

Euro Economics Weekly

Why the ECB Should Worry About the Strong Euro

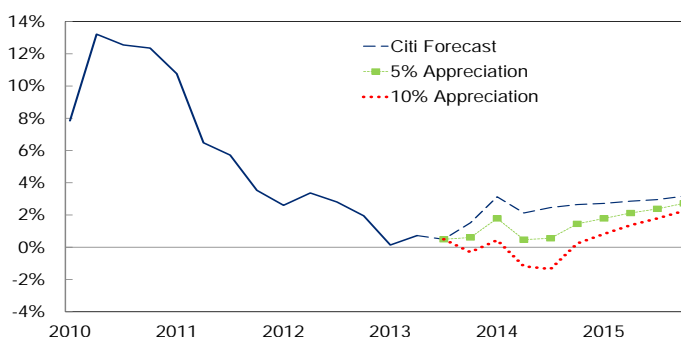
- The euro is at its highest level in nominal trade-weighted terms since November 2011, even though the euro area economy remains weak. We think that the current nominal and real level of the euro exposes the euro area (EA) economy to substantial risks, given how open the euro area is, how sensitive its exports are to the exchange rate, and how reliant growth in the euro area is on (net) exports. Further appreciation would magnify these risks.
- So far, the ECB has treated the exchange rate mostly with 'benign neglect'. We think that is probably likely to change, if the euro appreciation is sustained or extends further and inflation remains very low. Consensus-building about some form of action from the ECB Governing Council will probably be made easier by the fact that virtually all EA countries are likely to be adversely affected by the euro appreciation and that inflation is very low. But institutional constraints and a lacking consensus on *how* to respond implies that the ECB is likely to only consider a modest response to a tightening in financial conditions. We expect increasing references to the exchange rate by ECB officials, even though their uncoordinated nature will probably limit the effectiveness of such 'open mouth operations'. We think that the probability of interest rate cuts (refi rate only first, deposit rate possibly later) and of additional non-standard measures has also increased, even though the November meeting will still be too early for such decisions, in our view.

Figure 1. Citi Market Forecasts

	\$/€	Euro Repo	10-yr Bunds	£/€	UK Bank Rate	10-yr Gilt-Bund	SEK Policy Rate	NOK Policy Rate	CHF Policy Rate	CHF Spread vsBunds			
4Q 13	1.38	0.50	1.80	0.83	0.50	102	8.87	1.00	8.08	1.50	1.25	0.00	-82
2Q 14	1.40	0.50	1.80	0.82	0.50	127	8.94	1.00	8.01	1.50	1.25	0.00	-78

Source: Citi Research

Figure 2. Euro Area — Export Volume Growth (%YY), 2010-2015F



Note: Exports of goods and services in constant euros. Actual data up to Q2 2013. 5% and 10% appreciation assume an appreciation of the real effective exchange rate of such magnitudes in Q4 2013, with a long-run elasticity of exports to the REER of 0.56. Sources: Eurostat and Citi Research

Ebrahim Rahbari

+44-20-7986-6522

ebrahim.rahbari@citi.com

Guillaume Menuet

+44-20-7986-1314

guillaume.menuet@citi.com

Giada Giani

+44-20-7986-3281

giada.giani@citi.com

Michael Saunders

+44-20-7986-3299

michael.saunders@citi.com

Antonio Montilla

+44-20-7986-3282

antonio.montilla@citi.com

For all distribution enquiries regarding

Citi Economics research, including

access via Citi websites and via

third party distribution channels, please

contact michael.saunders@citi.com

or jan.maguire@citi.com

[Click to play](#)

Ebrahim Rahbari



See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

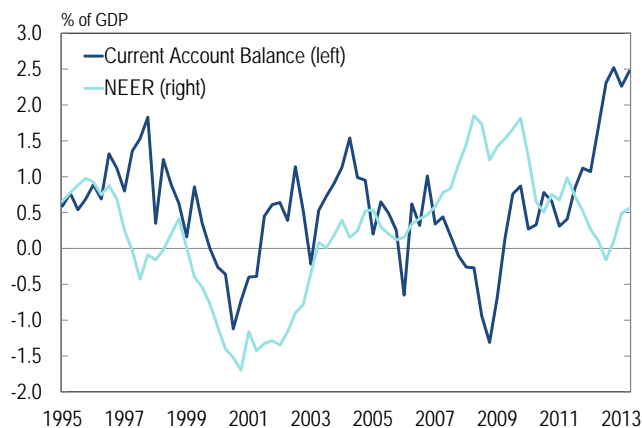
The ECB Should Worry About Euro Strength

Sustained real appreciation is likely to have substantial adverse effects on most euro area countries

As a result, the chances for further ECB easing have risen, even though the November meeting will probably be too early for a refi rate cut or additional non-standard measures

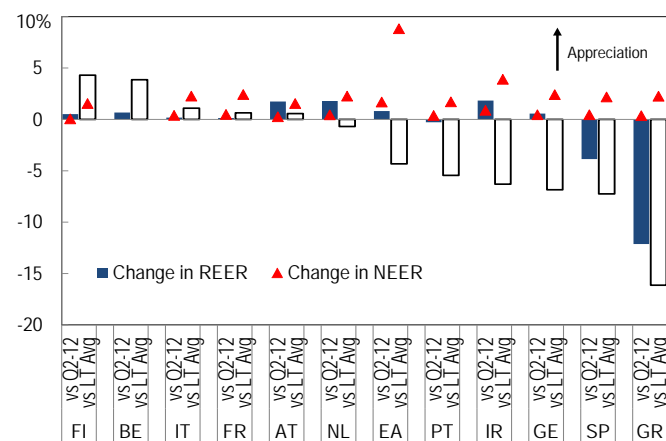
Recently, the EURUSD cross surpassed its YTD high and is at the highest level since November 2011, when the euro area (EA) for various reasons went into a recession that it has only just gotten out of.¹ The euro's real appreciation has been smaller than its nominal one and a pickup in world GDP and trade growth and a slow recovery of domestic demand in the EA will probably avert another recession this time. But given the sensitivity of EA exports to the exchange rate, the openness of the EA and its reliance on (net) exports to generate growth, we think the adverse effects of sustained real euro appreciation on the economy could be substantial in most EA countries and therefore likely to become a larger focus for policymakers.

