7 March 2014 | 16 pages

Developed Markets
Western Europe

Euro Economics Weekly

Internal Devaluation in the Periphery

- Some of the recent disinflationary pressures in the euro area stem from the internal devaluation process in the periphery, involving a price adjustment relative to core countries. So far, the adjustment has been most evident on wages, while prices have been more rigid in most of the periphery (with the exception of Ireland). We estimate Greece remains the most "overpriced" economy (by some 15%), followed by Portugal and Spain (ca. 10%) and Italy (7%). Although rough, these guides suggest the disinflationary impact on the euro area average from the periphery is likely to last beyond the medium- to long-term horizon of the ECB's price stability.

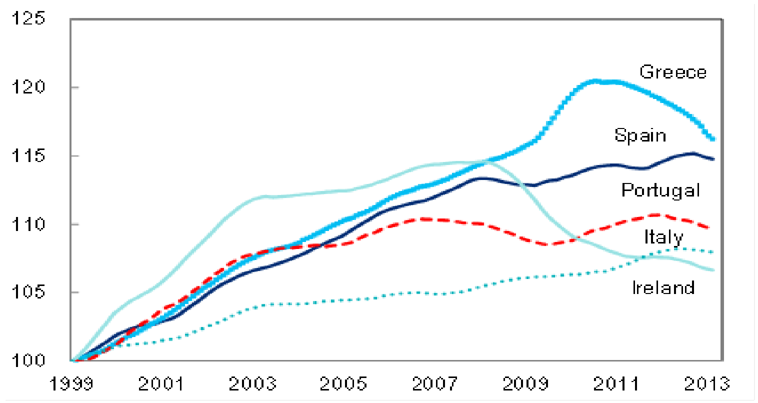
- Although the ECB may see internal devaluation as a one-off, almost welcome, price adjustment, we argue it remains its task to make sure that relative price changes occur at a level of average inflation which is in line with its target of *"below but close to 2%"*. This would reduce risks that concerns about public and private debt sustainability resurface in the very same countries that are struggling to rebalance.

Figure 1. Citi Forecasts

	$/€	Euro Repo	10-yr Bunds	£/€	UK Bank Rate	10-yr Gilt-Bund	SKr/€	SEK Policy Rate	NOK/€	NOK Policy Rate	SFr/€	CHF Policy Rate	CHF Spread vsBunds
2Q 14	1.38	0.10	1.65	0.80	0.50	137	8.92	0.75	8.18	1.50	1.24	0.00	-67
4Q 14	1.40	0.10	1.80	0.79	0.75	163	8.80	0.75	7.97	1.50	1.25	0.00	-75

Source: Citi Research

Figure 2. Euro Area Periphery — Cumulated Differential in HICP Relative to Germany/France Average (1999= 100)



Sources: Eurostat, Haver Analytics and Citi Research

Giada Giani
+44-20-7986-3281
giada.giani@citi.com

Guillaume Menuet
+44-20-7986-1314
guillaume.menuet@citi.com

Ebrahim Rahbari
+44-20-7986-6522
ebrahim.rahbari@citi.com

Michael Saunders
+44-20-7986-3299
michael.saunders@citi.com

Antonio Montilla
+44-20-7986-3282
antonio.montilla@citi.com

Ann O'Kelly
+44-20-7986-3297
ann.okelly@citi.com

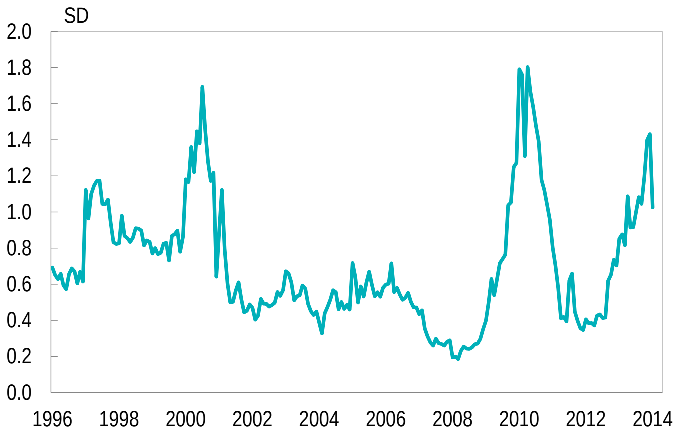
For all distribution enquiries regarding Citi Economics research, including access via Citi websites and via third party distribution channels, please contact michael.saunders@citi.com or jan.maguire@citi.com

Internal Devaluation in the Periphery

Cross-country dispersion in core inflation rates within EMU is rising…

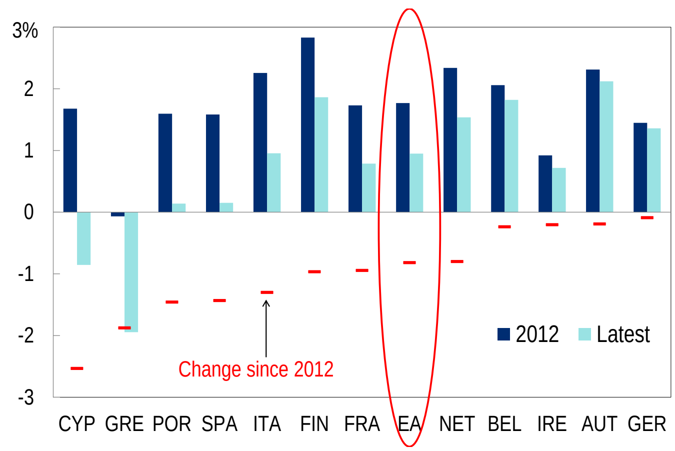
While the ECB rightly focuses on inflation at the aggregate euro area level, we reckon inflation analysis on a country-by-country basis is important at present because of the high degree of dispersion in headline and core inflation rates across EMU countries (see Figure 3). The weakening in underlying inflation pressures observed during 2013 has been most acute in the periphery (except for Ireland), although core countries like France and the Netherlands also experienced a significant drop in core inflation rates (see Figure 4). Two weeks ago we looked at inflation at one end of the euro area spectrum, Germany, and we argued that German inflation is likely to remain low for some time before returning close to the 2% mark in 2015. This week we look at the opposite end of the euro area inflation distribution, the GIIPS countries (Greece, Italy, Ireland, Portugal and Spain). We try to assess for how long and to what extent the GIIPS could continue to exert downward pressures on euro area average inflation.

