovish Bank of England are the clearest transmission mechanisms for FX. We intend to provide a fuller analysis of the impact of "Brexit" on the pound for investors in our upcoming special report.

Oliver Harvey (44) 20 7545 1947

4. Impact on Rates Markets

- The approaching EU referendum represents the major UK specific dynamic for fixed income over the coming year. We assess the potential impact on the rates market, analysing the shorter term implications in the run up to the vote as well as the more fundamental drivers of UK fixed income from a flow perspective.
- The analysis suggests the run up to the vote could see an underperformance of UK cash in particular, with the curve steepening and gilts underperforming on a cross market basis in an environment of rising uncertainty as the vote approaches.
- At the same time, the front end will likely remain well anchored, with the market unable to reprice the current push back of Bank of England hikes until clarity over the vote result emerges. In the case of a vote to leave, we would not expect the MPC to tighten policy through the negotiation period, and the market to increase the pricing of cuts at the very front end.
- From a flow perspective, non-resident investors are likely to reduce inflows over the coming months with the potential, should uncertainty and Brexit probability rise, of an increase in outflows from gilts. In the case of a vote for exit, non-resident selling could be exacerbated by concerns over the UK's rating, with S&P due a rating review at the end of October. The issuance outlook is also likely to be impacted, with an early referendum vote (ie. June) potentially leading the DMO to limiting the duration of supply into the vote before backloading issuance once the market has settled following the result.

Gauging the market impact of the EU referendum

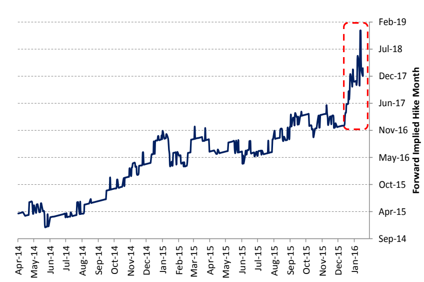
The impact of the upcoming referendum on UK fixed income can be considered in three stages – first, the behaviour of markets in the run up to the vote, second, the reaction upon a "remain in" vote and third, the reaction upon a "leave" vote. It is important to note, however, that the upcoming referendum will represent only one of many drivers of UK fixed income over the coming months. Especially in the near term, global macro sentiment should continue to dominate price action with UK fixed income largely following the moves in European and US rates. The extent to which the UK breaks correlation in the run up to the vote depends on the extent to which the market expects a close referendum result, with increased uncertainty likely as we head into the referendum, together with potential concerns of a vote to leave, increasing the importance of the referendum in driving UK price action.

Implications at the front end

Focusing first on the front end, the market has already pushed back expectations of Bank of England tightening significantly, with the first hike pushed past 2018 and a 60% chance of cuts priced into the short sterling curve (Figure 4.1). In the run up to the vote, it is unlikely the market can reprice significantly from current levels, with external risks to the UK outlook together with the impact Brexit uncertainty could have on near term growth almost certainly keeping the MPC on hold. Front end risk barometers (for example FRA-OIS spreads) would also be expected to continue to widen in the run up to the vote should uncertainty over the result increase (see Figure 4.2).

Looking to the result itself, a vote to remain is already effectively taken into account in the Bank's latest forecasts from the February IR which largely validated the path of current pricing. Therefore, in the case of a vote to stay,

Figure 4.1: The first hike has already been significantly pushed back by the market

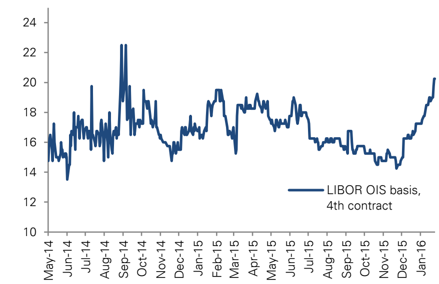


Source: Deutsche Bank

the UK front end will continue to price a slow path to normalisation, subject to the global risk outlook.

In the event of a vote to leave, however, it is likely the MPC would not raise rates throughout the two year post vote negotiation period. What's more, in the immediate aftermath, the market would increase pricing of rate cuts at the front end, with any weakness in the data likely to further exacerbate this. Ultimately the path of the MPC following a "leave" vote is highly dependent on the broader macro environment, but in the short term at least, market expectations of sustained dovishness from the committee will need to increase.

Figure 4.2: Libor-OIS basis has widened but remains below the highs of the Scottish vote



Source: Deutsche Bank, Bloomberg Finance LP

Lessons from the Scottish referendum and general election

The experiences of the Scottish referendum and recent general election provide a guide to the potential market moves in the run up to the vote. This analysis would suggest the majority of event-related impact is felt in cash, with the curve steepening while on a cross-market basis underperformance can be seen against the US.

We compare the performance of a range of assets from the period three weeks before each event to the day before. Given the outcome of both the Scottish referendum and general election led to what were seen as more market-friendly outcomes, we can compare the change in the assets in the week following the result, when the market retraced towards the status quo, to get an indication of the impact on prices due to the upcoming vote.

Figure 4.3: Performance of UK assets over the Scottish referendum period

Name	28-Aug-14	17-Sep-14	Change (bp)	25-Sep-14	Change over subsequent week (unwind of pricing)
GBP EUR	1.26	1.26	0.1 %	1.28	**1.6 %**
GBP USD	1.66	1.63	-1.5 %	1.63	**-0.1 %**
GBP Trade Weighted	86.98	86.78	-0.2 %	87.72	**1.1 %**
UKT 2 Year Note	0.85	0.85	0.0	0.84	**-1.6**
UKT 5 Year Note	1.72	1.82	10.4	1.80	**-2.1**
UKT 10 Year Note	2.37	2.52	14.6	2.45	**-7.2**
UKT 30 Year Note	2.97	3.17	19.9	3.06	**-10.7**
GBP 2Y Swap	1.23	1.26	3.1	1.26	**-0.3**
GBP 5Y Swap	1.92	2.02	10.0	2.02	**-0.3**
GBP 10Y Swap	2.40	2.56	16.1	2.53	**-3.9**
GBP 30Y Swap	2.79	2.97	18.6	2.89	**-8.5**
UKT 5s10s	65.47	69.60	4.1	64.49	**-5.1**
UKT 10s30s	59.54	64.84	5.3	61.41	**-3.4**
UKT '45-'68 slope	-0.04	-0.03	0.4	-0.04	**-0.3**
GBP risk premium (5s10s hedged with 2s)	77.67	84.50	6.8	80.85	**-3.7**
US-UK 5Y Cash	-8.52	0.92	9.4	-4.82	**-5.7**
US-UK 10Y Cash	-3.54	10.25	13.8	5.74	**-4.5**
US-UK 30Y Cash	10.75	20.33	9.6	15.26	**-5.1**
UK-EU 5Y Cash	153.52	161.81	8.3	162.38	**0.6**
UK-EU 10Y Cash	148.80	146.76	-2.0	147.20	**0.4**
UK-EU 30Y Cash	123.33	116.36	-7.0	114.64	**-1.7**
G A ASW	7.13	7.87	0.7	9.48	**1.6**
GBP swap spread 5Y	20.43	20.23	-0.2	21.78	**1.6**
GBP swap spread 10Y	4.49	3.93	-0.6	7.63	**3.7**
GBP swap spread 30Y	-17.62	-19.52	-1.9	-16.73	**2.8**
GBP swptn norm atm 1Y30Y	60.55	63.33	2.8	58.82	**-4.5**
FTSE 100	6805.80	6780.90	-0.4 %	6639.71	**-2.1 %**
UK 10Y inflation swap	3.19	3.23	0.0	3.21	**-2.0**
UK 30Y inflation swap	3.48	3.55	0.1	3.52	**-2.7**
UK Breakeven 10 Year	2.83	2.84	1.8	2.82	**-2.6**
UK Breakeven 30 Year	3.26	3.33	7.0	3.34	**0.5**