Figure 3. Euro Area — Current Account Balance (% of GDP) and Nominal Effective Exchange Rate (Q1 99=100), 1995-2013



Note: Nominal effective exchange rate (NEER) is broad nominal effective exchange rate and a higher value signifies an appreciation.
Sources: ECB, IMF and Citi Research

Figure 4. Euro Area — Nominal and Real Effective Exchange Rate Appreciation (%), 1999-2013 Q2



Note: REER is real effective exchange rates (unit labour cost-deflated harmonized competitiveness indicator of the ECB). LT Avg are post-1999 averages and latest values are for Q2.
Sources: ECB and Citi Research

The euro nominal effective exchange rate is at its highest rate since November 2011

The increase in the euro nominal exchange rate has been broad-based. Across the 33 bilateral euro exchange rates that are provided daily by the ECB, only two currencies (the Israeli shekel and the Romanian leu) have appreciated vis-à-vis the euro in the past year.² The effective (broad trade-weighted) nominal euro exchange rate in late October is up by 4% since the start of the year and 6% since mid-2012, similar to the appreciation of the euro vs the US dollar. The growing current account surplus, less loose monetary policy relative to other countries, and portfolio capital inflows amid perceived relative safety of euro assets and the nascent economic recovery in the EA have probably contributed to the appreciation.

The (unit labour cost-deflated) real effective exchange has also appreciated in the past year

The nominal euro appreciation overstates the impact on the EA's cost competitiveness. The EA's *real* effective exchange rate (REER, deflated by unit-labour costs according to the ECB's Harmonised Competitiveness Indicator), which is a better measure of export cost competitiveness, was up by 1%YY in Q2 (the latest available data) and 3% since end-2012, as (relative) unit labour costs (ULCs) have fallen. Since Q2, based on recent relative ULC trends, the EA REER may have appreciated by another 2% bringing the total real appreciation to 5% YTD, still leaving it below (but close to) its long-term average and 14% below its 2010 average. Few EA countries have had real appreciations of note over the four quarters up to Q2 (Figure 4), and ULC-deflated REERs are above their post-1999

¹ Even though in 2011, the recession was driven by a contraction in domestic demand.

² In addition, Bulgaria, Denmark, and Lithuania have pegged their exchange rate to the euro.

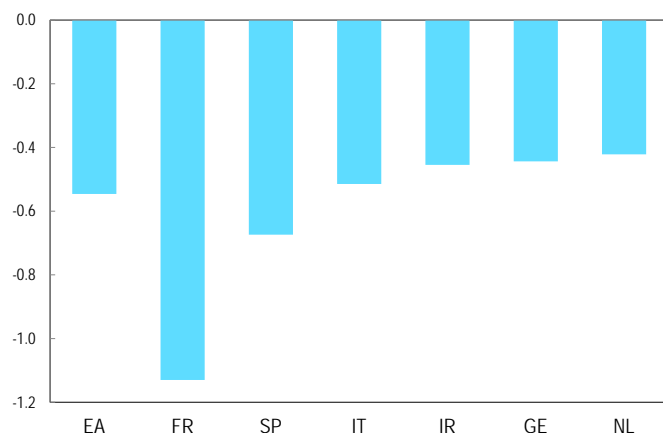
average for only a handful of countries. But given the weakness of the economy, the euro's real value should probably be weaker.³

Sustained real appreciation is likely to have material negative effects on the EA economy, for five reasons:

How much does euro appreciation hurt?

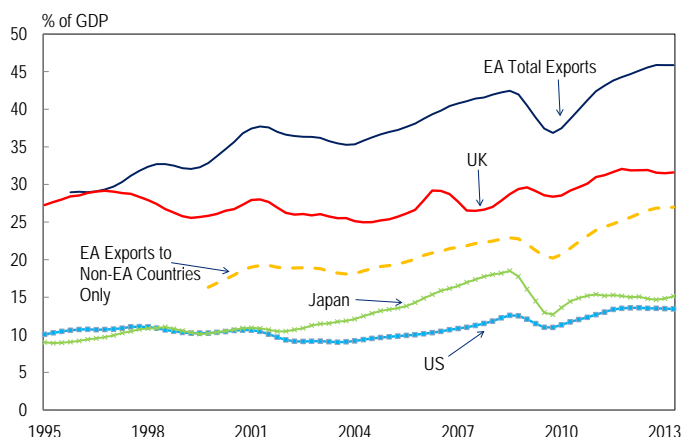
Even though the euro's real appreciation has not been dramatic so far, it should still be of concern to policymakers, in our view, for five reasons.

Figure 5. Selected EA Countries — Estimated Long-Run Elasticity of Export Volumes with Respect to the Real (ULC-deflated) Effective Exchange Rate, 1997-2013



Note: Long-run elasticity of export volumes to the real effective (ULC-deflated) exchange rate estimated through an error correction regression of export volumes on the REER, a weighted average for foreign import growth and a trend on quarterly data from Q1 1997 to Q2 2013. A higher REER implies an appreciation.
Sources: ECB, Eurostat and Citi Research

Figure 6. Selected Countries — Exports Relative to GDP, 1995-2013



Note: 4Q sum of exports of goods and services in nominal local currency divided by 4Q sum of nominal local currency GDP.

Sources: Eurostat, BEA, Bank of Japan and Citi Research

1. **A 10% real euro appreciation tends to reduce EA export volumes by 5% in the long run**
2. **The EA is quite open**
3. **(Net) exports are a major driver of GDP growth in the EA**
4. **Euro appreciation hurts firm profits**
5. **The euro could appreciate (much) further**

First, euro appreciation hurts export growth prospects with a long-run elasticity of volumes of around -0.5 according to our estimates, meaning that a 10% euro appreciation lowers EA export volumes by about 5% in the long-run (Figure 5).⁴ An additional 10% real appreciation would probably be enough to negate *any* growth in EA exports for 2014 (see front page chart).