Figure 3. Euro Area -- Dispersion in Core HICP YY Inflation Rates (Coefficient of Variation), 1996-Jan 14



Note: core inflation is defined as HICP ex-energy and fresh food.
Sources: Eurostat, Haver Analytics and Citi Research

Figure 4. Euro Area – HICP Core Inflation Rates (YY), 2012-Jan14



Latest: Dec-13/Jan-14 average
Sources: Eurostat, Haver Analytics and Citi Research

…with core inflation falling the most in periphery countries

That inflation is falling faster in the countries where the recession has been most severe, and presumably the output gap is bigger, should not come as a surprise. However, output gaps as real-time indicators of economic slack are generally imprecise measures, in particular when used to forecast future inflation and for countries (like the GIIPS) which have experienced an "imprecise" drop in potential output. For example, the OECD estimates Spain's 2013 output gap at -7.1% of potential GDP against "only" -4.2% estimated by the IMF; the gap in case of Ireland for example is even bigger (-8.9% according to the OECD, -1.8% according to the IMF). These estimates imply substantially different assessments of current and prospective disinflationary pressures for these two countries.

Internal devaluation at play, enforcing price adjustments in periphery relative to core countries

Another way to look at the disinflationary pressures in the periphery is to consider that, in the absence of nominal exchange rate flexibility, the GIIPS countries are currently going through a phase of internal devaluation, as the necessary price adjustment for the advocated economic rebalancing. Internal devaluation should work through two channels: (i) via a reduction in the overall price and wage levels relative to trading partners, in order to foster price competitiveness of domestic producers on internal and external markets; (ii) via a reduction in the prices of non-tradable goods and services (mostly services) relative to prices of tradable goods and services (mostly goods). The latter would favour the reallocation of resources from low-productivity non-tradable sectors (for example construction, public

administration) to more productive tradable sectors, hence lifting the country's overall productivity and competitiveness.

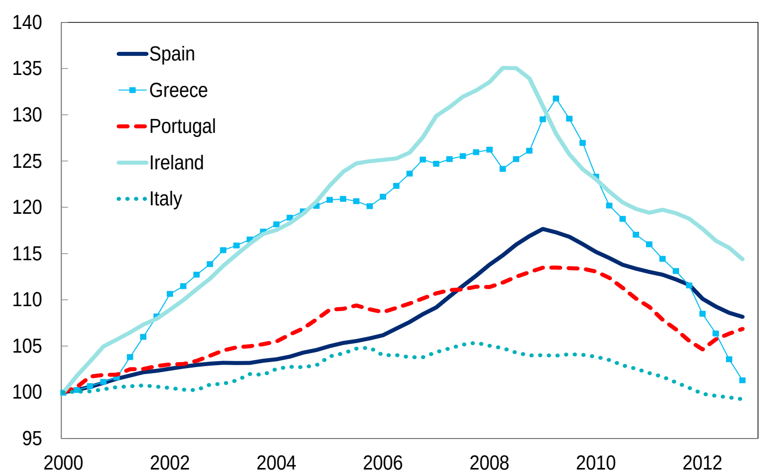
Structural reforms are bearing fruit, increasing price and wage flexibility

Internal devaluation is probably the result, at least in part, of the much-advocated structural reforms that most GIIPS countries have adopted in the past few years. Labour market and product market reforms were largely aimed at increasing wage and price flexibility, hence shifting the burden of the economic adjustment from real quantities (and headcounts) onto prices and wages. The Spanish labour market reform has been found to be partly behind the recent significant deceleration (in some cases outright decline) in Spanish wages (especially in non-tradable sectors). The OECD "Toolkit" of more than 500 product market liberalisations/deregulations prescribed for Greece (on which the troika is still at odds with the Greek government) aims to reduce retail prices in a number of sectors, boosting real disposable incomes and GDP growth. However, the main problem remains that inflation in the GIIPS' main trading partners will probably stay low too, implying that the internal devaluation process is happening at close-to-zero or negative inflation rates in the periphery.

Adjustment in wages has so far been more pronounced than in prices for goods and services

It is not difficult to find evidence that such a price readjustment process is at work across most of the GIIPS countries, although so far this has been predominantly concentrated on wage rather than price levels. The cumulated wage differential relative to Germany and France (as a proxy for the GIIPS' main trading partners) has been narrowing for the past three or four years in all GIIPS countries (see Figure 5). In the case of Greece and Italy, imbalances accumulated since 2000 up to the peak in 2009-2010 have already been nearly absorbed. The wage differential with the core is back where it was in 2000, after falling by an astonishing 30% in the case of Greece. The cumulated wage differential is still positive for Ireland, but it has reduced considerably (by more than 20pp) since the peak in 2009. The adjustment has been less extreme in Spain and Portugal, but it has still been quite sizeable (-8% in Spain, -6% in Portugal) and has been accelerating further in recent quarters in the private sector[1].

Figure 5. Euro Area Periphery -- Cumulated Differential in Compensation per Employee Relative to Germany/France Average (2000 = 100)



Sources: ECB and Citi Research

[1] We focus on compensation per employee rather than unit labour costs, because we are interested in the nominal adjustment of the economy. Unit labour costs (compensation per employee/labour productivity) also measure the real adjustment in the workforce relative to output. The adjustment in ULC has been even more pronounced than in wages in all the GIIPS, except in Italy.

