BBVA | RESEARCH

Global Economic Outlook

Second Quarter 2014
Economic Analysis

- **Global expansion will continue,** with China growing less and the normalisation of the Fed's monetary policy in perspective.
- **Inflation "too low for too long"** may be a problem, especially if there are negative shocks.
- **The role of banking finance in global trade,** greater in exports and emerging economies.

Index

Closing date: 30 April 2014

1. Global growth, but heterogeneous paths, policies and vulnerabilities

The global economy has grown at an annual rate of c.3.2% in the first quarter of 2014, half a point less than we were expecting three months ago but with no interruption to the slight improvement that started in 2013. Nor can we identify any events that have a significant probability of hindering the **recovery underway,** although there are geopolitical risks.

The growth expectations in developed economies are supported by the favourable combination of political and monetary policy and by financial conditions that in general terms are not acting as a brake on activity. However, we have revised downwards our growth forecasts for the emerging markets, mainly as a reflection of **cutting our estimations for China,** where we are now expecting GDP growth of around 7.0% in 2014-15, vs. 7.5% previously. This change mainly reflects the renewed impulse for the **introduction of policies oriented on a medium-term horizon** to reduce the existing vulnerabilities and increase the role of the market in assigning economic resources, rather than continuing to deal with the slowing growth in the short term.

China is the second-largest economy in the world, but the largest in terms of its absolute contribution to global GDP growth. **The commercial impact of the slower growth in demand from China will vary as a function of the dispersion in the weight of exports to China.** South East Asia, some Andean and African economies and Germany in particular - countries that every year export more than 2.5% of their respective GDPs - could be more vulnerable. Altogether, the change of focus in economic policy, the drive for reforms that increase the role of the markets, the emphasis on consumption over investment and the concerns over the level of debt **reduce the probability of a hard landing.** An event such as this could open additional global contagion channels apart from trade such as an increase in financial volatility, although so far there is no evidence of this type of contagion.

An increase in US interest rates is getting closer. Although this will not happen immediately, the likelihood is that it will take place **sometime after mid-2015.** Just because it is widely expected, this does not mean that there will be no impact – as we saw with the Fed's tapering announcement in May 2013 that it would rein back its balance-sheet expansion as the recovery consolidated. This led to a rebalancing of global capital flows, with outflows from higher-yield and relatively higher-risk markets into markets and assets in the developed economies. We could see something similar if investors suddenly discount Fed tightening, which in itself is a positive move, as a signal of growth. This event is reflected in our forecasts, and we estimate that **the impact in terms of financial uncertainty will be contained and diverse:** contained because after the rebalancing of global portfolios between May and June last year, there is less additional potential for market correction in a scenario of global recovery; and diverse because as we saw then, exchange rates and general market access conditions moved as a function of the solidity of macroeconomic policies and of the size of the external imbalances of the affected economies, particularly the EMs.

A third reflection of the present diversity in the economic scenario is linked to the reaction to a lack of inflationary pressures. The most developed economies (the US, Europe and Japan) are all going through a phase where there are no significant inflationary pressures, which have undoubtedly been too low for too long. This is clearly the case in Japan, because since April 2013 its monetary policy has been ultra-expansive, fundamentally depreciating the currency to increase inflation and reduce the relative price of consumption vs. savings. Thus, while in Japan the signals of pressure on prices are increasing, in Europe and the US they are still slipping, especially in the former. In our central scenario, European **inflation will gradually but steadily increase** as demand recovers, financial tensions ease and the European banking system's capacity for lending is reinforced after close scrutiny of its transparency and resilience. Nonetheless, **in Europe the margin for absorbing negative shocks to inflation is very limited,** independent of whether they originate domestically or from abroad. As a reflection of this, the scope for policy implementation has to be as wide as possible, especially in the case of monetary policy that could have to face up to taking additional measures to achieve its objective from a preventative perspective. The ECB is debating this, but as of today **a QE monetary expansion programme is not part of our most probable scenario.**

2. The deceleration in China and the Fed's tighter monetary policy will define the global scenario

The global recovery continues, but the improvement is being hampered by the deceleration in the EMs. China and the Fed's tighter monetary policy will determine the global scenario