Second, the euro area is quite open and increasingly so. Exports (to non-EA countries alone) amount to 27% of GDP vs 15% in Japan and 13% in the US, and this export share having risen by around 10pp since 2000, implying that the same percentage change in exports will affect the EA more than Japan or the US. **Third**, the EA recovery is very export-dependent and likely to remain so for the foreseeable future. Since 2010, net exports have contributed almost 1% annually to EA GDP growth, on average, and substantially more in a number of EA periphery countries where domestic demand collapsed.⁵ **Fourth**, euro appreciation can affect firms'

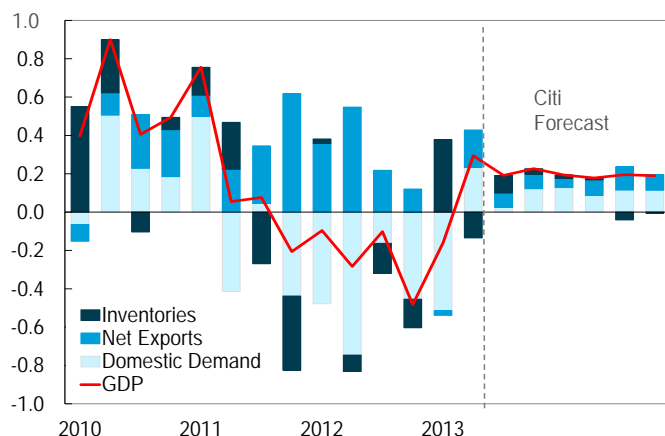
³ The real CPI-deflated effective exchange rate appreciation was roughly similar to the euro's nominal appreciation – 4% since start-of-year and 6%YY up to end-September, leaving the CPI-deflated REER still close to its long-term average. REERs deflated by GDP deflators are in between CPI- and ULC-deflated REERs (and significantly below its LT average).

⁴ We estimate the elasticity of real exports to the ULC-deflated REER through an error correction model which includes the EA export market (weighted import growth of the main export destinations) on data from Q1 1997 to Q2 2013. There are many reasons why export sensitivities may have risen or fallen over time, with the empirical evidence inconclusive. See also Di Mauro et al (2008), "The Changing Role of the Exchange Rate in a Globalised Economy", ECB Occasional Paper 94.

⁵ Imports also respond to changes in the exchange rate, but their elasticity is generally found to be lower than that of exports for the euro area. Interestingly, the EA's Area-Wide Model suggests that

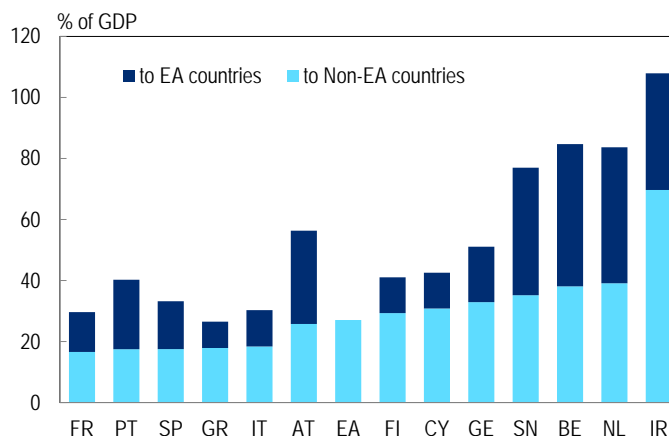
profits separately from its impact on export volumes, as firms probably will absorb the loss in cost competitiveness partly by a reduction in profit margins. This is most relevant for EA countries with many multinational businesses, such as Ireland, the Netherlands and Belgium. Sustained euro strength can persistently hurt business investment more generally, which is a concern given how weak EA business investment has been in recent years already.

Figure 7. Euro Area — Composition of GDP Growth (%QQ), 2010-2013



Note: In constant 2005 Euros.
Sources: Eurostat and Citi Research

Figure 8. EA Countries — Exports (% of GDP), 2013 Q2



Note: Ratio of 4Q sums of exports of goods and services and GDP in nominal euros.
Sources: Eurostat and Citi Research

Fifth, there is no evident sign that any of the drivers of euro appreciation that we pointed out above (low inflation, less loose relative monetary policy, current account surpluses and capital inflows) are abating, let alone reversing, meaning that the euro could appreciate yet more.⁶

Most EA countries are likely to be substantially affected by euro appreciation

Across the EA, the countries that are likely to have the most to lose from euro appreciation on the export side are those that are i) more open ii) have a high sensitivity of exports to the exchange rate, and iii) are more reliant on export growth (or conversely, where domestic demand is weakest). Ireland, the Netherlands and Belgium (and Germany among the larger economies) are the most open countries in the EA, measured by total exports or exports to non-EA countries relative to GDP, while France, Portugal, Spain, Greece and Italy do not export much to the non-EA world (see Figure 8). But many of the latter countries have disproportionately relied on (net) exports to support GDP growth in recent years. Export volumes are quite sensitive to real (effective ULC-deflated) exchange rate movements in all EA countries we consider, but France stands out in our estimations (see Figure 5). Notwithstanding the cross-country differences, in our view the commonalities are thus more relevant: virtually all EA countries appear to be relatively strongly affected by the euro appreciation according to at least one of the criteria.

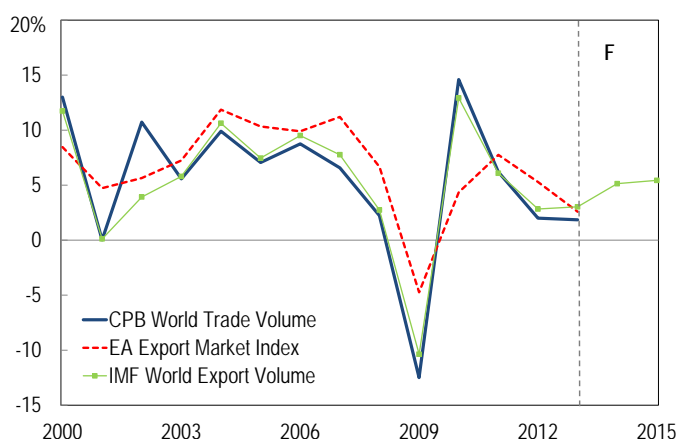
imports actually *fall* in response to a real euro appreciation, as the negative effects on output outweigh the expenditure switching effects of euro appreciation towards imports. See ECB (2008), op. cit.

⁶ Euro appreciation could also have negative consequences through the financial account and the liability side of the EA's external balance sheet. A higher value of the euro may make euro nominal assets in particular less unattractive for foreign investors. In addition, the euro area is a net debtor in domestic currency and a net lender in foreign currency implying that a euro appreciation is associated with a capital loss.