Little evidence of relative price adjustment of non-tradable versus tradable goods and services

On the other hand, the adjustment in goods and services prices has been much less evident across all GIIPS countries, with the exception of Ireland (see Figure 2 on the Front Page). Equally, evidence of relative price adjustment of non-tradable goods and services versus tradable goods and services is probably even more scant. Taking the services HICP as a proxy for non-tradables and non-energy industrial goods as a proxy of tradables, we note that only Greece has started to display signs of relative price adjustment, and only in the past year or so, with the ratio of services HICP to non-energy industrial goods HICP starting to fall. Spain has seen only a stabilisation in relative price dynamics between tradables and non-tradables, while in other countries inflation in non-tradables continues to outpace tradables. However, more accurate analysis of prices for tradable and non-tradable goods/services is needed to assess this adjustment – something that goes beyond the scope of this article (which is mainly focused on assessing the relative price adjustment across EMU countries).

How far does the price adjustment have to go?

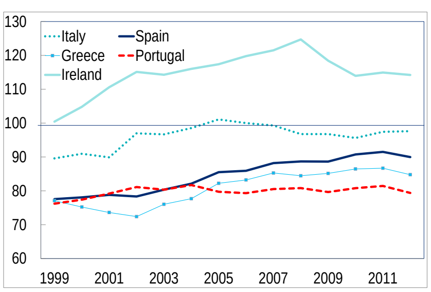
Estimating how much internal devaluation is still needed to rebalance the GIIPS countries is key to determine for how long and to what extent the periphery will likely continue exerting downward pressures on aggregate euro area inflation. However, estimating the adjustment needs is not an easy task. We look at three different methods:

The cumulated HICP differential between periphery and core is still wide in most GIIPS countries, except Ireland

1. First, we look at the cumulated price differential (as measured by headline HICP) with the core euro area countries (proxied by an average of Germany and France) since EMU creation (see Figure 2 on the Front Page). On this measure, Greece and Spain still have the largest cumulated gaps relative to core countries (still around 15% above 1999 relative price level). Ireland has adjusted the most among the GIIPS and its HICP price differential with the core is currently not far from where it was at the start of the EMU. Italy and Portugal are somewhere in between (around 8-10% “overpriced”). Unsurprisingly, results are very similar if we use the GDP deflator instead of the headline HICP as a proxy of relative price dynamic.

   One drawback of this approach is that results largely depend on the reference year: we took 1999 as base year because of the EMU creation, but inflation convergence was enforced well before that, and price and wage levels in 1999 in the periphery were significantly lower than in the core. Actually, despite the higher inflation rates in pre-crisis years, prices and wages in the periphery are still below the level in core countries by some margin (except in Ireland). The average price level is somewhat 20% lower in Portugal than in the Germany/France average and 10% lower in Spain (see Figure 6). Therefore, the higher price and wage inflation rates in GIIPS countries during the first ten years of the euro should, at least in part, be explained by the process of intra-EMU convergence in incomes (and prices) towards the core, wealthier, countries. Using a base year (arbitrarily taken as 1999) as a starting point does not take into account the convergence process of prices/incomes within the monetary union.

Figure 6. Euro Area – Price Level (Germany/France Average = 100), 1999-2012



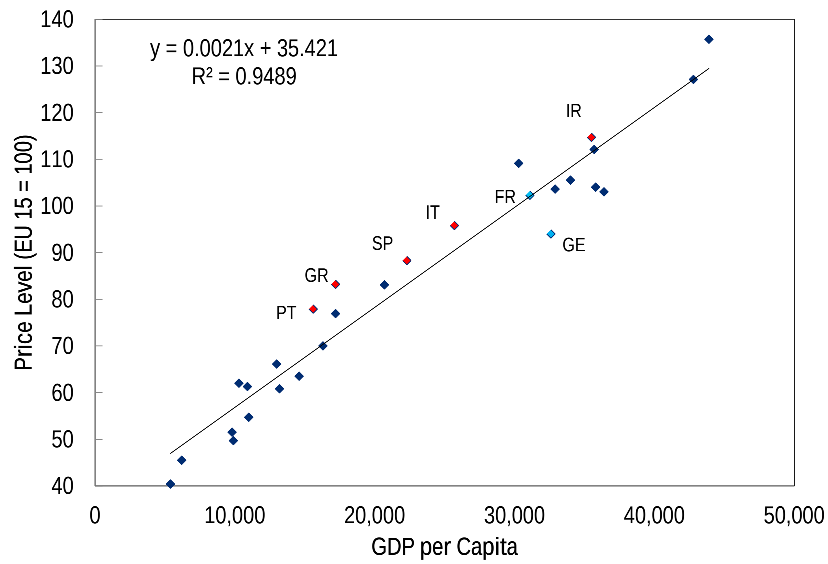
Sources: Eurostat and Citi Research

Prices in the periphery tend to be still too high relative to their per capita income levels, especially in Greece and Portugal

2. We therefore look at a different relationship which links the price level and per capita income in a cross-country analysis. The relationship relies on the empirical finding that price and per capita income levels are positively correlated across countries, or, to put it differently, that richer countries tend to have higher price levels than poorer countries (so-called “Penn effect”). This relationship generally holds across a large sample of world economies, but it very well within Europe, where similar consumption patterns and similar levels of indirect taxation allow for fairly accurate cross-country analyses.

We regress the 2012 price level (latest Eurostat data available) on the level of per capita income across 27 EU countries (see Figure 7). We then compute the deviation (in percentage terms) of each country's price level from the fitted line to assess whether the current (2012) price level lies above or below the level consistent with each country's per capita income. All GIIPS countries sit above the fitted line in 2012. Greece and Portugal display the largest gap (around 15% "overpriced") relative to the "fair value", while Italy and Spain are around 7% "overpriced". Interestingly, according to this measure Ireland appears rather fairly priced (+2% relative to fitted line), once its high level of per capita income is taken into account.