Source: Deutsche Bank, Bloomberg Finance LP

Figure 4.3: Performance of UK assets over the 2015 general election

Name	16-Apr-15	06-May-15	Change (bp)	14-May-15	Change over subsequent week (unwind of pricing)
GBP EUR	1.39	1.35	-3.3 %	1.38	**3.0 %**
GBP USD	1.49	1.52	2.1 %	1.58	**3.5 %**
GBP Trade Weighted	89.36	88.46	-1.0 %	91.27	**3.2 %**
UKT 2 Year Note	0.47	0.57	9.6	0.54	**-3.3**
UKT 5 Year Note	1.21	1.48	27.6	1.46	**-1.9**
UKT 10 Year Note	1.61	1.98	37.7	1.98	**-0.2**
UKT 30 Year Note	2.34	2.64	30.2	2.67	**2.4**
GBP 2Y Swap	0.90	1.04	14.0	1.01	**-3.4**
GBP 5Y Swap	1.35	1.63	27.9	1.61	**-1.8**
GBP 10Y Swap	1.70	2.06	36.0	2.05	**-0.6**
GBP 30Y Swap	1.98	2.33	34.5	2.34	**1.1**
UKT 5s10s	40.05	50.04	10.0	51.79	**1.8**
UKT 10s30s	73.52	65.99	-7.5	68.55	**2.6**
UKT '45-'68 slope	-0.05	-0.07	-2.2	-0.08	**-0.8**
GBP risk premium (5s10s hedged with 2s)	56.65	68.11	11.5	68.50	**0.4**
US-UK 5Y Cash	9.32	10.28	1.0	4.01	**-6.3**
US-UK 10Y Cash	28.26	25.93	-2.3	24.77	**-1.2**
US-UK 30Y Cash	23.30	34.93	11.6	38.18	**3.2**
UK-EU 5Y Cash	135.72	139.52	3.8	135.12	**-4.4**
UK-EU 10Y Cash	152.22	139.78	-12.4	128.07	**-11.7**
UK-EU 30Y Cash	184.50	143.68	-40.8	128.89	**-14.8**
G A ASW	7.63	3.85	-3.8	5.23	**1.4**
GBP swap spread 5Y	14.14	15.16	1.0	14.25	**-0.9**
GBP swap spread 10Y	8.26	7.67	-0.6	7.13	**-0.5**
GBP swap spread 30Y	-35.72	-31.40	4.3	-32.77	**-1.4**
GBP swptn norm atm 1Y30Y	82.61	85.62	3.0	83.75	**-1.9**
FTSE 100	7060.45	6933.74	-1.8 %	6973.04	**0.6 %**
UK 10Y inflation swap	2.97	3.13	0.2	3.13	**-0.2**
UK 30Y inflation swap	3.42	3.54	0.1	3.51	**-2.8**
UK Breakeven 10 Year	2.61	2.71	9.1	2.74	**3.2**
UK Breakeven 30 Year	3.26	3.37	11.1	3.36	**-1.6**

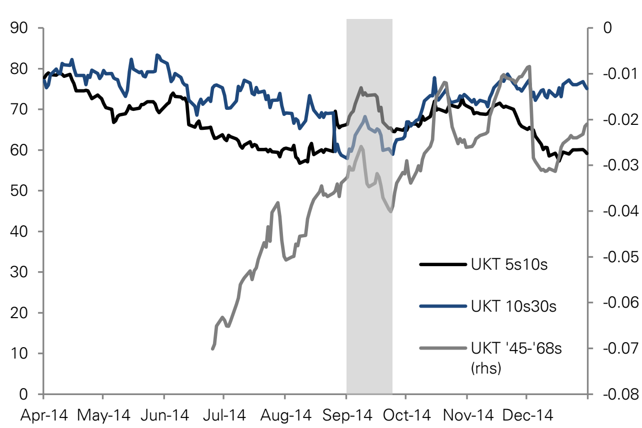
Source: Deutsche Bank, Bloomberg Finance LP

The tables above show the moves for our asset sample over the Scottish referendum and general election. Focusing on the assets, the cash market sold off, with yields higher on the day before the votes than at the start of the sample period. By comparing the change in the week following the votes' results, the analysis suggests the greatest underperformance before the Scottish referendum was seen in longer-end yields with the 10Y and 30Y rallying 7bps and 11 bps, respectively, in the week following. At the same time, however, the general election saw more of a reversal at the front end, with a 3bp and 2bp rally in the 2Y and 5Y points following the results.

From a curve perspective, the analysis would also suggest the potential for steepening in the run up to the vote should we repeat the Scottish experience. Here the cash curve flattened back 4-5bps in 5s10s and 10s30s in the aftermath of the result, while at the longer end the slope between the 45s and 68s also flattened back.

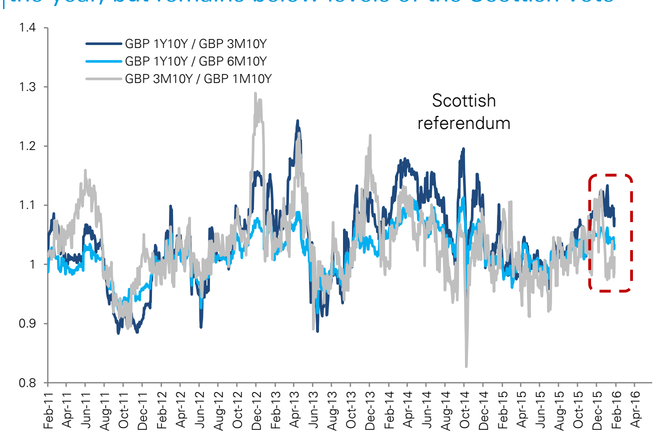
On a cross-market basis the market impact is less clear, with underperformance seen against the US but outperformance vs. Europe. Against the US, in the week following the Scottish results the UK outperformed the US by ~5bp across the 5Y, 10Y and 30Y points. During the 2015 election, a similar move was observed, but more in the front end with 5Y UK outperforming 6bps while the 30Y point underperformed the US. Against Europe, the analysis would suggest the UK outperformed over the Scottish referendum period, suggesting moves in Europe perhaps dominated as drivers of the spread. Taken together, the cross-market moves suggest the UK could underperform vs. the US as we approach the EU referendum vote, with the 5Y and 10Y points most vulnerable.

Figure 4.5 – The cash curve steepened before flattening back after the Scottish referendum result



Source: Deutsche Bank, Bloomberg Finance LP

Figure 4.6: Vol has already picked up since the start of the year, but remains below levels of the Scottish vote



Source: Deutsche Bank

The analysis would therefore suggest that as we approach the EU referendum, an increase in political uncertainty could act to cheapen cash, steepen the curve and drive UK underperformance vs. the US.

Focusing on the inflation market, we would not expect a significant impact from Brexit concerns on inflation breakevens in the run-up to a June referendum. Indeed, the experience of the Scottish vote and general election would support the view that the inflation market should be largely steady in the run up to the referendum. The impact on economic activity should be limited, and while potentially higher risk aversion and lower foreign participation could be negatives, in terms of the inflation outlook this should be offset by a weaker exchange rate. Global factors, from commodity prices and changes to growth or policy prospects to concerns about banking sector health have recently been the main driver of B/E valuations, at least at the shorter-end, and we would expect this to continue to be the case in the coming months.

Trends in local realized inflation matter, but the currency would be the main avenue through which Brexit uncertainty could impact the latter, implying some upside risks everything else being equal. At the long-end, we would not expect pension fund demand for inflation hedges, nor UKTi issuance trends to be significantly affected in the run up to a June referendum; the second IL gilt syndication of the calendar year could be expected to take place in late July as was the case in 2009 to 2014.

The post-result outlook

In the event of a vote to stay we would expect the market to return quickly to the status quo, unwinding the potential impact of increased risk premia. This would indicate a flattening back of curves together with a richening of UK cash in the aftermath of a “remain” vote.

In the case of a vote to leave, however, the market dynamics would be more volatile. In the immediate aftermath, concerns over a rising UK risk premium would be likely to steepen curves (especially if the front end is rallying thanks to expectations of MPC dovishness) while the UK should underperform on a cross market basis.

However, looking further out, the path of growth and inflation will be an important determinant of fixed income moves. A slowdown in growth due to a UK exit could weigh on the macro trajectory, lowering inflation expectations and supporting lower yields. What’s more, further accommodation from the Bank of England in the event of a UK slowdown could also help support a richening in rates. Such a slowdown would suggest, therefore, that after the initial steepening in curves following a “leave” vote, the path for UK yields could be lower, driven by a deteriorating macro outlook and expectations of further central bank easing. At the same time, the expected sharp depreciation in sterling would give some offsetting support to the inflation trajectory, and could provide some support to the inflation market.

The flow dynamics around the EU referendum

Looking to the flow dynamics, rising uncertainty as we approach the referendum is likely to impact non-resident holdings of gilts, where we would expect inflows to fall as the vote approaches, turning to outflows should sentiment shift towards a “leave” vote as the most likely outcome.