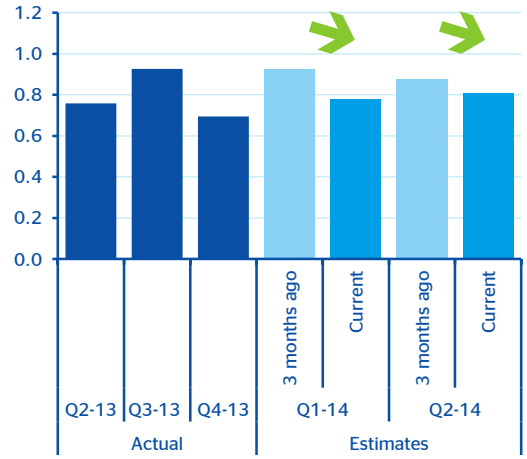
The global economic cycle remains robust at the start of 2014. According to our estimates, in the first quarter of 2014 global GDP has accelerated very slightly to around 0.8% QoQ and, according to our global activity indicator (BBVA-GAIN), we expect this pace to be maintained for the first part of the year (Figure 2.1). In the wake of this sustained global recovery is the cyclical improvement in the DMs, which has offset the deceleration in some EMs in Asia and Latin America. Meanwhile, in the last few months the financial markets have performed very differently in the two regions (Figure 2.2), and with more differentiation between the EMs. Capital flows, asset prices, interest rates and financial tension indicators have fundamentally performed in line with the outlook for rate hikes in the UK, but have also been affected to a greater or lesser extent by geopolitical risk events in Eastern Europe and the outlook for deceleration in China. Altogether, tightening financial conditions have differed in each economy as a function of the degree of external vulnerability and financial integration. This is all related to higher deficits on current account, dollar-linked liabilities and flexible exchange rates.

The global scenario is a result of a combination of the policies introduced domestically but having cross-border implications, not only in terms of more or less demand for goods and services (international trade), but also in the extent to which they help to alter global risk-aversion, which is reflected in the volatility of capital flows and/or the prices of financial assets and raw materials.

On the one hand, the cyclical recovery is gathering pace in the DMs on the back of less restrictive fiscal consolidation, fewer concerns about the sustainability of debt levels (thanks to contained financial costs) and progress on the implementation of banking union in the EMU. However, the normalisation of US monetary policy via quantitative measures and interest-rate expectations is resulting in a rebalancing of financial portfolios at a global level, which is having a relevant impact on funding conditions and asset prices in the EMs. This contagion is nothing new, but has raised its head again in a new environment: with more financial integration in the EMs and an extraordinarily lax monetary policy in the US (Figure 2.3). Symmetrically, the exit from this exceptional period will also have an impact on the financial variables (Figure 2.4).

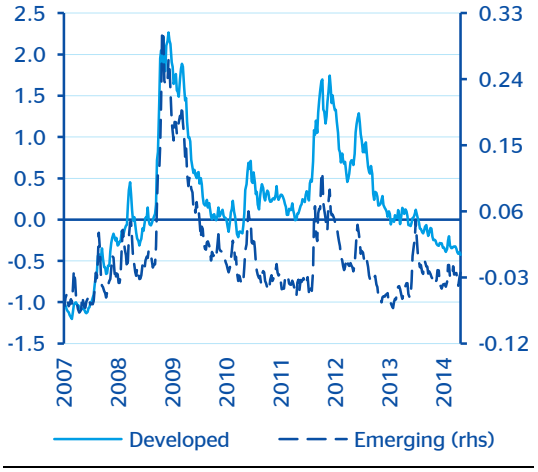
In this latter group, we are also starting to see concerns about the economic slowdown in China since the Chinese New Year, given the increased emphasis that the authorities are now placing on reducing vulnerabilities – via medium-term macro-prudential policies – rather than in sustaining growth in the short term.