Figure 7. EU 28 -- Per Capita GDP and Price Levels, 2012

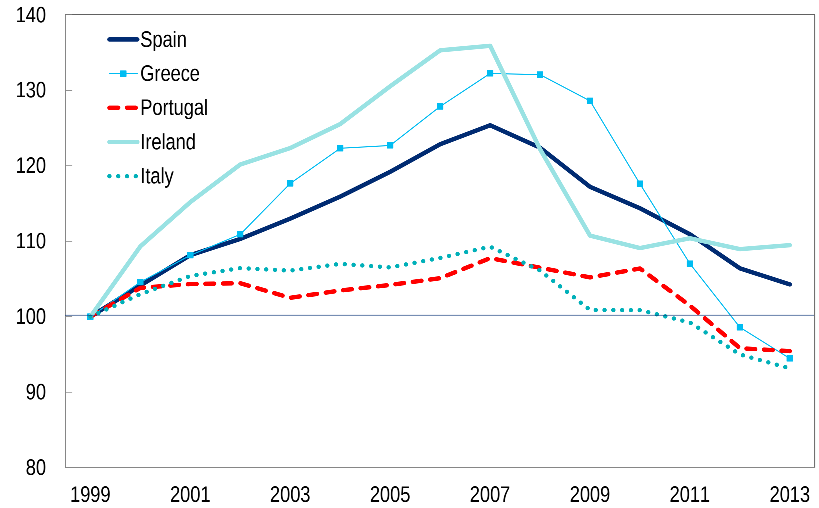


Sources: Eurostat, IMF and Citi Research

Falling real per capita incomes since 2007 call for price adjustments to offset large losses in purchasing power

3. Finally, we look at each individual GIIPS country and consider the drop in real per capita incomes since the pre-crisis peak in 2007 and the extent of theoretical price adjustment needed to return to pre-crisis purchasing power levels. Real per capita GDP (deflated by HICP) has fallen by around 30% in Greece since the peak in 2007, 19% in Ireland, 17% in Spain, 15% in Italy and 11% in Portugal, suggesting that similar-sized declines in price levels would be necessary to return to 2007 purchasing power levels (see Figure 8). However, this method is likely to overestimate by a large extent the required adjustment, because price levels do not move one-to-one with incomes and it is likely that pre-crisis purchasing power levels will not be regained for several years (potential output to remain well below pre-crisis trend). Also, the ongoing (albeit mild) economic recovery should allow for a pickup in per capita incomes soon. We therefore focus on the results from methods 1 and 2.

Figure 8. Euro Area Periphery – Real GDP Per Capita (1999= 100), 1999-2013



Sources: IMF, Haver Analytics and Citi Research

Prices may take a long time to adjust because of rigidities and tax changes

All methods simplify the problem and the resulting estimates should be interpreted with caution. For example, the price adjustment net of the changes in indirect tax rates is likely to be at a more advanced stage than retail prices would suggest, as most of the GIIPS countries have used higher indirect tax rates as fiscal consolidation measures in recent years[2]. Moreover, rigidities may prevent prices from adjusting to their "long-run" equilibrium level for a long time, resulting in much less acute disinflationary pressures. However the experience of Ireland — possibly the most flexible economy in the periphery — over the past five years suggests that some significant adjustments still lie ahead for the rest of the periphery.

Greece has biggest potential for further price declines, Ireland looks close to the end of its price adjustment

Some general conclusions can be drawn from the analysis. According to all methods, Greece is the country displaying the biggest potential for further price adjustment, in the order of some 15% according to both methods 1 and 2. It is no surprise that Greece is experiencing the largest deflationary pressures among all the GIIPS countries at present. On the other hand, Ireland is at the most advanced stage of the rebalancing relative to the core euro and relative to income levels. Portugal and Spain have less to do than Greece, being 7% to 15% "overpriced". According to both methods 1 and 2, Italy needs a price adjustment of around 7%.

Downward price pressures on the euro area from the GIIPS are likely to persist for some time…

Assuming HICP inflation of -1% per annum in all GIIPS countries and taking our central scenario for inflation in Germany and France, the identified price gaps would be closed by 2019 in Greece, by 2017 in Spain and Portugal, by 2016 in Italy. The impact on euro area average HICP inflation from the GIIPS would therefore be -0.35pp per year (given that the GIIPS together currently have a weight of ca. 35% in the euro area). In case of more severe deflation occurring in the periphery, at -2% per annum, the adjustment would be shorter (ending in mid-2017 for Greece), but larger on annual euro area inflation rates (-0.7pp per annum). If instead we envisaged only mildly negative inflation rates, of -0.5% per annum, the adjustment would take until 2020 in Greece, 2018 in Portugal and Spain and mid-2016 in Italy.

[2] We considered using the HICP at constant tax rate to address this issue. However, the time series is shorter than headline HICP (it starts in 2003) and more importantly Eurostat computes the HICP at constant tax rates assuming full pass-through of all indirect tax changes, which normally overestimates by some margin the impact on retail prices of tax changes and hence underestimates the ex-tax inflation rate.

…calling for more action from the ECB

Although disinflationary pressures in the periphery may be seen by the ECB as a one-off, almost welcome, price adjustment necessary for economic rebalancing, our analysis suggests that these are likely to persist beyond the medium to long-term horizon of the ECB's price stability objective. Moreover, as we noted before, the internal devaluation in the periphery occurring at low inflation rates in the rest of the euro area involves serious risks for the sustainability of public and private debts in the same GIIPS countries that are trying to rebalance their economies. While private debt ratios have started to decline, public debt ratios are still rising and unlikely to stabilise any time soon in most of the periphery (with the exception of Ireland). We therefore believe that it remains the ECB's task to do more in terms of activating standard and non-standard policy tools to make sure that these relative price adjustments occur at a level of average inflation which is in line with its inflation target of *"below but close to 2%"*.