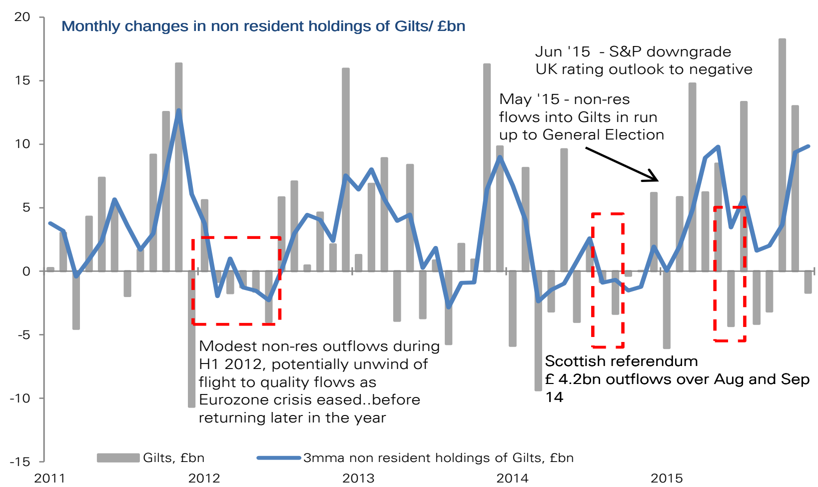
Comparing previous periods of political uncertainty would suggest non-resident outflows pick up around periods of stress. Over August and September 2014, in the immediate run up to the Scottish referendum, GBP 4.2bn of outflows were recorded and the most recent data point (Dec-15) indeed suggests some reversal in the recent trend of gilt inflows, with a GBP 1.7bn outflow by non-resident investors. On the other hand, in the run up to the 2015 general election non-resident investor demand for gilts remained robust.

Structural drivers would also suggest potential for gilt outflows over 2016. Our FX strategists[11] have estimated GBP has an overweight share in Chinese FX holdings suggesting a further drawdown of reserves would represent an important marginal seller of UK fixed income. What’s more, non-resident

[11] For more details see “RMB: Measuring capital flows,” by Perry Kojodjojo, 25-Sep-2015

flows may also be at least partly sensitive to movements in the oil price given Middle Eastern reserve managers' portfolio allocations towards gilts. This would suggest further reductions in their reserves due to persistently low oil prices could also support gilt outflows. Together with potential referendum related outflows should polls deteriorate, FX reserve managers' drawdown also represents an important source of sellers of gilts over the coming year.

Figure 4.7: Non-resident outflows are likely to pick up in the run-up to the referendum based on the trends over previous risk events



Source: Deutsche Bank, Bank of England

Upon a vote to remain in the EU, we would expect Brexit related outflows to reverse, with foreign investors returning to gilts given the reduced geo-political risk as well as the yield pick relative to European fixed income.

In the opposing scenario, non-resident holdings of gilts would likely fall further in the aftermath of a "leave" result. Looking forward, concerns over the stability of the UK's could also to disposal of non-resident holdings of gilts.

At present S&P represents the last of the big three rating agencies to rate the UK AAA with a potential rating change due on the 28th October 2016. As a result, the 28th October review could represent the first opportunity following the referendum result for the UK, which is already on negative outlook with S&P, to be downgraded from AAA.

Figure 4.8: Upcoming UK rating review dates

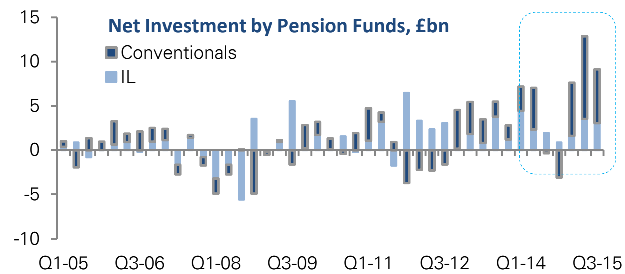
Rating Agency	Current rating	2016 rating review dates		
S&P	AAA	-	29-Apr-16	-
Moody's	AA1	29-Jan-16	27-May-16	23-Sep-16
Fitch	AA+	-	10-Jun-16	09-Dec-16
DBRS	AAA	08-Jan-16	08-Jul-16	-

Source: Deutsche Bank, S&P, Moody's, Fitch, DBRS
*These rating review dates are published to comply with European Commission legislation

In terms of the impact, when S&P downgraded the UK's rating outlook to negative in June '15, this was associated with a GBP 4bn non-resident outflow from gilts. Looking towards the post-Brexit rating, therefore, an expectation that S&P might decide to downgrade the UK from AAA could lead to similar outflows from non-resident investors thanks to concerns over the UK's macro fundamentals which may have provoked such a downgrade together with selling from managers subject to a triple A rated investible mandate.

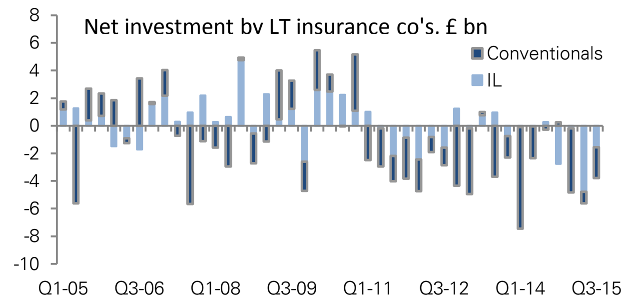
Turning from non-resident investors to domestics, the case for outflows from gilts is less clear. Here, the latest data suggest pension fund demand remains strong across both conventional and inflation linked paper while on the insurance side managers have been disposing of gilt holdings (although at the same time holdings of mutual funds have increased, potentially offsetting the direct fall in gilt holdings.) Given the liabilities against which these managers are hedging will be UK focused, and tied to the result of the referendum, we would expect demand for gilts to be steadier here.

Figure 4.9: Pension fund demand has remained robust…



Source: Deutsche Bank, ONS

Figure 4.10: …while insurance has been disposing of gilt holdings

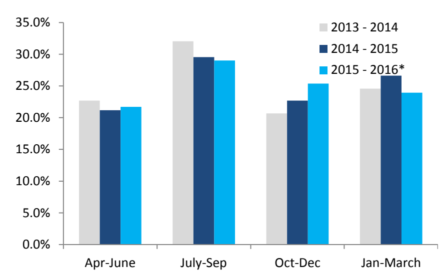


Source: Deutsche Bank, ONS

The timing and result of the referendum will also have implications from the supply perspective, with the DMO likely to reduce the duration of issuance in the run up to the vote to prevent any uncertainty weighing on the success of issuance. Indeed, during the Scottish referendum a similar dynamic was observed, with the DMO reducing the duration of issuance relative to the year before in the run up to the vote before then backloading issuance over the final quarters of the fiscal year.

Extrapolating these observations to the upcoming referendum would therefore imply reduced issuance in the run up to an early vote (e.g. June 23rd) which would then be paid back in duration terms over the remaining fiscal year. For an early vote (e.g. June 23rd) the opportunities to re-allocate a June syndication earlier in the year are limited, suggesting we could get a nominal syndication in either April or the first half of May, with the DMO taking care to choose a bond which is in good demand by investors. A September vote, on the other hand, would likely see issuance front loading until June before then easing back in advance of the vote. Given the June date is seen as the most likely scenario following an agreement at the upcoming February summit, our base would be for a modest decline in the duration of issuance into the referendum before, upon a vote to stay in, the issuance calendar will then pick back up over the period from July onwards.