A pickup in world GDP and trade growth will generally lift EA exports too

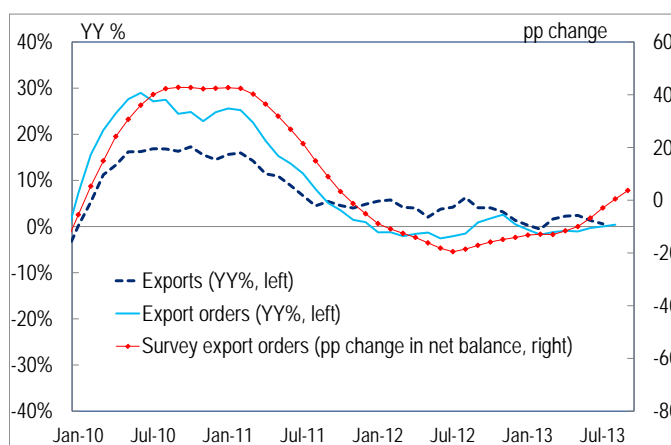
Given the reasons discussed above, it is perhaps surprising that EA policymakers have not focused more on exchange rate developments.⁷ We think that there are three main reasons. First, the recent euro appreciation does not put its real value outside its historical norm. Second, EA policymakers are counting on a recovery in world trade to support EA exports. Indeed, the IMF expects growth in world trade to be 5-6% on average in 2014-18, up from 3% in 2013 (even though the available data suggests that world trade remains sluggish for now, see Figure 9). A rising tide in EA export markets should lift EA export boats (EA export volumes generally rise one-for-one with an increase in export markets in the long-run, *ceteris paribus*) and is also a major driver of our forecasts of positive EA export growth in coming years.

Figure 9. Selected EU Countries — World trade volume growth (%YY), 2000-2015F



Note: CPD data are for manufacturing exports only and 2013 is Jan-Aug average. EA export market index is the weighted average growth of real imports by the EA's main trading partners.
Sources: CPB, Eurostat, IMF and Citi Research

Figure 10. Euro Area — Growth in Exports and Export Orders (YoY Change of 3M averages), 2010 – 2013



Note: All series are for industrial exports only and expressed as 3M averages.
Sources: EC, Eurostat and Citi Research

Recent export orders data have improved, suggesting that export growth may in fact pick up in the near-term

Indeed, the latest high-frequency export data in the EA contain some encouraging signs. Exports have remained relatively sluggish at less than 1% YY growth in volume terms for goods exports in August. But industry export orders have been improving gradually and quite sharply according to the survey data (with six consecutive monthly increases up to October), suggesting that export growth could pick up somewhat in Q4. The improvement in export assessments has been broad-based, with increases in recent months in most EA countries and marked improvements in Belgium, France, Italy and Spain. But even after the recent improvements, the latest EU Commission survey show that export order books remain below long-term averages for the EA as a whole as well as most EA countries (but not for Germany, Italy and the Netherlands).

A strong euro also puts downward pressure on already-low EA inflation

Modest growth plus the direct effects of a strong currency will likely keep inflation in the EA well below the ECB's target for an extended period of time. The flash reading of EA HICP inflation for November came in at 0.7% YY, the lowest rate since November 2009, with core inflation (ex-energy, food, alcohol and tobacco) of 0.8% YY at the lowest YY% rate since the data started in 1997.⁸ Estimates of the elasticity of consumer price inflation in the EA to the exchange rate suggest that a

⁷ Even though that is now partly changing. See e.g. the comments by the Spanish Economy Ministry: <http://www.mineco.gob.es/portal/site/mineco/menuitem.ac30f9268750bd56a0b0240e026041a0/?vgnextoid=c98a8e0af4902410VgnVCM1000001d04140aRCRD&vgnextchannel=864e154527515310VgnVCM1000001d04140aRCRD>

⁸ Core inflation in January-February 2010 was also at 0.8%YY.

10% nominal effective EA appreciation would lower HICP inflation by around 1pp over two years, and 1.5pp over three years.⁹ Relative to the latest ECB Staff forecasts (from September, but which are based on exchange rates in the first half of August), the euro NEER has appreciated by 1.5%, translating into maybe a 0.15pp further downward push to inflation for 2014 (in September, the ECB expected 2014 HICP inflation to be 1.3%).

Why hasn't the ECB responded already?

The ECB has few formal constraints when it comes to reacting to foreign exchange developments

The possibly most important reason for the lack of policy action lies in the peculiarities of decision making in exchange rate matters in the euro area, in our view. The division of authority between the central bank and the Treasuries is rarely well specified.¹⁰ The lack of a single EA Finance Minister actually leaves the ECB in a more powerful position as regards exchange rate matters than the Fed in the US, where the Treasury tends to take the lead on foreign exchange interventions.¹¹ The European Treaties are silent on the allocation of authority for foreign exchange interventions, but EA finance ministers reached an understanding in 1999-2000 to give the ECB 'sole competency' for deciding the timing, level and amount of foreign exchange intervention. The ECB subsequently used this authority when it intervened (to support the euro) in September and November 2000. While that understanding is presumably subject to revision at any stage and ECB actions are to be guided by its mandate for price stability, there are no formal barriers for the ECB to act on, let alone talk about, exchange rate developments, including but not limited to market intervention.

The ECB has treated the exchange rate mostly with benign neglect so far

In its recent communications, the ECB has mostly treated the exchange rate with 'benign neglect'. ECB President Draghi and other ECB officials have noted on many occasions that the exchange rate is a major input into their monetary policy strategy, but have mostly carefully avoided commenting on the level of the exchange rate. The less loose relative monetary policy of the ECB (including the nearly 10pp of GDP reduction in the size of the ECB's balance sheet since Q2 2012) has likely been a major factor in the euro appreciation, suggesting that the exchange rate may not have played too prominent a role in recent monetary policy *decisions*, either.¹²

A lack of consensus on the role of the exchange rate and about policy tools has probably contributed to the benign neglect

In our view, the benign neglect of the ECB has much to do with a lack of consensus within the ECB's Governing Council on the risks that exchange rate appreciation poses (or a consensus that risks are small) and a lack of consensus about which policy tools, if any, to use. The ECB also generally tries to avoid being seen as doing the governments' bidding amid (possibly exaggerated) concerns about threats to its independence. The return to positive GDP growth and some continued export growth has probably also made it easier for the ECB to be relaxed about the lack of agreement. But sustained euro appreciation is likely to increase the pressure for the ECB to react. The fact that euro appreciation will probably have adverse effects on most EA countries and that there is no formal need to negotiate with finance ministers should in principle make it easier for the ECB Governing Council to act.