Key Economic Indicators (10 March – 14 March 2014)

		Forecast	Last
Monday 10 March		Forecast	Last
07:30	France: Bank of France Business Sentiment, Feb	100	99
07:45	France: Industrial Production, Jan	0.1% MM, 1.1% YY	-0.3% MM, 0.5% YY
	Manufacturing Production, Jan	0.3% MM, 1.4% YY	0.0% MM, 0.5% YY
08:00	Spain: Industrial Production, Jan	1.2% YY	1.7% YY
08:15	Switzerland: Retail Sales, Jan		
09:00	Norway: Consumer Prices, Feb	0.5% MM, 2.1% YY	0.0% MM, 2.3% YY
	CPI-ATE, Feb	0.4% MM, 2.2% YY	-0.1% MM, 2.4% YY
09:00	Italy: Industrial Production, Jan	0.7% MM	-0.9% MM
09:30	Euro Area: Sentix Investor Confidence, Mar		
	Euro Area: Eurogroup Meeting, Brussels		
Tuesday 11 March		Forecast	Last
	EU: EcoFin Meeting, Brussels		
07:00	Germany: Trade Balance, Jan		
07:00	Germany: Labour Cost Index, 4Q		
07:00	Sweden: PES Unemployment Rate, Feb	4.5%	4.6%
08:15	Switzerland: Industrial Production, 4Q		
08:30	Sweden: Consumer Prices, Feb	0.6% MM, -0.1% YY	-1.2% MM, -0.2% YY
	CPIF, Feb	0.6% MM, 0.4% YY	-1.1% MM, 0.4% YY
09:00	Italy: GDP Details, 4Q	0.1% QQ, -0.8% YY	0.0% QQ, -1.9% YY
09:30	UK: Industrial Production, Jan	0.2% MM, 2.9% YY	0.4% MM, 1.8% YY
	Manufacturing Output, Jan	0.3% MM, 3.3% YY	0.3% MM, 1.5% YY
10:00	Greece: GDP Details, 4Q		
10:00	Cyprus: GDP Details, 4Q		
11:00	Portugal: GDP, 4Q		
Wednesday 12 March		Forecast	Last
06:30	France: Non-Farm Payrolls, 4Q Final	0.1% QQ, -0.2% YY	-0.1% QQ, -0.8% YY
07:00	Germany: Insolvencies, Dec		
08:00	Spain: HICP, Feb Final	0.0% YY	0.3% YY
08:30	Netherlands: Industrial Production, Jan		
09:30	UK: Trade Balance – Goods & Services, Jan	£-2.0 Billion	£-1.0 Billion
10:00	Euro Area: Industrial Production, Jan	0.5% MM	-0.7% MM
11:00	Portugal: Consumer Prices, Feb Final		
Thursday 13 March		Forecast	Last
00:01	UK: RICS House Price Survey, Feb		
07:45	France: HICP, Feb	0.6% MM, 1.1% YY	-0.6% MM, 0.8% YY
	Consumer Prices, Feb	0.6% MM, 1.0% YY	-0.6% MM, 0.7% YY
	CPI Ex Tobacco Index, Feb	125.8	125.04
08:00	Spain: Retail Sales, Jan	0.3% YY	-1.3% YY
08:30	Netherlands: Retail Sales, Jan		
08:30	Sweden: Unemployment Rate, Feb	8.4% NSA, 8.1% SA	8.6% NSA, 8.2% SA
09:00	Italy: Consumer Prices, Feb Final		
09:00	Euro Area: ECB Monthly Report		
10:00	Greece: Unemployment Rate, 4Q		
11:00	Ireland: GDP, 4Q Preliminary		
11:00	Ireland: Balance of Payments, 4Q		
11:00	Ireland: Consumer Prices, Feb		
Friday 14 March		Forecast	Last
00:01	UK: Bank of England *Quarterly Bulletin*		
07:00	Germany: HICP, Feb Final	0.5% MM, 1.0% YY	-0.7% MM, 1.2% YY
	National CPI, Feb Final	0.5% MM, 1.2% YY	-0.6% MM, 1.3% YY
08:15	Switzerland: Producer and Import Prices, Feb		
08:30	Netherlands: Trade Balance, Jan		
09:30	Italy: General Government Debt, Jan		
09:30	UK: Construction Output, Jan		
10:00	Euro Area: Employment, 4Q		

Sources: National statistical offices, central banks and Citi Research

Economic Indicators

Euro Area			
Mar 12 10:00 London Time	*Industrial Production, Jan*	Forecast: 0.5% MM	Prior: -0.7% MM

Industrial activity at the beginning of 2014 probably reversed part of the weakness recorded in December, showing a MM expansion in January. This would be consistent with recent gains in business surveys, especially in the manufacturing PMI.

Germany			
Mar 14 07:00 London Time	*HICP, Feb Final*	Forecast: 0.5% MM, 1.0% YY	Prior: -0.7% MM, 1.2% YY
	National CPI, Feb Final	Forecast: 0.5% MM, 1.2% YY	Prior: -0.6% MM, 1.3% YY

We expect the final February readings for German inflation to confirm the flash readings for both the national and the harmonised measures. The original reading undershot our and market expectations, as HICP inflation fell to the lowest level since August '08, even though core inflation (CPI ex-food and energy) remained stable.

France			
Mar 10 07:30 London Time	*Bank of France Business Sentiment, Feb*	Forecast: 100	Prior: 99

Sentiment surveys have been treading water in recent months. We estimate that this situation is consistent with our base case that economic activity is unlikely to accelerate from its current annualised pace of around 1%. We interpret the better manufacturing PMI readings in the past few months as a catch-up rather than some underlying improvement in IP dynamics. We still see some room for the industrial sentiment survey to show a modest increase in February, and see some slight upside risks in coming months provided that President Hollande delivers on his announcement of supply-side reforms and promises of lower corporate taxation.

Mar 10 07:45 London Time	*Industrial Production, Jan*	Forecast: 0.1% MM, 1.1% YY	Prior: -0.3% MM, 0.5% YY
	Manufacturing Production, Jan	Forecast: 0.3% MM, 1.4% YY	Prior: 0.0% MM, 0.5% YY

All signs point to a modest rebound in industrial and manufacturing production in January. Capacity utilisation rose sizeably in January according to the BdF survey, posting its largest monthly rebound since September 2011. We look for a small increase in industrial production in January, which would leave the 1Q entry point 0.3% above its 4Q average. We see upside risks to this forecast as industrialists are reporting a steady depletion of their stocks of finished goods, while suggesting a gradual improvement in their order books. Looking ahead, signals from both personal and general output expectations suggest that the industrial sector recovery still have further to run.