Figure 4.11: The DV01 distribution of issuance shows a back loading of issuance following the Scottish vote



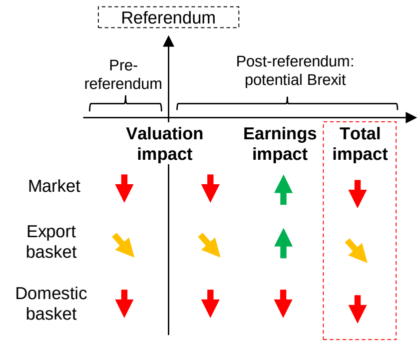
Source: Deutsche Bank, DMO

Jack Di Lizia – London - (+44)207 5451865
Markus Heider – London – (+44)207 5452167

5. Impact on Equities

- In our analysis of the referendum's impact on UK equities, we differentiate between the period in the run-up to the referendum and the period after a potential vote to leave the EU. Ahead of the referendum, the main impact on equities would be via valuations, in our view, while earnings growth would only be affected - compared to our current baseline assumptions - if the referendum leads to a British exit from the EU.
- Ahead of the referendum, we believe, rising uncertainty and a tightening of financial conditions should weigh on equity valuations. We expect the 12-month trailing P/E for the UK equity market to de-rate by 8% from its current multiple of 14.5x, to a multiple of 13.3x.
- If Brexit were to happen and the currency devaluation were more permanent, earnings growth would likely improve, according to our model, despite the domestic economic slowdown. This outcome results from the high international exposure of UK companies, which generate around 70% of their revenues outside the country. In aggregate, however, as we expect uncertainty to rise further in such a scenario, the potential positive impact on earnings would be more than offset by a further de-rating in the P/E. We estimate that following a Brexit vote, the UK equity market would be facing 15% downside from current levels until year-end.
- In order to account for the significant foreign exposure, we analyse two thematic baskets. The first basket comprises 36 non-commodity exporters with a large foreign revenue base (>80% of revenues foreign), while the second basket contains 29 non-commodity companies which generate most of their revenues in the UK (>75% of revenues domestic).

Figure 5.1: A substantial earnings impact only after the referendum



Source: Deutsche Bank

Figure 5.2: UK equities' foreign sales exposure is exceptionally high

	Sales exposure (% of 2014 sales)	
	Domestic	Rest of the world
FTSE 100	30%	70%
DAX	40%	60%
CAC40	38%	62%

Source: Bloomberg Finance LP, Datastream, Company Data, Deutsche Bank

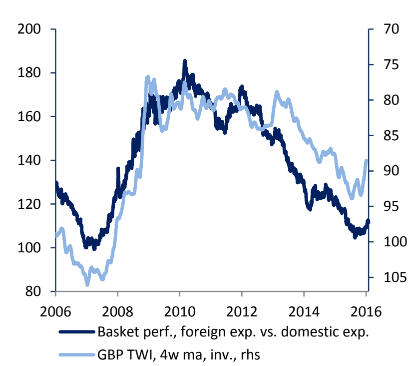
Uncertainty ahead of the referendum

In the run-up to a referendum, valuations would likely be affected materially, while the impact on earnings should remain negligible, in our estimate. We believe P/Es would be affected through three channels:

(a) A substantial depreciation of sterling

We expect the current depreciation of the GBP against major currencies to accelerate if polls fail to indicate a clear vote in favour of EU membership. This would come as a result of a reversal in capital flows and the market discounting looser BoE policy. A 5% drop in the trade-weighted basket seems reasonable under these assumptions. It would reduce our implied P/E by 0.2 points.

Figure 5.3: Our foreign basket tends to outperform if sterling weakens



Source: Datastream, Deutsche Bank

(b) An increase in risk aversion, leading to widening in credit spreads

We are using the iBoxx sterling 10Y financials BBB as a gauge for risk aversion. The index correlates well with UK sovereign CDS (R-sq of 72%) and is a statistically significant indicator for market stress in our P/E model. The index is currently trading at a yield of 5% and at a 400bps spread over 10-year gilts. In the run-up to a close vote, we would assume the spread to approach the peak levels we have seen during the euro crisis in 2011, roughly 200bps above today's levels. According to our P/E model, a 200bps rise in spreads translates into 0.6 points off the P/E

(c) Slightly weaker macro momentum

We assume that the rise in financial market stress would negatively affect economic activity. However, the impact should remain modest, given the temporary nature of the stress in the pre-referendum period (assuming of course a vote to remain in the EU), and the lagged transmission channel. As a consequance, a move in the UK composite new orders component - for which we found the highest level of confidence in our model - from 55.7 in December to a level of 53 seems reasonable. This would take another 0.4 points off the market P/E.

The impact on valuation

Our P/E model for the entire UK market, based on the MSCI UK, implies a 12-month trailing P/E of 13.3x under the assumptions outlined above. This implies around 8% downside to the current market P/E of 14.5x. Our foreign basket would be more resilient due to a positive currency effect. Our model implies a P/E of 14.9x, which compares to the current level of 16.1x, a downside of 7%. Our domestic basket is currently trading on a 12-month trailing P/E of 14.6x. Given the above assumptions, this would also drop to 13.3x, indicating 9% downside from current levels.

If Brexit were to happen

The shape of a post-Brexit agreement remains uncertain and further repercussions, e.g. a potential repeat of the independence referendum in Scotland, are difficult to assess. These uncertainties make it hard to calibrate specific assumptions on post-Brexit stress factors. We consider a scenario somewhere between the extremes (i.e. a transition into a post-Brexit relationship with the EU that is not overly smooth, but also does not involve a total break-down of negotiations). Under this scenario, besides a substantial further de-rating, we believe earnings would be heavily affected. This is mostly driven by two factors:

Figure 5.4: If polls fail to indicate a clear vote for EU membership, we assume a 5% drop in the GBP TWI

Stress assumptions pre-referendum		
	Stress levels	Current level
GBP TWI, change	-5%	na
UK PMI comp new orders, level	53	55.7
iBoxx £ 10Y Financials BBB, yield	7.0%	5.0%

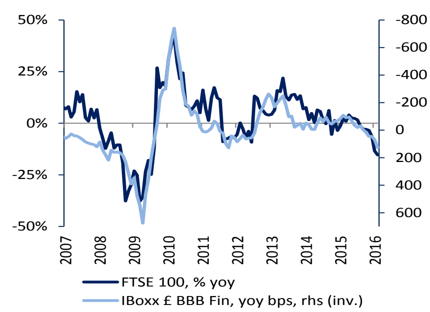
Source: Bloomberg Finance LP, Markit, Deutsche Bank

Figure 5.5: Ahead of the vote, we expect a market de-rating of 8%

12m trailing P/E impact pre-referendum			
12m trailing P/E	Implied	Current level	Upside/ downside
Market	13.3	14.5	-8%
Foreign basket	14.9	16.1	-7%
Domestic basket	13.3	14.6	-9%

Source: Datastream, Deutsche Bank

Figure 5.6: UK equities have been moving in line with credit spreads



Source: Datastream, Markit, Deutsche Bank

(a) A sustained weakness in sterling

We assume the GBP TWI to fall by an additional 5% from the level reached under our referendum scenario (i.e. a total depreciation of 10%). Once again, exporters would benefit disproportionately, while the impact on earnings of domestically-focused stocks is more ambiguous. The immediate impact of a sharp devaluation on consumer spending would likely be negative, as purchasing power would be lowered due to rising import prices. Over the longer term, conventional wisdom suggests an improving external balance and a positive GDP impact. However, the post-crisis experience in the UK has shown that a sharp devaluation does not necessarily lead to a substantial pick-up in export growth. Our earnings model suggests that a 10% devaluation in sterling boosts UK EPS growth by 14 percentage points (remember, we hadn't taken this impact on earnings into consideration in our tight-referendum scenario, as we assumed the market would regard that weakness as temporary).

(b) An economic slowdown

As mentioned above, any potential GDP stress figure should be regarded as a preliminary assumption, given that the macroeconomic impact depends on the negotiation process as well as the final results. Both these factors are difficult assess from today's point-of-view. For the purposes of the analysis in this section, we assume a fall in UK GDP growth to close to 0% (from the current annual growth rate of 1.9%). This would be consistent with a decline of the domestic PMI (composite new orders) to around 49. According to our UK earnings model, such a drop in the PMI would reduce EPS growth for the UK market by around 8pp.

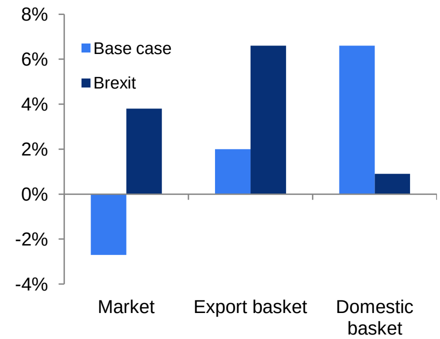
The aggregate impact on EPS growth

Overall, the combined impact of the economic slowdown and the currency depreciation would lift EPS growth to 3.8%, 6.5pp above our current baseline of -2.7%. Our export basket's EPS would rise to 6.6%, 4.6pp above the baseline assumption of 2.0%. Lastly, EPS growth for our domestic basket would suffer in such a scenario. The projected EPS growth figure of 6.6% for 2016, would drop to 0.9%, largely a result of the drop in domestic growth momentum, while the currency move does not have a significant impact on the basket's EPS forecast.