⁹ See ECB (2008), op.cit.

¹⁰ See also Henning (2006), "The External Policy of the Euro Area: Organizing for Foreign Exchange Intervention", Peterson Institute for International Economics

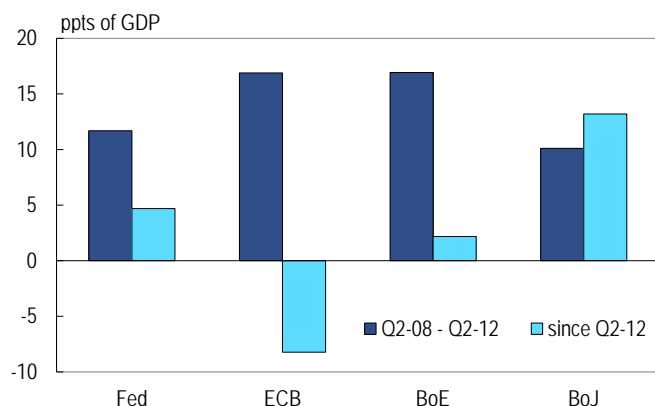
¹¹ The Fed has the authority to carry out FX interventions on its own initiative, but this is generally interpreted to apply only in exceptional circumstances, while it usually acts in an advisory fashion. The Bank of England does have the ability to intervene in foreign exchange markets for monetary policy purposes. See also <http://www.bankofengland.co.uk/statistics/Pages/reserves/2013/jan/intro.aspx>.

¹² Even though the ECB does not tire to emphasise that monetary policy remains highly accommodative (in an absolute sense).

Very low inflation also calls for ECB easing

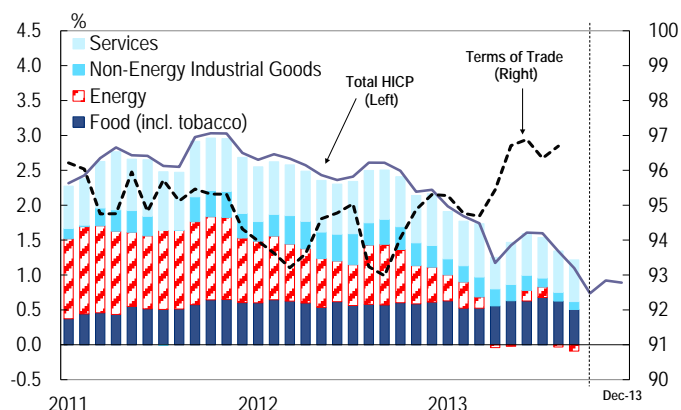
Given that inflation is now far below target, the direct price stability implications of the euro appreciation make further easing more likely. This is despite the fact that it would in general seem more appropriate for a central bank to 'look through' the first-round effects of the appreciation on inflation (as a positive terms of trade shock) and only react to the second-round effects (including the effect on inflation through widening output gaps). But the recent unexpected fall in EA inflation would probably call for further easing by itself.

Figure 11. Selected Countries — Change in Central Bank Balance Sheet Size (pp of GDP), 2008-Q3 13



Note: Total central bank assets as % of GDP.
Sources: Eurostat and Citi Research

Figure 12. Euro Area — HICP Inflation (%YY), 2011 – 2013F



Note: Terms of trade are the ratio of export prices over import prices.
Sources: Eurostat and Citi Research

We expect some 'open mouth operations' with respect to the exchange rate

That still leaves the question open of what tools to use. In the near-term, it seems likely that ECB officials will express a range of views on the exchange rate in an uncoordinated fashion and emphasise downside risks to inflation (and that the topic will be discussed at the GC meeting next week).¹³ But we think that the ECB may break with its tradition of not commenting on the level of the exchange rate and use some measure of 'open mouth operations' with regard to the euro in due course.

The probability of a rate cut or non-standard measures has also increased

Such rhetorical statements are only likely to be effective if they are backed up by potential policy action. Both conventional and non-standard measures can be expected to have an effect on the exchange rate. In our view, the relative likelihood of a rate cut and non-standard measures depends on the perceived balance of risks from low inflation and euro appreciation versus (downside) financial stability risks. A cut in the refi rate while leaving the deposit rate unchanged (and thus narrowing the corridor between refi and deposit rate) may offer a 'cheap' and relatively riskless way for the ECB to signal that it means business with regard to appreciation and inflation/deflation concerns, and buy time to consider more effective measures. The probability of an eventual cut in the deposit rate has also risen, but given its higher perceived risks, it would probably only follow a cut in the refi rate and require more sustained real euro appreciation. The ECB will also continue to consider non-standard measures (we still expect another LTRO by Q1 2014), but a lack of funding pressure of periphery banks may tilt the balance of probabilities towards rate cuts over time. In any case, the November meeting will probably come too early for these decisions, while the December meeting (when the ECB will provide its forecasts for 2015 for the first time) is likely to be a more important event.

¹³ See e.g. Reuters, "Nowotny says ECB has to live with strong euro", 29 October 2013

Key Economic Indicators (4 November – 8 November 2013)