Figure 2.1
Global growth (%, QoQ) based on BBVA-GAIN



Source: BBVA Research

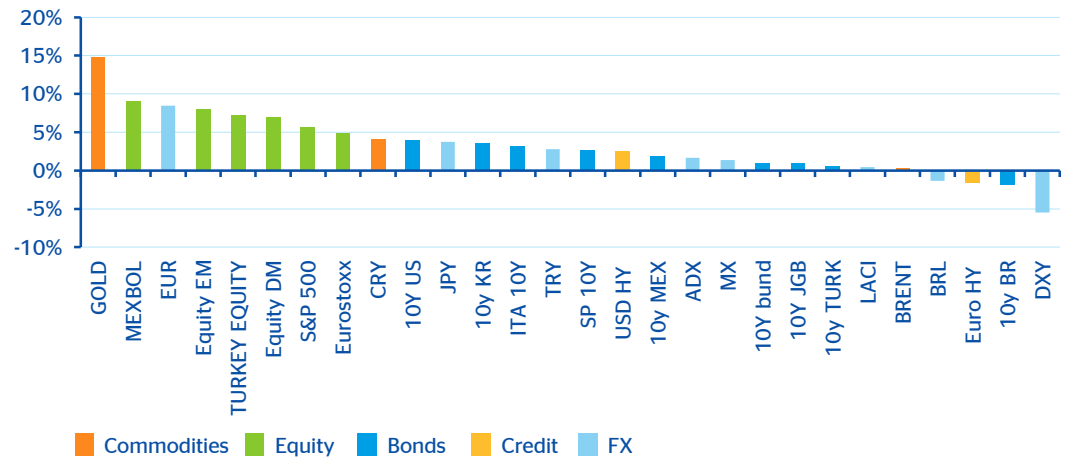
Figure 2.2
BBVA Research Financial Tensions Index in DMs and EMs



Source: BBVA Research

To sum up, our assessment of the global scenario has a downward bias compared with our valuation three months ago, which is reflected in the adjustments to our forecasts. After growing at 3.0% in 2013, **global GDP will start to accelerate again in 2014 and 2015 at around 3.4% and 3.8% respectively,** figures that demonstrate both the variations in growth expectations in diverse regions and the increased, although slight, contribution to global growth by the developed economies. Although there have been no significant changes in either the US or the eurozone, the downward pressures in our forecasts are above all visible in the EMs in 2014 and 2015, **in both Asia and Latin America. In this context, there are still short- and medium-term downside risks to our forecast.** Some factors with a global impact could make themselves felt more intensely than expected in the base scenario on a short-term time horizon, such as a tighter monetary policy on the part of the Fed, reduced growth of the global demand stemming from economic slowdown in China or geopolitical risks derived from Eastern Europe.

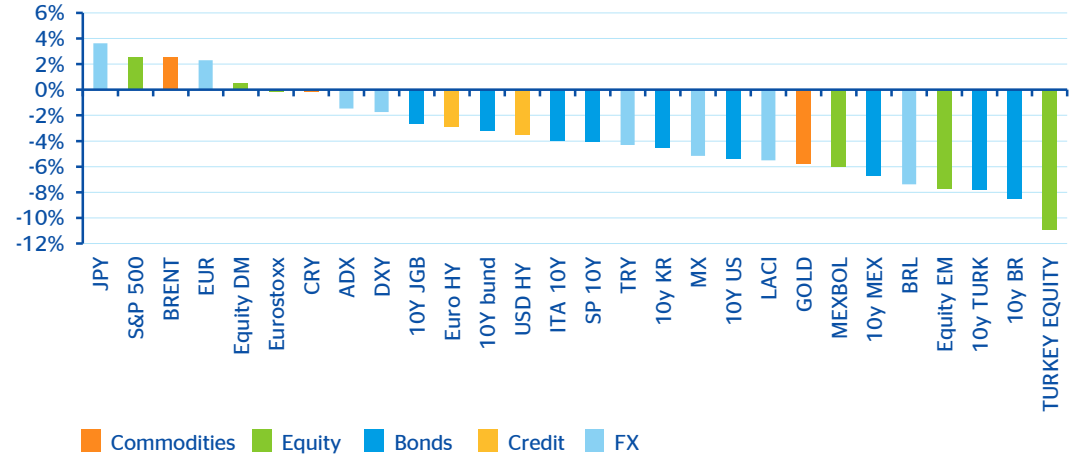
Figure 2.3
Change in the price of financial assets on the arrival of the Fed's QE1, QE2 and QE3[1]



Source: BBVA Research based on Bloomberg

1: The periods analysed are: QE1: 3 Nov 08- 2 Jan 09; QE2:27 Aug 10-10 Nov 10; QE3: 1 Aug 12-17 Sept 12.