The impact on valuation

Post-referendum we would assume another 200bps widening in credit spreads. Combined with a further 5% drop in sterling and GDP growth slowing to 0%, our model suggests a drop in the market's 12-month trailing P/E to 11.8x, 18% below the current level of 14.5x. The P/E on the export basket would de-rate by 16%, from currently 16.1x, to 13.5x, according to our model. The effect on domestically-focused equities would be most pronounced. We would expect their P/E to decline to 10.1x, 31% below the current level of 14.6x.

Figure 5.7: 2016 earnings would receive a boost from FX post Brexit



Source: Deutsche Bank

Figure 5.8: If Brexit were to happen, market stress is set to rise…

Stress assumptions post-referendum	Stress levels	Current level
GBP TWI, change	-10%	na
UK PMI comp new orders, level	49	55.7
iBoxx £ 10Y Financials BBB, yield	9.0%	5.0%

Source: Bloomberg Finance LP, Markit, Deutsche Bank

Figure 5.9: …and multiples would likely de-rate by another 10%-20%

12m trailing P/E impact post-referendum 12m trailing P/E	Implied	Current level	Upside/ downside
Market	11.9	14.5	-18%
Export basket	13.5	16.1	-16%
Domestic basket	10.1	14.6	-31%

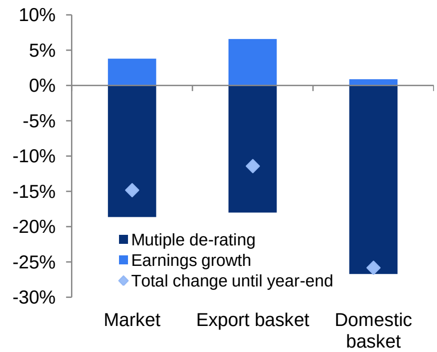
Source: Datastream, Deutsche Bank

The results

Combining the projected changes in valuations and EPS expectations over the coming year, we would pencil in 15% downside for the entire market and 26% for the domestic basket under a Brexit scenario. The foreign basket would gain on EPS but de-rate due to a rise in uncertainty and a higher risk premium. The combined effect would be negative and leave 11% downside for the basket, compared to current levels.

We understand that this scenario analysis takes place against the backdrop of extraordinary market stress, during which the market has already declined by more than 15%. However, we point out that the current market P/E of 14.5x is still high in a historical context. Furthermore, in 2008, the UK market bottomed more than 35% below today's levels. As a consequence, we don't think an additional 15% downside from current levels is implausible.

Figure 5.10: We expect 15% downside if Brexit materialises



Source: Deutsche Bank

Wolf von Rotberg (44) 20 7545 2801

Figure 5.11: Our exporter basket

Company name	Rel perf (ytd, %)	DB recommendation	Valuation avg of StDev from LTA (- cheap/+ rich)	Sales in UK (%, 2014)
Carnival	-5.1	Buy	0.1	0%
Coca-Cola Hellenic	6.6	Hold	0.3	0%
Compass Group	20.3	Buy	2.0	0%
GlaxoSmithKline	18.1	Hold	0.8	0%
HSBC Holdings Plc	-5.6	Hold	-2.1	0%
InterContinental Hotels	-0.1	Hold	0.1	0%
Intertek Group	14.0	Hold	-0.1	0%
Sage Group	11.1		2.3	0%
Standard Chartered	-17.3	Hold	-0.8	0%
Hikma Pharmaceuticals	-1.8		0.4	0%
British American Tobacco	17.6	Buy	1.4	2%
Unilever Plc	19.6	Buy	2.0	3%
Mondi	5.7	Buy	0.4	4%
Smiths Group	12.9	Buy	-0.9	4%
ARM Holdings	-0.2	Hold	0.4	5%
CRH	-4.6	Hold	0.6	6%
Inmarsat	-1.2		0.9	6%
Smith & Nephew	4.8	Hold	0.0	6%
RB	12.2	Buy	1.4	7%
AstraZeneca	4.2	Buy	0.4	7%
Relx PLC	14.0	Buy	2.1	8%
Diageo	13.3	Buy	0.7	8%
Burberry Group	11.8	Hold	-0.7	9%
Rolls-Royce Group PLC	11.1	Sell	0.2	12%
Imperial Brands	20.5	Buy	1.0	12%
Pearson	17.8	Sell	-2.2	13%
GKN	-2.9		0.1	13%
WPP Group	5.5	Buy	0.6	14%
Wolseley	6.3	Hold	0.7	15%
Vodafone Group Plc	9.4	Buy	0.9	15%
Ashtead Group	-17.2		0.1	16%
Bunzl	12.7	Buy	2.3	18%
Experian	7.7	Buy	0.6	19%
Old Mutual PLC	2.0		0.1	19%

Source: DataStream, Deutsche Bank

Figure 5.12: Our domestic basket

Company name	Rel perf (ytd, %)	DB recommendation	Valuation avg of StDev from LTA (- cheap/+ rich)	Sales in UK (%, 2014)
Travis Perkins	2.6	Buy	0.3	100%
Hargreaves Lansdown	-11.5		1.1	100%
Land Securities	0.6	Buy	0.2	100%
Sainsbury	10.1	Hold	-0.5	100%
St James's Place	-4.2	Hold	0.2	100%
British Land	-0.2	Hold	-0.1	100%
Admiral	20.9	Hold	-0.1	100%
United Utilities	15.0	Buy	1.2	100%
Barratt Developments	4.4	Buy	0.5	100%
Provident Financial	0.5		2.3	100%
Persimmon	11.3	Hold	0.8	100%
Berkeley Group Hldgs	-1.5	Buy	0.1	100%
Intu Properties	2.5	Hold	-0.7	99%
Taylor Wimpey Plc	0.2	Buy	0.7	99%
SSE	4.2	Hold	-0.3	98%
Legal & General	-10.2	Buy	-0.1	97%
Whitbread	-0.1	Buy	0.7	97%
Capita PLC	5.6	Buy	-0.4	95%
NEXT	9.3	Hold	-1.0	94%
Sky plc	5.8	Buy	-0.6	94%
Severn Trent	13.4	Buy	1.9	92%
Marks & Spencer Group	7.6	Buy	-0.4	89%
Royal Mail	12.2	Hold	-0.9	83%
ITV PLC	3.7	Sell	0.6	82%
Babcock International	1.3	Buy	-0.3	78%
BT Group PLC	15.1	Sell	1.4	77%
Standard Life	0.4	Buy	-0.2	77%
Sports Direct International	-22.3		-0.4	76%
DCC	11.3		1.6	76%

Source: DataStream, Deutsche Bank

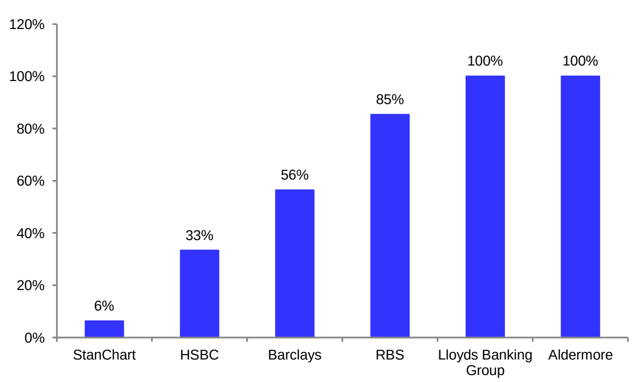
6. Implications for Banks

- We see the EU referendum as a risk for bank equity performance principally because of the uncertainty of the implications of Brexit for the outlook of the UK economy, and for the legal and regulatory framework of providing financial services into and out of the EU.
- We see two key areas for interpreting a potential 'out' vote for banks. *The first is the potential impact on profitability*: banks are highly cyclical, and we would expect UK bank operating performance to be closely tied to that of the UK economy, as well as any monetary policy or FX changes which result from the vote. A downturn in the UK economy is likely to lead to higher credit losses for UK banks, whilst looser monetary policy is generally negative for bank income generation.
- Most concentrated in the UK is Lloyds (almost entirely UK), challenger banks such as Aldermore (all UK), RBS (around 85% UK, remainder mainly in Ireland) and Barclays (around 50%). For HSBC and Standard Chartered the UK is not the home market.
- *The second is the potential operational and regulatory impact*. We think that capital requirements and the regulatory framework from the PRA are unlikely to change significantly in the event of a Brexit (the UK has been a key contributor to global regulatory changes post-crisis).
- However, there is significant uncertainty over the implications for passporting of financial services into the rest of the EU given we do not know the terms of a potential exit. This has implications not just for UK-listed banks, but for other global financials which use the UK as a hub for providing banking operations across Europe.