During The Week		Forecast	Last
07:00	Germany: Insolvencies, Aug (by Nov 13)		
08:00	UK: Halifax House Prices, Oct		
Monday 4 November		Forecast	Last
09:00	Euro Area: Manufacturing PMI, Oct Final	51.3	51.1
09:30	Euro Area: Sentix Investor Confidence, Nov	5.0	6.1
	Italy: State Sector Borrowing Requirement, Oct YTD	€93 Billion	Jan-Oct 2012: €58.4 Billion
16:30	Ireland: Exchequer Return, Oct		
Tuesday 5 November		Forecast	Last
07:00	Sweden: Services PMI, Oct	53.1	53.3
08:00	Spain: Registered Unemployment, Oct	106K	26K
08:15	Switzerland: Consumer Prices, Oct		
08:30	Sweden: Services Production, Sep	0.2% MM	1.5% MM
09:30	UK: Services PMI, Oct	60.0	60.3
10:00	Euro Area: Industrial Producer Prices, Sep		
10:00	Euro Area: EU Commission's Autumn Economic Forecasts		
Wednesday 6 November		Forecast	Last
08:30	Sweden: Riksbank Minutes		
09:00	Euro Area: Services PMI, Oct Final	50.9	52.2
	Composite PMI, Oct Final	51.5	52.2
09:30	UK: Industrial Production, Sep	1.2% MM, 2.5% YY	-1.1% MM, -1.5% YY
	Manufacturing Output, Sep	1.2% MM, 0.8% YY	-1.2% MM, -0.2% YY
10:00	Euro Area: Retail Sales, Sep	0.2% MM, 1.2% YY	0.7% MM, -0.5% YY
11:00	Germany: Incoming Orders, Sep	0.7% MM, 5.7% YY	-0.3% MM, 3.1% YY
Thursday 7 November		Forecast	Last
06:45	Switzerland: SECO Consumer Confidence, Oct		
08:00	Spain: Industrial Production, Sep	1.6% YY	-2.0% YY
08:30	Netherlands: Consumer Prices, Oct		
08:30	Sweden: House Prices, Oct		
09:00	Norway: Manufacturing Production, Sep	0.8% MM	-0.7% MM
11:00	Germany: Industrial Production, Sep	0.1% MM, 1.2% YY	1.4% MM, 0.1% YY
12:00	UK: MPC Outcome		
12:45	Euro Area: ECB Outcome (Press Conference at 13:30)		
Friday 8 November		Forecast	Last
06:45	Switzerland: Unemployment, Oct		
07:00	Sweden: Registered Unemployment Rate, Oct	4.5%	4.6%
07:00	Germany: Trade Balance, Sep		
07:45	France: Trade Balance, Sep		
07:45	France: Industrial Production, Sep		
07:45	France: Industrial Investment Survey, Oct		
08:15	Switzerland: Retail Sales, Sep		
08:30	Netherlands: Industrial Production, Sep		
08:30	Sweden: Industrial Production, Sep	0.7% MM	-2.3% MM
09:30	UK: Trade Balance – Goods & Services, Sep	£-2.5 Billion	£-3.3 Billion
09:30	UK: Construction Output, Sep		
	Greece: Industrial Production, Sep		
	Greece: Consumer Prices, Oct		

Sources: National statistical offices, central banks and Citi Research

Economic Indicators

Euro Area

Nov 4 09:00	Manufacturing PMI, Oct Final	Forecast: 51.3	Prior: 51.1
London Time	The flash estimate showed the manufacturing PMI rose slightly in October, by around the same extent as the September decline. The index level remains in line with its long-term average, suggesting activity in the industrial sector will probably be expanding in 4Q, but at a fairly muted pace. Still subdued readings are likely to be recorded by periphery countries Italy and Spain, now that the manufacturing PMI has caught up with the levels in core countries.		
Nov 4 09:30	Sentix Investor Confidence, Nov	Forecast: 5.0	Prior: 6.1
London Time	We expect a second consecutive decline for the Sentix investor confidence indicator in November (the index peaked at 6.5 in Sept). Current conditions probably eased for the first time in Nov, given that the recent data has surprised a little bit to the downside, suggesting modest growth in Q4-13 GDP. With respect to the expectations component, the stronger euro and some indications of slower global GDP growth probably argue for a small decline too.		
Nov 6 09:00	Services PMI, Oct F	Forecast: 50.9	Prior: 52.2
	Composite PMI, Oct F	Forecast: 51.5	Prior: 52.2
London Time			
London Time	The flash estimate has already shown that the Oct services PMI has reversed most of the Sept gain. The composite PMI – which averages activity indicators for the manufacturing and the service sectors – also posted a decline (-0.7 points) in October, the first drop in seven months. We expect these readings to be confirmed in the final reports. This level of the composite PMI is consistent with modest quarterly GDP growth of around 0.2%-0.3%.		
Nov 6 10:00	Retail Sales, Sep	Forecast: 0.2% MM, 1.2% YY	Prior: 0.7% MM, -0.5% YY
London Time	We forecast only a modest rise in retail spending in September, after two pretty strong readings in July and August. The annual rate is bound to increase sharply and move back into positive territory because of base effects. This would be the first positive reading in annual terms since April 2011.		

Germany

Nov 6 11:00	Incoming Orders, Sep	Forecast: 0.7% MM, 5.7% YY	Prior: -0.3% MM, 3.1% YY
London Time	In September, we expect incoming orders in Germany to register a significant increase, after two consecutive monthly falls. Both the assessment of orders and new incoming order components of the October ifo survey were positive, and would thus confirm the positive (if volatile) trend in German manufacturing orders.		
Nov 7 11:00	Industrial Production, Sep	Forecast: 0.1% MM, 1.2% YY	Prior: 1.4% MM, 0.1% YY
London Time	After a fairly large increase in August, we expect industrial production in Germany to remain close to unchanged in September on a seasonally and working-day-adjusted basis. Survey indicators and incoming orders suggest a continued positive trend in industrial production.		

France

Nov 8 07:45	Industrial Production, Sep	Forecast: % MM, % YY	Prior: % MM, % YY
	Manufacturing Production, Sep	Forecast: % MM, % YY	Prior: % MM, % YY
London Time			

Italy

Nov 4	State Sector Borrowing Requirement, Oct	Forecast: €93 Billion	Prior (Jan-Oct 2012): €58.4 Billion
	The October YTD state budget deficit will probably remain well above last year's levels. The sizable widening of the cash deficit lately has been mainly due to the reimbursements of government arrears, as well as the decision to suspend the payment of the very controversial property tax (IMU) in June. Moreover, several one-off borrowing-reducing measures were adopted in 2012 at the peak of market tensions. Yet the underlying trend in the government's budget balance is worsening, as the plans to tighten fiscal policy further in 2013 have been largely dismissed. We see some re-widening in the general government fiscal deficit in 2013, possibly exceeding the target of 3%.		