Mar 12 07:45 London Time	*Non-Farm Payrolls, 4Q F*	Forecast: 0.1% QQ, -0.2% YY	Prior: -0.1% QQ, -0.8% YY

Non-farm private payrolls rose in 4Q-13 for the first time since 1Q-12, with the total number of persons employed increasing by a meagre 12K. Growth in services sector employment accelerated to 0.3% QQ, its best performance since 2Q-11, while construction and industrial sector employment declined by 0.4% and 0.5% QQ, respectively. With surveys of private sector employment showing little impetus in the first quarter to date, we see few upside risks to our forecast of a similar outcome in terms of job creation in 1Q-14. This situation highlights the urgency that the government faces in terms of instilling sufficient confidence about the future and profitability trends for the private sector to hire a little more.

Mar 13 07:45 London Time	*CPI – EU Harmonised, Feb*	Forecast: 0.6% MM, 1.1% YY	Prior: -0.6% MM, 0.8% YY
	Consumer Price Index, Feb	Forecast: 0.6% MM, 1.0% YY	Prior: -0.6% MM, 0.7% YY
	CPI Ex Tobacco Index, Feb	Forecast: 125.8	Prior: 125.04

A difference in the sample period for the calculation of seasonal discounts meant that the January inflation print likely over-represented the impact of the sales on headline inflation. There is also the added issue of the January 1 2014 VAT rate hike that has not yet been fully incorporated in terms of final prices. Overall, we expect that the French headline annual inflation rates will increase by around 0.3pt in February. The rebound in core inflation is overstating the ability of French firms to rebuild their profit margins. The government's efforts to cut labour charges will probably help over the next 12 to 18 months, but we doubt that headline inflation will accelerate materially above 1.3% in the next 24-36 months.

Italy			
Mar 10 09:00 London Time	*Industrial Production, Jan*	Forecast: 0.7% MM	Prior: -0.9% MM

Industrial activity should have rebounded in January, after a disappointing December reading. The estimated gain in industrial output should reflect also the improvement in business surveys, especially in the manufacturing PMI, which rose slightly above 53 in December and January. Output posted the first quarterly gain of 0.7% QQ in 4Q after two quarterly declines.

Mar 11 10:00 London Time	*GDP, 4Q F*	Forecast: 0.1% QQ; -0.8% YY	Prior: 0.0% QQ -1.9% YY

GDP expanded for the first time in 4Q 13 by a meagre 0.1% QQ after eight consecutive declines and after lagging behind the recovery in the rest of the euro area. We think the improvement in export growth and the boost to corporate liquidity provided by the repayment of government arrears (1.3% of GDP in 2H 13) contributed to lift economic activity at the end of last year, via a positive net export contribution and rising business investment. However, private consumption likely continued to contract, while a negative contribution of inventories probably weighed on quarterly GDP growth. We expect a modest pick-up in quarterly growth in 1H 14.

Spain			
Mar 10 08:00 London Time	*Industrial Production, Jan*	Forecast: 1.2% YY	Prior: 1.7% YY

Improvements in survey data (manufacturing PMI rose to 52.2 in Jan, 0.4 sd. above its long-term average and highest since Apr 2010) suggest industrial production probably bounced back in January (we project by 1.1% MM) after a fall of 0.3% MM in Dec, amid data pointing to a pickup in external demand following weak readings in the previous couple of months. We expect this will translate into a YY figure (WDA) in Jan of 1.2% (vs. 1.7% in Dec). Going forward strong survey data up to Feb indicate the momentum on industrial production is likely to remain in place over 1Q (after a decline of 0.3% QQ in 4Q).

Mar 12 08:00 London Time	*HICP, Feb F*	Forecast: 0.0% YY	Prior: 0.3% YY

According to the flash estimate, HICP inflation slowed to 0.0% YY in February (in line with our expectations) from 0.3% YY over the previous three months. Lower fuel prices and some negative base effects have probably driven HICP energy inflation into negative territory, offsetting an additional increase in electricity tariffs in February (of 0.2% MM). On the other hand, we expect further easing in food price inflation as well as on-going weakness in core prices (excl. fresh food and tobacco), with prices of services likely remaining in negative territory. We expect HICP inflation to average -0.1% YY over 2014.