Implications of an 'Out' vote

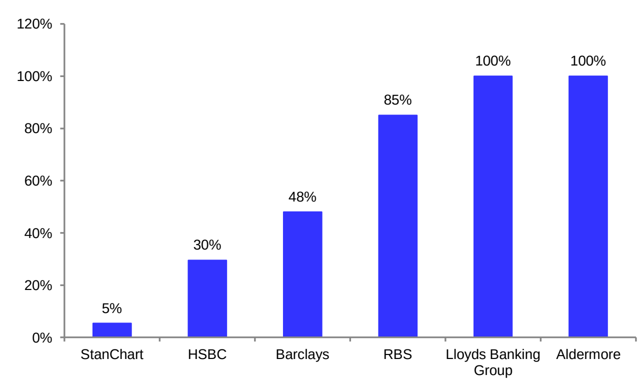
We see two key areas for interpreting a potential 'out' vote for UK Banks: the first is the potential impact on fundamental performance of the business, which we expect would be principally tied to the economic performance of the UK. The second is the potential operational and regulatory impact, which has wider implications for global financial companies currently operating in the UK and Europe.

Figure 6.1: UK Banks – UK loans as % of group



Source: Deutsche Bank estimates, company data. 3Q15 for HSBC, 1H15 for RBS (excludes Citizens), 2014 for other banks.

Figure 6.2: UK Banks – UK income as % of group



Source: Deutsche Bank estimates, company data. 3Q15 for HSBC, 1H15 for RBS (excludes Citizens), 2014 for other banks. RBS we have assumed income proportion is consistent with UK loan proportion.

1. Potential impact on business profitability

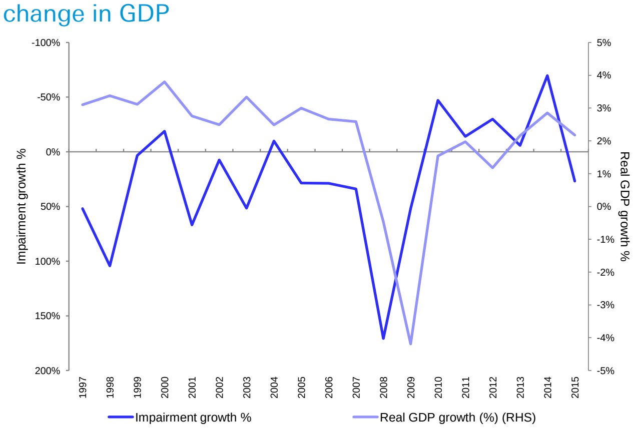
As cyclical businesses we would expect UK bank performance to be closely tied to the performance of the UK economy, monetary policy, and FX rate. Accordingly if the implications of a Brexit are negative for the economy, we would expect this to have a negative for the performance of UK banks.

The % of UK loans and UK income by bank is shown in Figure 6.1 and Figure 6.2 respectively which give an indication of the importance of the UK economy to the group. For Lloyds, RBS, Barclays and challenger banks such as Aldermore, the UK is the core operating market.

There are 4 main areas which impact the P&L and balance sheet development:

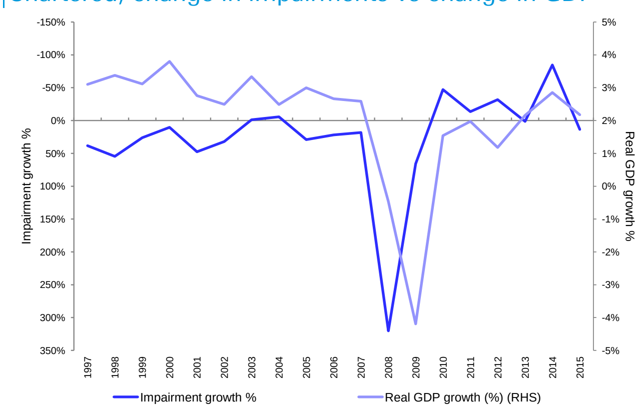
- Interest rates: generally banks perform better during a rising rate environment and are weaker in a falling rate environment due to the impact on net interest margins and spreads. The path of UK monetary policy should the UK vote to leave the EU is therefore important.
- Loan growth: lower investment, demand and/or confidence could lead to lower loan growth which reduces future earnings power (unless offset elsewhere via lower costs or higher margins).
- Foreign exchange: our FX strategists' view is that GBPUSD will reach 1.15. Generally a lower GBPUSD is better for banks with high % of US$ earnings (worth more in GBP), and worse for those with higher proportion of US$ costs than revenues.
- Loan losses: the UK mortgage market has historically been most geared to changes in unemployment, and corporate default rates most geared to economic performance. Figure 6.3 and Figure 6.4 shows the change in impairments (£m) vs the change in UK GDP.

Figure 6.3: UK banks: change in impairments (£m) vs change in GDP



Source: Deutsche Bank estimates, company data, Datastream. HSBC, Standard Chartered, Barclays, Lloyds, RBS, Aldermore

Figure 6.4: UK banks (excluding HSBC / Standard Chartered) change in impairments vs change in GDP



Source: Deutsche Bank estimates, company data, Datastream. Barclays, Lloyds, RBS

2. Regulatory and operational impact

The implications of an 'Out' vote for the banking regulatory and legal framework in the UK are inherently complex and uncertain to predict, particularly given that it is unclear at this stage the terms under which the UK would leave the EU. We would expect a lengthy period of negotiation over the UK's exit, which is likely to cover many policy areas (such as potential passporting equivalence). Importantly, these have implications not just for UK-listed banks, but all global financials which have a significant presence in the UK.

a) Capital framework unlikely to change

The Bank of England (via the PRA) has been a leader on regulatory policy in Europe (and globally) in the post-crisis period. The PRA has created a separate capital and stress test framework for UK banks which whilst working within the CRD IV framework, makes use of various carve-outs for domestic regulators. This has meant that UK banks have typically been held to higher regulatory thresholds and standards than the rest of Europe (though there are exceptions).

We do not expect this to change in the event of a UK exit from the European Union. Capital and liquidity frameworks established post-crisis would likely be left intact, though may need new legislation. We also expect that the UK would remain an important contributor to global regulatory policy via Basel / FSB.

We note that Andrew Bailey, the outgoing PRA / incoming FCA chief, and Tracey McDermott (acting FCA chief) recently downplayed expectations that leaving the bloc would mean less regulation. (*Brexit won't put an end to red tape, warns Bank deputy*, Daily Telegraph, 3 Feb 2016).

b) Passporting of Financial Services into and out of Europe

An EU exit would mean uncertainty for the ability to use the UK as a hub to provide banking services into Europe. This has implications not just for the EU operations of UK financial institutions (which have actually reduced significantly post-crisis), but also for the UK and European operations of banks globally. There are many uncertainties, some of which include:

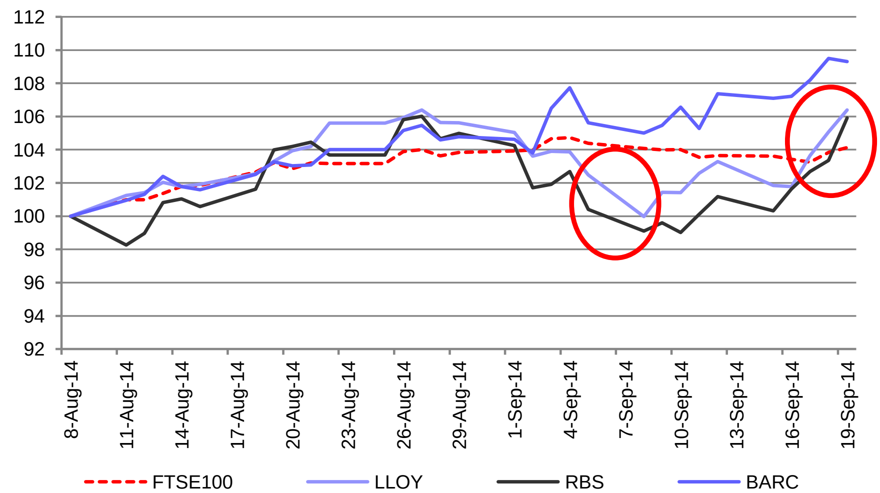
- Under MiFiD, banks are able to 'passport' into other EU countries without the need for setting up a separate subsidiary. Though the UK would be compliant with EU rules at the point of departure, it is unclear if equivalence would be granted to the UK to continue operating passporting financial services.
- This could have implications for how banks choose to structure themselves in Europe: it is unclear whether EU financial institutions would be able to continue operating a branch in the UK, or would need to re-subsidiarise; it is unclear if non-EU banks currently subsidiarised in the UK for EU operations would need to subsidiarise elsewhere in the EU.
- If re-headquartering / new subsidiaries were required within another EU country, this could trigger operational and tax implications (which may be costly).
- It is unclear whether the UK would retain abilities to be able to clear €.