Spain

Nov 5 08:00	Registered Unemployment, Oct ('000)	Forecast: 106 MM	Prior: 26 MM
London Time	Registered unemployment usually rises in October, due to the ending of the labour-intensive holiday season. We estimate most of the expected MM increase to be driven by seasonal factors. Registered unemployment, however, has recently been less representative of the developments in the labour market than the labour force survey, due to changes in the criteria to access jobless claims and probably to the rising share of long-term unemployed (no longer eligible for jobless claims). Total unemployment (as measured by the labour force survey) stood at 5.9mln in 3Q 13, against 4.7mln jobless claimants.		
Nov 7 08:00	Industrial Production, Sep	Forecast: 1.6% YY	Prior: -2.0% YY
London Time	Relatively feeble survey data (manufacturing PMI, business' assessment of industrial new orders and production trends) suggest industrial production probably was down by 0.1% MM in September, after a rise of 0.6% MM in August. All consistent with a modest rebound in industrial production in 3Q (amid real GDP growth of 0.1% QQ). A strong positive base effect from last year is likely to push the annual rate of industrial output higher in September (to 1.6% YY). Going forward business confidence indicators continue to improve suggesting industrial production may remain resilient in Q4.		

Economic Indicators

Sweden

Nov 5 08:30	PMI Services, Oct	Forecast: 53.1	Prior: 53.3
London Time	Service-sector PMI corrected lower in September following the nearly 12-point rise in July (the largest on record in the index's history), which was only marginally reversed in August. The series, however, is very volatile and one gets a more precise picture by looking at three-month moving averages. On this basis, the services PMI has hovered around 50 for the past year, and stood at 51.7 in Jun-Aug 2013 and 54.6 in Jul-Sep. Service sector sentiment according to NIER has increased steadily since late 2012, while the picture is mixed for the domestic sectors. Service production was weak in 2Q, but is expected to recover during the second half of the year.		
Nov 5 08:30	Service Production, Sep	Forecast: 0.2% MM	Prior: 1.5% MM
London Time	Service sector production was weak in 2Q (-0.6% QQ), but has improved slightly heading into the third quarter (was 0.2% above the 2Q average in July and August combined). Hence, this confirms indications from survey indicators that growth is about to gear up in the service sector: the services PMI has now been above 50 for three consecutive months, with the three-month moving average reaching 54.6 in Jul-Sep – the highest since mid-2011. NIER service sector sentiment has improved steadily since late-2012.		
Nov 8 07:00	Registered Unemployment Rate, Oct	Forecast: 4.5%	Prior: 4.6%
London Time	In line with the seasonal pattern, we expect the registered jobless rate to fall marginally in October. Weekly figures point in the same direction.		
Nov 8 08:30	Industrial Production, Sep	Forecast: 0.7% MM	Prior: -2.3% MM
London Time	Industrial production was markedly weaker than expected in August, but growth in the previous month turned out somewhat stronger than suggested by the initial data. Hence, despite the massive downward surprise, momentum in Swedish industry is gradually improving: following a very weak first half of the year (1Q: -0.1% QQ, 2Q: -2.1% QQ), activity in the sector was 1.5% QQ above the 2Q average in July and August combined. Ahead, the well above-50 PMI readings in recent months, including the well-above 50 readings for the orders index as well as for the production index, point to ongoing recovery in industrial production. The NIER survey, meanwhile, has been somewhat choppy of late. On balance, we expect the manufacturing sector to recover gradually in the second half of the year, but it will be a bumpy road and some setbacks should be expected at times.		

Norway

Nov 7 9:00	Manufacturing Production, Sep	Forecast: 0.8% MM	Prior: -0.7%MM
London Time	Momentum remains strong in the manufacturing sector (i.e. excluding energy and mining): output increased 2.5% QQ in 2Q – the strongest quarterly gain in five years – and the July and August readings combined were 1.0% above the 2Q average. Manufacturing production, though, seems to have been running somewhat ahead of demand, which points to moderation in the near-term. That said, sentiment indicators have improved in recent months, albeit not being good guides to developments in actual production in recent years.		

United Kingdom

Nov 5 09:30	Services PMI, Oct	Forecast: 60.0	Prior: 60.3
London Time	The services PMI edged lower in September after eight consecutive gains – the longest run of improving figures since 2003. Nevertheless, the September figure remains very high (3 rd highest since the survey began in the mid-90s) and hence a figure anywhere close to current levels would continue to indicate very strong growth.		
Nov 6 09:30	Industrial Production, Sep	Forecast: 1.2% MM, 2.5% YY	Prior: -1.1% MM, -1.5% YY
Nov 6 09:30	Manufacturing Output, Sep	Forecast: 1.2% MM, 0.8% YY	Prior: -1.2% MM, -0.2% YY
London Time	Surveys indicate that the trend in manufacturing output is buoyant and hence we expect that the decline in August will be reversed this month. A figure in line with our forecast would put manufacturing output up by 0.9% QQ in 3Q after the 0.8% gain in 2Q2.		
Nov 8 09:30	Trade Balance – Goods & Services, Sep	Forecast: £-2.5 Billion	Prior: £-3.3 Billion
London Time	The trade deficit has been disappointingly wide in the last couple of months, reflecting weaker export figures. But, with surveys suggesting that export orders have improved sharply, we expect that the trade deficit will fall back this month.		

Sources: National Statistical Offices, National Central Banks, Bloomberg, and Citi Research forecasts.

Key Economic Indicators (11 November – 15 November 2013)