Figure 2.4
Change in the price of financial assets on the tapering announcement in May 2013[2]



Source: BBVA Research based on Bloomberg

In the developed economies, the US overcomes the impact of an unusually cold winter and the perspectives for an improvement in the eurozone have increased

US GDP has maintained steady growth at the beginning of 2014 in spite of the impact of unusually adverse weather conditions. In the labour market, employment has increased by an average of 178,000 jobs in 1Q14, in line with the print in 4Q13, and the unemployment rate has fallen to 6.7% of the labour force, a smaller than expected fall because the increase of the population available to work. As a result, the Fed has pressed ahead with the announced moderation in its balance-sheet expansion. In this context, we are expecting the Fed to complete its exit from the asset-purchase programme towards the end of the year, and the market to focus on a possible change in inflation trends as it anticipates the start of interest-rate hikes in a scenario of a gradual acceleration in GDP growth. Growth in 1Q14 reached 0.1% annualised. The leading indicators point to a more robust start to the second quarter than to the first. **Altogether, we are maintaining our forecast for US growth at 2.5% in 2014, and the same in 2015.** The forecast has upside risks if the improvement in confidence provides additional incentive to corporate investment and job-creation.

On the European side, **growth in the eurozone in the latter part of 2013 was driven by the recovery in exports,** which has also favoured the improvement in investment. Looking at the first quarter of 2014, our short-term models point to an acceleration of around 0.5% QoQ, although the boost from the external sector could moderate in the coming months due to: i) euro appreciation, with a slight impact on growth but clearly differentiated by country; ii) the reduced demand from China, also with diverging direct effects; and iii) geopolitical risks in the East if the crisis in Ukraine continues.

Altogether, we maintain our forecasts for the eurozone in 2014 at 1.1%, and 1.9% in 2015, in a scenario of contained financial tensions and fiscal and monetary policies that do not put a brake on growth. In this gradual recovery, domestic demand will play a growing part, with accelerating investment and enhanced consumption, in line with the steadiness of the labour market in 2014 and then job-creation in 2015. As already established, this scenario requires progress on the achievement of an effective banking union, starting with the

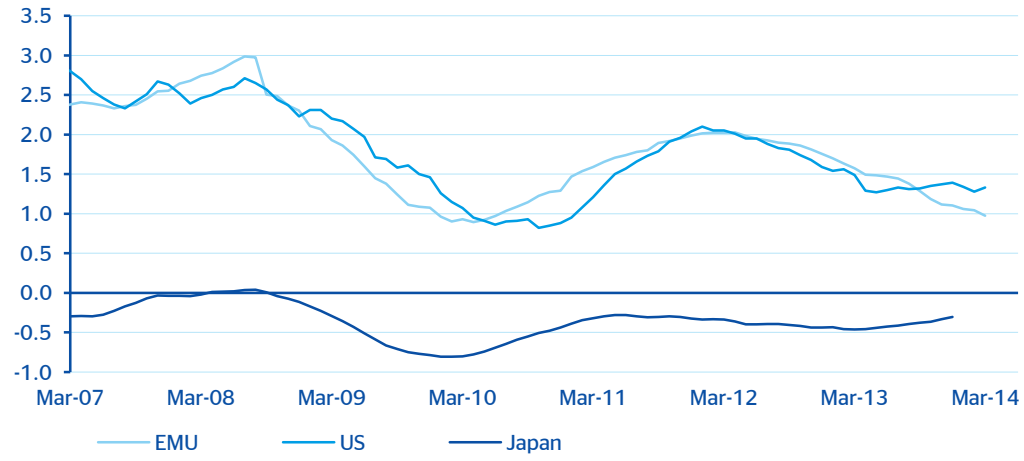
2: The period analysed is: 2 May 13 – 17 Jun 13.

maximum transparency of bank balance sheets through asset quality reviews under common regulations and stress tests under common adverse scenarios.

Finally, among developed economies, **there is slightly more uncertainty about the growth outlook for Japan,** which has had a QE programme underway since April 2013, together with fiscal stimuli to return to having inflation and favouring consumption and investment. The recent tax increases on consumption to control the public deficit could put the recovery in private demand at risk, although there are still some offsetting measures to take to offset this, including an even more intense monetary expansion. Altogether, **we have revised downwards our outlook for growth in 2014 by four basis points to 1.1%, and we are maintaining our estimate for 2015 at 1.3%.**