Overall, we think there would be significant uncertainty in the event of a Brexit vote: it is not clear how the new regulatory framework would work, or whether banks would be able to continue operating in the UK and passport services into Europe. We expect there would likely be a fragmentation of balance sheets for banks, which is likely to increase the cost of bank operations in Europe / UK.

Scottish lessons for share price performance

Investors remain wary of the performance of UK Bank shares into the Scotland referendum during 2014, which saw negative performance in bank share prices 10 days before the referendum, following a poll suggesting that Scotland would vote in favour of independence. A relief rally followed the poll day.

Figure 6.5: UK bank performance into the Scottish referendum



Source: Datastream, Deutsche Bank

In our view, as we move closer to the referendum date, national polls which indicate a potential 'Out' vote will see UK bank shares come under pressure due to the potential uncertainty.

We removed UK banks from our top picks at the beginning of the year in our Outlook report, in part due to potential uncertainty in the lead up to the Brexit referendum. From recent conversations we have had with investors, the upcoming EU referendum is frequently cited as a risk for UK bank shares. However, as discussed above, if the UK votes to leave the EU this has consequences not just for UK banks, but for global institutions as well.

David Lock (44) 20 7541 1521

7. Conclusions

Financial market and global economic uncertainty have been key features of the first few weeks of 2016. One of the most important sources of uncertainty for the UK, however, revolves around a known event – the forthcoming referendum on EU membership, likely to be held this summer. While our baseline case is for the UK to vote to remain in the EU by a narrow majority, polls showing "leave" gaining ground highlight the risk.

Ahead of the referendum delayed investment could be a mild negative for GDP. The biggest hit to output is likely to be felt immediately after a Brexit vote during the exit negotiations. In the *longer term* the UK should adapt to life outside the EU: lower GBP, looser monetary policy (inflation permitting) and focus on trade with faster growing countries should come to the rescue.

The draft renegotiation broadly accommodated the UK's four requests of the EU. While there is a clear path to putting this agreement in place, contentious issues remain up for discussion ahead of the February 18/19 summit. In the event of a Brexit, uncertainty will prevail until the exit terms become clear. In negotiating exit options, all of which have their shortcomings, the EU will need to strike a balance between ensuring continued strong trade with the UK but at the same time sending a clear message to other countries that withdrawal is not costless.

Our structurally bearish sterling view is based on a slowing of the UK cycle, renewed fiscal tightening and downside risks to UK capital inflows rather than political risks. A possible British exit from the EU due to an 'out' vote in the coming referendum presents another tail risk for the pound, however. A UK exit from the EU is likely to negatively impact sterling and may see our existing forecasts of GBP/USD 1.15 by end-17 and EUR/GBP 0.82 by end-19 front-loaded.

In the rates space, we see an underperformance of UK cash in the run up to the vote, a steeper curve (front end remaining well anchored) and gilts underperforming on a cross market basis. In the case of a vote to leave, expect more aggressive pricing of cuts at the very front end. Non-resident investors are likely to reduce inflows in the run up to the referendum, with the potential, should uncertainty and Brexit probability rise, of an increase in gilt outflows. In the event of exit, non-resident selling could be exacerbated by concerns over the UK's sovereign rating. Expect the DMO to limit the duration of supply into the vote before backloading issuance once the market has settled following a vote to remain in.

As for equities, combining the projected changes in valuations and EPS expectations over the coming year, we would pencil in 15% downside for the entire market and 26% for the domestic basket under a Brexit scenario. The foreign basket would gain on EPS but de-rate due to uncertainty and a higher risk premium. The combined effect would be negative and leave 11% downside for the basket, compared to current levels.

We see the EU referendum as a risk for bank equity performance principally because of the uncertainty of the implications of Brexit for the outlook of the UK economy, and for the legal and regulatory framework of providing financial services into and out of the EU. A weaker UK economy in the event of Brexit would likely hit profitability thanks to looser monetary policy and credit losses. While financial regulation is unlikely to change materially with the UK out of the EU, there is significant uncertainty over the implications for passporting of financial services into the rest of the EU.

Appendix 1

Important Disclosures

Additional information available upon request

*Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors . Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at http://gm.db.com/ger/disclosure/DisclosureDirectory.eqsr

Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst(s). In addition, the undersigned lead analyst(s) has not and will not receive any compensation for providing a specific recommendation or view in this report. George Buckley/Barbara Boettcher/Oliver Harvey/Jack Di Lizia/Wolf Rotberg/David Lock

Regulatory Disclosures

1.Important Additional Conflict Disclosures

Aside from within this report, important conflict disclosures can also be found at https://gm.db.com/equities under the "Disclosures Lookup" and "Legal" tabs. Investors are strongly encouraged to review this information before investing.

2.Short-Term Trade Ideas

Deutsche Bank equity research analysts sometimes have shorter-term trade ideas (known as SOLAR ideas) that are consistent or inconsistent with Deutsche Bank's existing longer term ratings. These trade ideas can be found at the SOLAR link at http://gm.db.com.

Additional Information

The information and opinions in this report were prepared by Deutsche Bank AG or one of its affiliates (collectively "Deutsche Bank"). Though the information herein is believed to be reliable and has been obtained from public sources believed to be reliable, Deutsche Bank makes no representation as to its accuracy or completeness.

If you use the services of Deutsche Bank in connection with a purchase or sale of a security that is discussed in this report, or is included or discussed in another communication (oral or written) from a Deutsche Bank analyst, Deutsche Bank may act as principal for its own account or as agent for another person.

Deutsche Bank may consider this report in deciding to trade as principal. It may also engage in transactions, for its own account or with customers, in a manner inconsistent with the views taken in this research report. Others within Deutsche Bank, including strategists, sales staff and other analysts, may take views that are inconsistent with those taken in this research report. Deutsche Bank issues a variety of research products, including fundamental analysis, equity-linked analysis, quantitative analysis and trade ideas. Recommendations contained in one type of communication may differ from recommendations contained in others, whether as a result of differing time horizons, methodologies or otherwise. Deutsche Bank and/or its affiliates may also be holding debt securities of the issuers it writes on.

Analysts are paid in part based on the profitability of Deutsche Bank AG and its affiliates, which includes investment banking revenues.

Opinions, estimates and projections constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of Deutsche Bank and are subject to change without notice. Deutsche Bank has no obligation to update, modify or amend this report or to otherwise notify a recipient thereof if any opinion, forecast or estimate contained herein changes or subsequently becomes inaccurate. This report is provided for informational purposes only. It is not an offer or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy. Target prices are inherently imprecise and a product of the analyst’s judgment. The financial instruments discussed in this report may not be suitable for all investors and investors must make their own informed investment decisions. Prices and availability of financial instruments are subject to change without notice and investment transactions can lead to losses as a result of price fluctuations and other factors. If a financial instrument is denominated in a currency other than an investor's currency, a change in exchange rates may adversely affect the investment. Past performance is not necessarily indicative of future results. Unless otherwise indicated, prices are current as of the end of the previous trading session, and are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank, subject companies, and in some cases, other parties.