Monday 11 November		Forecast	Last
09:00	Italy: Industrial Production, Sep		
09:00	Norway: Consumer Prices, Oct		
	EU: EcoFin Meeting of EU-28 Finance Ministers on Budget		
Tuesday 12 November		Forecast	Last
00:01	UK: RICS House Price Survey, Oct		
07:00	Germany: HICP Final, Oct		
07:30	France: Bank of France Business Sentiment, Oct		
08:30	Sweden: Consumer Prices, Oct		
09:00	Italy: HICP, Oct Final		
09:30	UK: Producer Input Prices, Oct		
09:30	UK: Producer Output Prices, Oct		
09:30	UK: Consumer Prices, Oct		
	Retail Prices, Oct		
Wednesday 13 November		Forecast	Last
08:00	Spain: HICP, Oct Final		
08:30	Netherlands: Trade Balance, Sep		
08:30	Netherlands: Retail Sales, Sep		
09:30	UK: LFS Unemployment Jul-Sep		
	Claimant Count Unemployment, Oct		
09:30	Italy: General Government Debt, Sep		
10:00	Euro Area: Industrial Production, Sep		
10:30	UK: Bank of England's <i>Inflation Report</i>		
Thursday 14 November		Forecast	Last
06:30	France: GDP, 3Q Flash		
07:00	Germany: GDP, 3Q Flash		
07:45	France: Balance of Payments, Sep		
07:45	France: Consumer Prices, Oct		
07:45	France: Nonfarm Payrolls, 3Q		
08:15	Switzerland: Producer & Import Prices, Oct		
08:30	Sweden: Unemployment, Oct		
08:30	Netherlands: GDP, 3Q Flash		
09:00	Euro Area: ECB Monthly Bulletin		
09:00	Italy: GDP, 3Q Flash		
09:30	UK: Retail Sales, Oct		
10:00	Cyprus: GDP, 3Q Flash		
10:00	Portugal: GDP, 3Q Flash		
10:00	Euro Area: GDP, 3Q Flash		
	Greece: Unemployment Rate, Aug		
	Greece: GDP, 3Q		
14:00	Euro Area: Eurogroup Meeting of EA Finance Ministers (Brussels)		
Friday 15 November		Forecast	Last
	EU: EcoFin Meeting of EU-28 Finance Ministers (Brussels)		
09:00	Italy: Trade Balance, Sep		
09:00	Norway: Trade Balance, Oct		
10:00	Euro Area: HICP, Oct Final		
10:00	Italy: Current Account, Sep		

Sources: National statistical offices, central banks and Citi Research

Title	Author	Date
Euro Area – Sovereign Debt Crisis Update		
Euro Area Core Inflation Falls to Record-Low Levels	European Economics Team	Nov 1, 2013
ECB Will Offer Additional Liquidity, Nowotny Says	European Economics Team	Oct 31, 2013
ECB's Nowotny Sees No Need for Action on the Euro	European Economics Team	Oct 30, 2013
Dijsselbloem Calls for Reform of Fiscal Rules	European Economics Team	Oct 29, 2013
EU Council Kicks Banking Union Decisions to December	European Economics Team	Oct 28, 2013
Euro Area		
Euro Area - ECB AQR: More Detail, but not on Public Backstop	Ebrahim Rahbari	Oct 23, 2013
Euro Area - Under No Pressure to Act, ECB Stays Put and Gives Little Away	Guillaume Menuet	Oct 2, 2013
European Economic Forecast Highlights - October 2013	Ann O'Kelly	Sep 27, 2013
German Elections Outcome - Big Merkel Win, Grand Coalition Government Most Likely	Ebrahim Rahbari et al	Sep 23, 2013
German elections - Four More Years – A Multi-Asset View	Ebrahim Rahbari et al	Sep 12, 2013
Euro Area - ECB Reiterates Forward Guidance, with Some Dovish Hints	Giada Giani	Sep 5, 2013
Euro Economics Weekly		
Italy and Spain Look Well Positioned For Job Growth	Guillaume Menuet	Oct 25, 2013
Portugal – What After June 2014?	Giada Giani	Oct 18, 2013
Will the ECB's Comprehensive Assessment of Banks be the Euro Area's TARP Moment?	Ebrahim Rahbari	Oct 11, 2013
Italy – Political and Banking Fragility	Giada Giani	Oct 4, 2013
New ECB LTRO? Not Like Waiting for Godot	Guillaume Menuet	Sep 27, 2013
Housing Not Yet Turning Around	Ebrahim Rahbari	Sep 20, 2013
Loan Dynamics: Renaissance by Year-End	Guillaume Menuet	Sep 13, 2013
Germany — Four More Years	Ebrahim Rahbari	Sep 6, 2013
Greece — More Drama, Fewer Systemic Risks	Giada Giani	Aug 30, 2013
Enhanced Forward Guidance, ECB-Style	Guillaume Menuet	Aug 23, 2013
Euro Area Recovery? Not Strong Enough	Giada Giani	Aug 16, 2013
What do the US Pickup and China Slowdown Mean for Euro Area Growth?	Ebrahim Rahbari	Aug 9, 2013
Low(er) ECB Rates: For How Long?	Guillaume Menuet	Jul 26, 2013
German Exports — Down But Not Out	Ebrahim Rahbari	Jul 19, 2013
Chief Economist Publications		
Global Economic Outlook and Strategy - October 2013	Willem Buiter	Oct 23, 2013
Scandi		
Scandi Economics Update	Tina Mortensen	Oct 25, 2013
Sweden - Broad-Based Recovery In Sentiment	Tina Mortensen	Oct 25, 2013
Norway - Hitting The Limits Of Growth Outperformance	Tina Mortensen	Oct 25, 2013
Switzerland		
Switzerland - Economy Continues to Grow Solidly	Michael Saunders	Sep 3, 2013
UK		
UK - Strong GDP Data	Michael Saunders	Oct 25, 2013
UK - YouGov Report Jump in Inflation Expectations	Michael Saunders	Oct 24, 2013
UK - CBI Report Rising Optimism, Greater Labour Shortages	Michael Saunders	Oct 24, 2013
UK - More Recovery Signs In Data And Minutes	Michael Saunders	Oct 23, 2013
UK Economics Weekly		
Growth Dividend For The Public Finances	Michael Saunders	Oct 25, 2013
We Stick to 3% Growth Forecast for 2014	Michael Saunders	Oct 18, 2013
Why Is the UK Suddenly Doing So Well?	Michael Saunders	Oct 11, 2013
Fiscal Red Ink Receding	Michael Saunders	Oct 4, 2013
The Squeeze on Living Standards	Michael Saunders	Sep 27, 2013
Change to Rate View	Michael Saunders	Sep 20, 2013
Scenarios for the Jobless Rate	Michael Saunders	Sep 13, 2013
Source: Citi Research		

Appendix A-1

Analyst Certification

The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

IMPORTANT DISCLOSURES

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Ltd

Ebrahim Rahbari; Guillaume Menuet; Giada Giani; Michael Saunders; Antonio Montilla

OTHER DISCLOSURES

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in Australia through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is

made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A. Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with, the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank

Singapore Ltd ("CSL") to selected Citigroup/Citigroup Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigroup/Citigroup Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Büyükdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority. Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company.

Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures.

Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations.

The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2013 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any

other MSCI intellectual property may not be reproduced, disseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