In the developed economies, the period of low inflation or disinflation continues, as evidenced by various optimised indicators[3] (Figure 2.5). While in Japan the inflationary tensions indicator is rising – although still in negative territory – as a result of the above-mentioned policies and it remains anchored in the US, in the eurozone it is still falling and is now around 1%. According to our base scenario, it is likely close to its lows and the perspective of an increase is sound. Nonetheless, **although we are not expecting deflation, the vulnerability to negative shocks, global or domestic, with an impact on prices**[4] **is comparatively high.** The vulnerability comes not only from the level and the downward trend of inflationary tensions, but also from the financial situation of the private sector, with very high levels of debt in at least some of the economies in the region and a banking sector that is in the process of reinforcing its capacity to lend, as described above. **A negative shock that could result in a change in inflationary expectations would increase the probability that the ECB would take additional measures,** from providing long-term liquidity to the banking sector with no restrictions, to lowering reference rates or making selective purchases of high-quality private-sector debt assets.

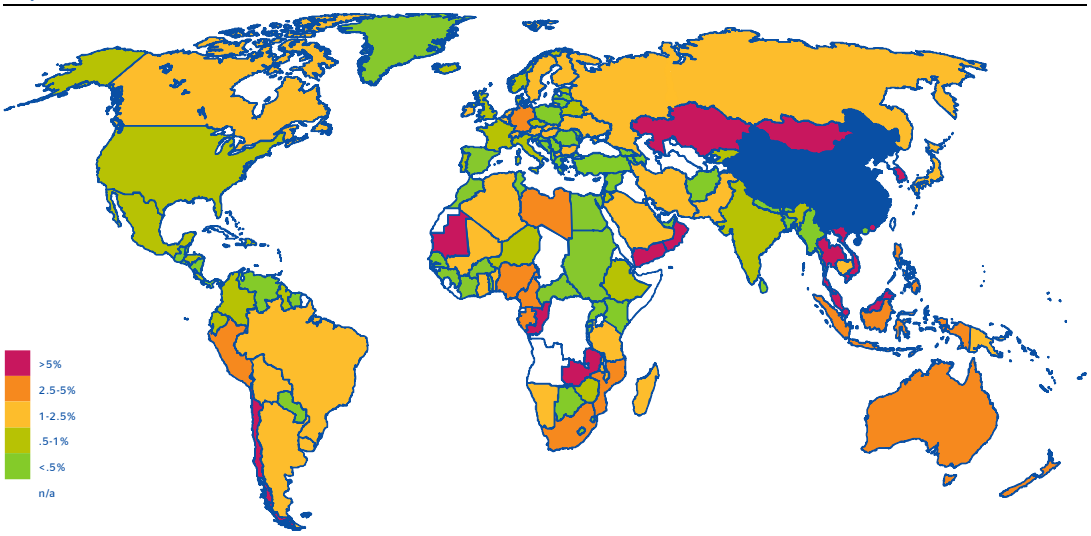
Figure 2.5
Inflationary tensions indicators in developed economies*



* Trimmed means from baskets of personal consumption prices in the US and from CPI in Japan and the EMU
Source: Dallas Fed and BBVA Research

3: For more information about trimmed means see, for example, Spain Economic Outlook from February 2014, available at: http://www.bbvaresearch.com/KETD/fbin/mult/1402_Spain_Economic_Outlook_tcm348-426396.pdf?ts=2942014.
4: Falls in import inflation either as a result of additional strength of the euro or lower raw material prices, resurgence of global risk aversion in financial markets. Note our downwards correction of inflation forecasts for China, around 0.5pp in 2014 and somewhat less in 2015, to 2.7% and 3.3% respectively.

Figure 2.6
Exports to China in 2012 (% GDP)



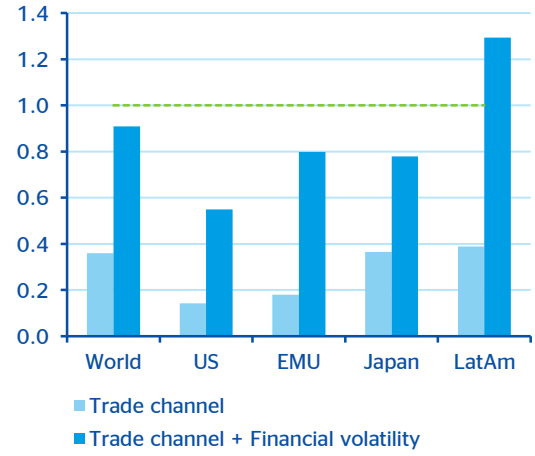
Source: World Bank, UN Comtrade and BBVA Research