Macroeconomic fluctuations often account for most of the risks associated with exposures to instruments that promise to pay fixed or variable interest rates. For an investor who is long fixed rate instruments (thus receiving these cash flows), increases in interest rates naturally lift the discount factors applied to the expected cash flows and thus cause a loss. The longer the maturity of a certain cash flow and the higher the move in the discount factor, the higher will be the loss. Upside surprises in inflation, fiscal funding needs, and FX depreciation rates are among the most common adverse macroeconomic shocks to receivers. But counterparty exposure, issuer creditworthiness, client segmentation, regulation (including changes in assets holding limits for different types of investors), changes in tax policies, currency convertibility (which may constrain currency conversion, repatriation of profits and/or the liquidation of positions), and settlement issues related to local clearing houses are also important risk factors to be considered. The sensitivity of fixed income instruments to macroeconomic shocks may be mitigated by indexing the contracted cash flows to inflation, to FX depreciation, or to specified interest rates – these are common in emerging markets. It is important to note that the index fixings may -- by construction -- lag or mis-measure the actual move in the underlying variables they are intended to track. The choice of the proper fixing (or metric) is particularly important in swaps markets, where floating coupon rates (i.e., coupons indexed to a typically short-dated interest rate reference index) are exchanged for fixed coupons. It is also important to acknowledge that funding in a currency that differs from the currency in which coupons are denominated carries FX risk. Naturally, options on swaps (swaptions) also bear the risks typical to options in addition to the risks related to rates movements.

Derivative transactions involve numerous risks including, among others, market, counterparty default and illiquidity risk. The appropriateness or otherwise of these products for use by investors is dependent on the investors' own circumstances including their tax position, their regulatory environment and the nature of their other assets and liabilities, and as such, investors should take expert legal and financial advice before entering into any transaction similar to or inspired by the contents of this publication. The risk of loss in futures trading and options, foreign or domestic, can be substantial. As a result of the high degree of leverage obtainable in futures and options trading, losses may be incurred that are greater than the amount of funds initially deposited. Trading in options involves risk and is not suitable for all investors. Prior to buying or selling an option investors must review the "Characteristics and Risks of Standardized Options", at http://www.optionsclearing.com/about/publications/character-risks.jsp. If you are unable to access the website please contact your Deutsche Bank representative for a copy of this important document.

Participants in foreign exchange transactions may incur risks arising from several factors, including the following: (i) exchange rates can be volatile and are subject to large fluctuations; (ii) the value of currencies may be affected by numerous market factors, including world and national economic, political and regulatory events, events in equity and debt markets and changes in interest rates; and (iii) currencies may be subject to devaluation or government imposed exchange controls which could affect the value of the currency. Investors in securities such as ADRs, whose values are affected by the currency of an underlying security, effectively assume currency risk.
Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor's home jurisdiction.

United States: Approved and/or distributed by Deutsche Bank Securities Incorporated, a member of FINRA, NFA and SIPC. Analysts employed by non-US affiliates may not be associated persons of Deutsche Bank Securities Incorporated and therefore not subject to FINRA regulations concerning communications with subject companies, public appearances and securities held by analysts.

Germany: Approved and/or distributed by Deutsche Bank AG, a joint stock corporation with limited liability incorporated in the Federal Republic of Germany with its principal office in Frankfurt am Main. Deutsche Bank AG is authorized under German Banking Law (competent authority: European Central Bank) and is subject to supervision by the European Central Bank and by BaFin, Germany's Federal Financial Supervisory Authority.

United Kingdom: Approved and/or distributed by Deutsche Bank AG acting through its London Branch at Winchester House, 1 Great Winchester Street, London EC2N 2DB. Deutsche Bank AG in the United Kingdom is authorised by the Prudential Regulation Authority and is subject to limited regulation by the Prudential Regulation Authority and Financial Conduct Authority. Details about the extent of our authorisation and regulation are available on request.

Hong Kong: Distributed by Deutsche Bank AG, Hong Kong Branch.

India: Prepared by Deutsche Equities Private Ltd, which is registered by the Securities and Exchange Board of India (SEBI) as a stock broker. Research Analyst SEBI Registration Number is INH000001741. DEIPL may have received administrative warnings from the SEBI for breaches of Indian regulations.

Japan: Approved and/or distributed by Deutsche Securities Inc.(DSI). Registration number - Registered as a financial instruments dealer by the Head of the Kanto Local Finance Bureau (Kinsho) No. 117. Member of associations: JSDA, Type II Financial Instruments Firms Association and The Financial Futures Association of Japan. Commissions and risks involved in stock transactions - for stock transactions, we charge stock commissions and consumption tax by multiplying the transaction amount by the commission rate agreed with each customer. Stock transactions can lead to losses as a result of share price fluctuations and other factors. Transactions in foreign stocks can lead to additional losses stemming from foreign exchange fluctuations. We may also charge commissions and fees for certain categories of investment advice, products and services. Recommended investment strategies, products and services carry the risk of losses to principal and other losses as a result of changes in market and/or economic trends, and/or fluctuations in market value. Before deciding on the purchase of financial products and/or services, customers should carefully read the relevant disclosures, prospectuses and other documentation. "Moody's", "Standard & Poor's", and "Fitch" mentioned in this report are not registered credit rating agencies in Japan unless Japan or "Nippon" is specifically designated in the name of the entity. Reports on Japanese listed companies not written by analysts of DSI are written by Deutsche Bank Group's analysts with the coverage companies specified by DSI. Some of the foreign securities stated on this report are not disclosed according to the Financial Instruments and Exchange Law of Japan.

Korea: Distributed by Deutsche Securities Korea Co.

South Africa: Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10).

Singapore: by Deutsche Bank AG, Singapore Branch or Deutsche Securities Asia Limited, Singapore Branch (One Raffles Quay #18-00 South Tower Singapore 048583, +65 6423 8001), which may be contacted in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), they accept legal responsibility to such person for its contents.

Qatar: Deutsche Bank AG in the Qatar Financial Centre (registered no. 00032) is regulated by the Qatar Financial Centre Regulatory Authority. Deutsche Bank AG - QFC Branch may only undertake the financial services activities that fall within the scope of its existing QFCRA license. Principal place of business in the QFC: Qatar Financial Centre, Tower, West Bay, Level 5, PO Box 14928, Doha, Qatar. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Business Customers, as defined by the Qatar Financial Centre Regulatory Authority.

Russia: This information, interpretation and opinions submitted herein are not in the context of, and do not constitute, any appraisal or evaluation activity requiring a license in the Russian Federation.

Kingdom of Saudi Arabia: Deutsche Securities Saudi Arabia LLC Company, (registered no. 07073-37) is regulated by the Capital Market Authority. Deutsche Securities Saudi Arabia may only undertake the financial services activities that fall within the scope of its existing CMA license. Principal place of business in Saudi Arabia: King Fahad Road, Al Olaya District, P.O. Box 301809, Faisaliah Tower - 17th Floor, 11372 Riyadh, Saudi Arabia.

United Arab Emirates: Deutsche Bank AG in the Dubai International Financial Centre (registered no. 00045) is regulated by the Dubai Financial Services Authority. Deutsche Bank AG - DIFC Branch may only undertake the financial services activities that fall within the scope of its existing DFSA license. Principal place of business in the DIFC: Dubai International Financial Centre, The Gate Village, Building 5, PO Box 504902, Dubai, U.A.E. This information has been distributed by Deutsche Bank AG. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority.

Australia: Retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product. Please refer to Australian specific research disclosures and related information at https://australia.db.com/australia/content/research-information.html

Australia and New Zealand: This research, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act and New Zealand Financial Advisors Act respectively.
Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be reproduced, distributed or published by any person for any purpose without Deutsche Bank's prior written consent. Please cite source when quoting.

David Folkerts-Landau
Chief Economist and Global Head of Research

Raj Hindocha
Global Chief Operating Officer
Research

Marcel Cassard
Global Head
FICC Research & Global Macro Economics

Steve Pollard
Global Head
Equity Research

Michael Spencer
Regional Head
Asia Pacific Research

Ralf Hoffmann
Regional Head
Deutsche Bank Research, Germany

Andreas Neubauer
Regional Head
Equity Research, Germany

International Locations

Deutsche Bank AG
Deutsche Bank Place
Level 16
Corner of Hunter & Phillip Streets
Sydney, NSW 2000
Australia
Tel: (61) 2 8258 1234

Deutsche Bank AG
Große Gallusstraße 10-14
60272 Frankfurt am Main
Germany
Tel: (49) 69 910 00

Deutsche Bank AG
Filiale Hongkong
International Commerce Centre,
1 Austin Road West,Kowloon,
Hong Kong
Tel: (852) 2203 8888

Deutsche Securities Inc.
2-11-1 Nagatacho
Sanno Park Tower
Chiyoda-ku, Tokyo 100-6171
Japan
Tel: (81) 3 5156 6770

Deutsche Bank AG London
1 Great Winchester Street
London EC2N 2EQ
United Kingdom
Tel: (44) 20 7545 8000

Deutsche Bank Securities Inc.
60 Wall Street
New York, NY 10005
United States of America
Tel: (1) 212 250 2500