Economic Indicators

Spain continued			
Mar 13 08:00 London Time	*Retail Sales, Jan*	Forecast: 0.3% YY	Prior: -1.3% YY
	We expect real retail sales to rise by 2% MM in January, mainly reflecting a pay back after the strong decline of 3.5% MM in December. We expect this will translate into an YY figure (WDA) in Jan of 0.3% (vs. -1.3% in Dec). Going forward, falling inflation may provide some boost to real disposable income and hence real spending. We expect private consumption to post positive QQ growth in 1Q and over 2014.		
Sweden			
Mar 11 07:00 London Time	*PES Unemployment Rate, Feb*	Forecast: 4.5%	Prior: 4.6%
	Improving short-term indicators and declining unemployment according to the labour market office's statistics strongly support our assessment that unemployment will start to decline this year.		
Mar 11	*Consumer Prices, Feb*	Forecast: 0.6% MM; -0.1% YY	Prior: -1.2% MM; -0.2% YY
Mar 11	*CPIF, Feb*	Forecast: 0.6% MM; 0.4% YY	Prior: -1.1% MM; 0.4% YY
	Consumer prices normally drop in January amid sales activity following Christmas, but the 1.2% MM slide was well above the average for the past ten years (-0.6% MM). CPIF fell 0.4pp to 0.4% YY, 0.3pp below the Riksbank's forecast, and highlighting very low inflationary pressures at present. The large drop was relatively broad-based, but part of the surprise can be explained by volatile travel prices; ticket prices for foreign flights slipped by 35% on the month, shaving around 0.25pp off the CPI. We expect this drop to be partly reversed in February. For comparison, the Riksbank sees CPI at 0.0% YY and CPIF at 0.5% YY. Although inflation is likely to undershoot slightly again in February, the substantial rise in 4Q GDP (of 1.7% QQ) should ensure a stable repo rate at the upcoming April meeting.		
Mar 13 08:30 London Time	*Unemployment Rate, Feb*	Forecast: 8.4% NSA, 8.1% SA	Prior: 8.6% NSA, 8.2% SA
	The jump in the jobless rate in January (up 1.1pp) was not large compared to the normal monthly volatility. Still, unemployment was 0.3pp above the Riksbank's average 1Q forecast. Employment continues to trend higher at a steady pace, while an also rising labour supply is an important reason why unemployment stays high. We reckon that the strong upward trend in labour supply is likely to weaken slightly going forward, which in combination with accelerating employment growth should lower unemployment gradually this year. For sure, improving short-term indicators and declining unemployment according to the labour market office's statistics support this assessment.		
Norway			
Mar 10	*Consumer Prices, Feb*	Forecast: 0.5% MM; 2.1% YY	Prior: 0.0% MM; 2.3% YY
09:00 London Time	*CPI-ATE, Feb*	Forecast: 0.4% MM; 2.2% YY	Prior: -0.1% MM; 2.4% YY
	The depreciation of the NOK was behind the jump in inflation in January; core inflation CPI-ATE came to 2.4% YY, 0.4pp up from December, and 0.3pp above Norges Bank's estimate (but follows a 0.3pp undershoot vs. Norges Bank forecast in December). According to the details, 1) imported inflation rose 1.6% YY in January, 1pp up versus December, 2) the price decline for clothes in January was the smallest since 1997, and 3) prices for cars gained 1.8% MM, the strongest January growth pace since 2001. Otherwise, price growth for domestically produced goods and services was about stable at 2.8% YY. We expect the unusually small price cuts during the winter sales of clothing and shoes and of furniture to prove temporary, and reckon that either the price cuts will come in February or that prices will rise less after the March/April sales than was the case last year. Meanwhile, a weaker NOK should exert further upward pressure on inflation ahead. For comparison, Norges Bank sees CPI at 2.1% YY and CPI-ATE at 2.3% YY.		
United Kingdom			
Mar 11	*Industrial Production, Jan*	Forecast: 0.2% MM, 2.9% YY	Prior: 0.4% MM, 1.8% YY
09:30 London Time	*Manufacturing Output, Jan*	Forecast: 0.3% MM, 3.3% YY	Prior: 0.3% MM, 1.5% YY
	Surveys suggest that manufacturing output remains buoyant, and hence we expect another solid gain. The monthly figures are often quite volatile, but industrial production has risen steadily in recent quarters, by 0.5% QQ in 1Q13, 0.7% in 2Q, 0.5% in 3Q and 0.5% in 4Q. We expect a similar gain in 1Q.		
Mar 12 09:30 London Time	*Trade Balance – Goods & Services, Jan*	Forecast: £-2.0 Billion	Prior: £-1.0 Billion
	The trade deficit fell sharply in December and, while surveys suggest that export orders are picking up, we regard the December figures as something of an outlier and look for a modestly wider deficit this month.		

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

Key Economic Indicators (17 March – 21 March 2014)

Monday 17 March		Forecast	Last
09:00	Norway: Trade Balance, Feb		
10:00	Euro Area: HICP, Feb Final		
Tuesday 18 March		**Forecast**	**Last**
06:45	Switzerland: SECO Quarterly Economic Forecasts, Mar		
07:00	EU-27: New Car Registrations, Feb		
08:00	Spain: Labour Costs, 4Q		
09:00	Italy: Trade Balance, Jan		
10:00	Germany: ZEW Economic Expectations, Mar		
10:00	Euro Area: Trade Balance, Jan		
Wednesday 19 March		**Forecast**	**Last**
07:45	France: Current Account, Jan		
09:30	UK: LFS Unemployment 3-M Average, Nov-Jan	-54,000 QQ, 7.2% Rate	-125,000 QQ, 7.2% Rate
	LFS Unemployment Rate – Single Month, Jan	6.9% Rate	7.2% Rate
09:30	UK: Claimant Count Unemployment, Feb	-25,000 MM, 3.5% Rate	-27,600 MM, 3.6% Rate
09:30	UK: MPC Minutes		
09:30	UK: BoE Agents' Summary of Business Conditions, Mar		
10:00	Euro Area: Labour Cost Index, 4Q		
10:00	Euro Area: Construction Output, Jan		
c. 12:30	UK: 2014 Budget presented to Parliament by Chancellor Osborne		
18:00	US: FOMC Outcome		
Thursday 20 March		**Forecast**	**Last**
	European Council of Heads of State and Government, Brussels (Mar 20-21)		
07:00	Germany: Producer Prices, Feb		
10:00	Italy: Current Account, Jan		
08:30	Switzerland: Swiss National Bank Monetary Policy Assessment		
08:30	Netherlands: Consumer Confidence, Mar		
08:30	Netherlands: Unemployment, Feb		
11:00	UK: CBI Output Expectations, Mar	+30%	+28%
	CBI Order Books, Mar	+5%	+3%
	CBI Selling Prices, Mar	+12%	+17%
14:00	Belgium: Consumer Confidence, Mar		
Friday 21 March		**Forecast**	**Last**
	European Council continued		
09:00	Italy: Industrial Orders, Jan		
09:00	Euro Area: Balance of Payments, Jan		
09:30	UK: Public Sector Net Borrowing (Ex RM, APF & Fin. Intervention), Feb	£8.5 Billion Deficit	Year Ago: £9.0 Billion Deficit
	Fiscal Year to Date, Apr-Feb	Apr13-Feb14: £99.2 Billion Deficit	Apr12-Feb13: £103.6 Billion Deficit
10:00	Italy: Contractual Wages, Feb		
15:00	Euro Area: Consumer Confidence, Mar Flash		