In China, the deceleration that began at the Chinese New Year is here to stay, in an environment of lower-than-expected inflation

In line with our forecasts in our last quarterly report, uncertainties about the cyclical strength of the Chinese economy have materialised, with a deceleration in activity during the first quarter of 2014. The latest data from indicators on both domestic and foreign demand show the loss of momentum in the cycle, more so in investment than in consumption, in an environment of lower-than-expected inflation. At the same time, the authorities are starting to introduce measures to deal with the weaknesses arising from economic policy decisions taken in the last few years to support growth in the short term. This has involved postponing the deleveraging of local governments and companies, and continuing to approve infrastructure projects and excess installed capacity which are unlikely to be profitable while families, who are financing the process, are receiving negative real interest rates on their savings. This is an inefficient allocation of resources, which also encourages the development of financial systems in parallel with the more regulated one and which may be a source of problems in the future. To this end, regulations on the non-banking financial sector, shadow banking and environmental protection are all being toughened. **In view of this, we have revised Chinese growth downwards to 7.2% and 7.0%, in 2014 and 2015 respectively, nearly half a point less than previously expected.**

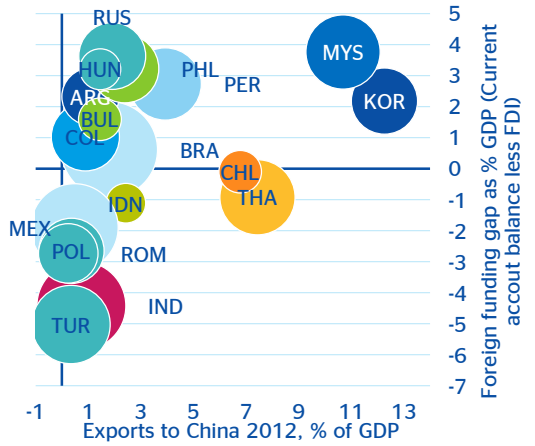
The increasing importance of China as a source of world demand in the last few years is undeniable (Figure 2.6). But the differentiation between areas is unchanged, with higher exposures in Southeast Asia, some South American and African countries and, among developed economies, Germany. According to our estimates, the impact on world growth of each point of Chinese growth lost is around 4pp, principally as a result of lower demand from China itself. Note also that the expected adjustment in the local scenario is limited, and clearly not enough to unleash episodes of global financial uncertainty, something which, should it occur, would raise the impact above the forecast (Figure 2.7).

Figure 2.7
GDP growth, impact of 1pp adjustment in China's growth (pp)



Source: BBVA Research

Figure 2.8
Exposure of emerging markets to Chinese slowdown and foreign borrowing needs (%)



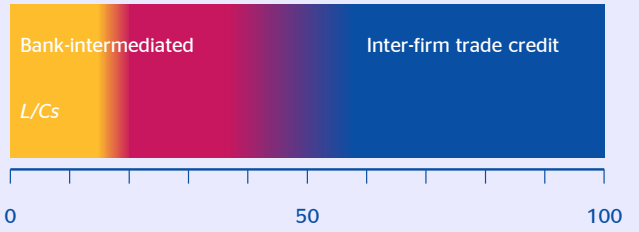
Note: The size of the circles is proportional to their exchange rate volatility during the Fed tapering episode.
Source: Haver Analytics and BBVA Research

In summary, there are two factors with a global impact on the forecast horizon: the tightening of the Fed's monetary policy, and lower growth of Chinese demand, with macroeconomic repercussions that are clearly differentiated between economies. As outlined above, the sudden perception by the market that the tightening by the Federal Reserve of the monetary cycle was imminent with the withdrawal of quantitative easing, raised financial volatility in emerging economies. There was a clear differentiation between different areas, however, with greater volatility in those exchange rates whose exposure to foreign funding is greater. On the other hand, also among emerging economies, it is the Asian economies which are most exposed to a reduction in Chinese demand, with the further addition to the list of a few raw materials exporters, such as Chile. All these factors, as illustrated in Figure 2.8, can be shown in a map of vulnerabilities where differentiation is a vital factor.