Sources: National statistical offices, central banks and Citi Research

Title	Author	Date
Euro Area – Sovereign Debt Update		
No Move from ECB – Yet	European Economics Team	Mar 7, 2014
IMF Blog Calls for ECB Action	European Economics Team	Mar 6, 2014
EU Commission to Present Ukraine Aid Package	European Economics Team	Mar 5, 2014
Draghi Sees Risks of Inflation Expectations Becoming Disanchored	European Economics Team	Mar 4, 2014
ECB's Lautenschläger Calls for Progress on Bank Resolution	European Economics Team	Mar 3, 2014
Euro Area		
ECB - Happy to Stay Put, but Keeps Bias to Ease	Guillaume Menuet	Mar 6, 2014
Ireland – After the Programme	Michael Saunders	Mar 4, 2014
Euro Area - A Higher-Than-Expected HICP Inflation Print	Giada Giani	Feb 28, 2014
European Economic Forecast Highlights - February 2014	Ann O'Kelly	Feb 27, 2014
Euro Area - Bank Credit Data Understate Credit Flows to Non-Financial Firms	Ebrahim Rahbari/Antonio Montilla	Feb 27, 2014
Euro Area - German Constitutional Court Leaves OMT in Limbo	Ebrahim Rahbari	Feb 7, 2014
ECB: No Change, But Action Likely In March -	Ebrahim Rahbari	Feb 6, 2014
Euro Area - Assessing Vulnerabilities to an EM Slowdown	Michael Saunders	Feb 3, 2014
ECB Preview - ECB Likely to Resist Pressure to Act at February Meeting	Guillaume Menuet	Jan 31, 2014
Euro Area - Inflation Surprises Once Again to the Downside in January	Giada Giani	Jan 31, 2014
Euro Economics Weekly		
ECB to Cut: Beware the (Early) Ides of March	Guillaume Menuet	Feb 28, 2014
German Inflation: Lower For a Little Longer	Ebrahim Rahbari	Feb 21, 2014
Could Eurozone Politics Return to the Fore?	Giada Giani	Feb 14, 2014
ERS: An Alternative Solution to OMT?	Guillaume Menuet	Feb 7, 2014
The Euro Area Now and Japan Then: Separated by One Large Shock	Ebrahim Rahbari	Jan 31, 2014
Spain Is Becoming More German	Giada Giani	Jan 24, 2014
Belgium: Politics the Likely Main Wild Card in 2014	Guillaume Menuet	Jan 17, 2014
Germany 2014 Outlook: Recovery And Rebalancing	Ebrahim Rahbari	Jan 10, 2014
2014 Outlook: GDP Risks, Credit Dynamics and Inflation Update	European Economics Team	Jan 6, 2014
Spain: 2014 Outperformer?	Giada Giani	Dec 13, 2013
Why Is France Underperforming? And How To Fix It	Guillaume Menuet	Dec 6, 2013
Is Deflation Good or Bad for the Eurozone Periphery?	Ebrahim Rahbari	Nov 29, 2013
Is This the End of Austerity?	Giada Giani	Nov 22, 2013
Recovery Watch: SME Lending is Key	Guillaume Menuet	Nov 15, 2013
One Shock Away from Deflation	Giada Giani	Nov 8, 2013
Why the ECB Should Worry About the Strong Euro	Ebrahim Rahbari	Nov 1, 2013
Italy and Spain Look Well Positioned For Job Growth	Guillaume Menuet	Oct 25, 2013
Portugal — What After June 2014?	Giada Giani	Oct 18, 2013
Chief Economist Publications		
Global Economic Outlook and Strategy - February 2014	Willem Buiter	Feb 26, 2014
Scandi		
Scandi Economics Update	Tina Mortensen	Mar 7, 2014
Sweden - Production Data Still Lacks Clear Signs of Recovery	Tina Mortensen	Mar 5, 2014
Denmark - Back to Negative Growth in 4Q 2013	Tina Mortensen	Feb 28, 2014
UK		
UK — Scottish Independence: Will It Happen? What Would Be The Implications? -	Michael Saunders	Mar 7, 2014
UK - Services PMI Points to Continued Strong Growth	Michael Saunders	Mar 5, 2014
UK - More Bullish Growth Indicators	Michael Saunders	Mar 3, 2014
UK - UK ECI Highest Since Late 1980s	Michael Saunders	Feb 27, 2014
UK - YouGov Reports Lower Inflation Expectations	Michael Saunders	Feb 27, 2014
UK Economics Weekly		
Budget Preview — Building Towards the Election	Michael Saunders	Feb 28, 2014
Still Bullish on UK Growth	Michael Saunders	Feb 21, 2014
What Does the "Next Phase of Forward Guidance" Amount To?	Michael Saunders	Feb 14, 2014
How Vulnerable Is the UK to EM Strains?	Michael Saunders	Feb 7, 2014
Is Growth Credit-Led?	Michael Saunders	Jan 31, 2014
After Forward Guidance…"Fuzzy Guidance"	Michael Saunders	Jan 24, 2014

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	Giada Giani; Guillaume Menuet; Ebrahim Rahbari; Michael Saunders; Antonio Montilla; Ann O'Kelly

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.

Important Disclosures for Bell Potter Customers: Bell Potter is making this Product available to its clients pursuant to an agreement with Citi Global Markets Australia Pty Ltd. Neither Citi Global Markets Australia Pty Ltd. nor any of its affiliates has made any determination as to the suitability of the information provided herein and clients should consult with their Bell Potter financial advisor before making any investment decision.

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 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 by the PRA and regulated by the FCA and the PRA. 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 Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold//Citigold 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 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 Buyukdere 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 by the Prudential Regulation Authority ("PRA") and regulated by the Financial Conduct Authority ("FCA") and the PRA. This material may relate to investments or services of a person outside of the UK or to other matters which are not authorised by the PRA nor regulated by the FCA and the PRA 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 authorised by the PRA and regulated by the FCA and the PRA.

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 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.

Citi Research generally disseminates its research to the Firm's global institutional and retail clients via both proprietary (e.g., Citi Velocity and Citi Personal Wealth Management) and non-proprietary electronic distribution platforms. Certain research may be disseminated only via Citi's proprietary distribution platforms; however such research will not contain changes to earnings forecasts, target price, investment or risk rating or investment thesis or be otherwise inconsistent with the author's previously published research. Certain research is made available only to institutional investors to satisfy regulatory requirements. Individual Citi Research analysts may also opt to circulate published research to one or more clients by email; such email distribution is discretionary and is done only after the research has been disseminated.

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 Thomson Reuters.