Box 1. The role of bank-intermediated finance in global trade

The increase in bank-intermediated trade credit has not been matched by any other kind of business finance in recent decades[5], totalling around USD18trn in 2011 according to the trade register of the International Chamber of Commerce (ICC). Recent estimates published[6] by the Bank of International Settlements (BIS) highlighted the breakdown of trade finance in bank-intermediated trade finance, which is currently supporting approximately 40% of global trade, and the remaining 60% is ultimately funded under an inter-firm trade credit framework (see Figure B.1.1). This includes open account transactions (where goods are shipped in advance of payment) and cash-in-advance transactions (where payment is made before shipment).

Figure B.1.1
Financing global trade (as a share of total global trade, %)

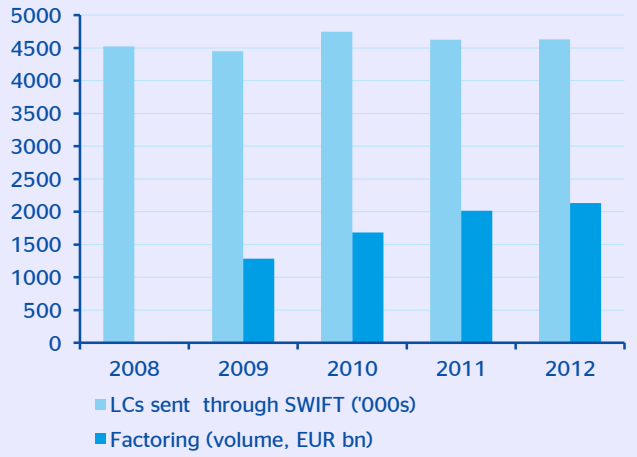


Source: BIS calculations

Yet, although recent business trends since the financial crisis[7] (see Figure B.1.2), little attention has been paid to it in the literature after the 2008-09 financial crisis.

One obvious reason arises from the **lack of reliable data on trade finance.** A second relevant reason for this neglect is that trade finance is often buried in the distribution activity of the firm, and sorting out the complex institutional factors that influence its behaviour is extremely hard[8]. Thus, rarely has attention been devoted to modelling bank-intermediated trade finance, taking into account not only its cost but also by specifying the influence of the banking sector liquidity and/or capital on its availability.

Figure B.1.2
Global trade finance: Letters of credit sent by SWIFT ('000s), and total world financial factoring volume (EUR bn)



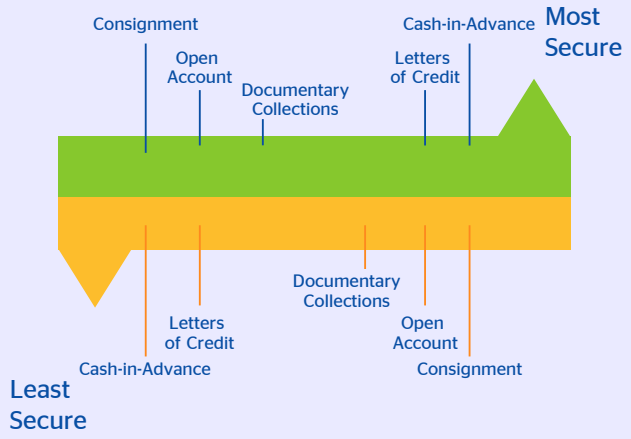
Source: BBVA Research

However, more recently **trade finance, especially in the form of short-term, self-liquidating LCs and the like, has been under the spotlight**. The main reason has to do with the relatively favourable treatment received with regard to capital adequacy and liquidity under Basel III, the new international macro-prudential framework[9]. As a result, several studies have raised concerns over the unintended consequences of the initially proposed 100% leverage tax on non-leveraged activities such as LCs, which would reduce their natural attractiveness relative to higher-risk, less collateralised assets, that may be held in the balance sheet of banks. For instance, Auboin and Blengini (2014) show that under such a scenario, **the proposed leverage ratio may partially reverse the effect of the low capital ratio because of the low risk of such instruments**[10].

Under such a backdrop, the Committee on the Global Financial System (CGFS) of the BIS[11] tried to shed some light on the performance and impact of trade finance during recent episodes of funding strain in global markets, particularly when European banks raised concerns about possible disruptions. However, in terms of financial stability risks, it concludes that **losses on trade finance portfolios have been low historically and, given the short-term nature of trade finance, banks have been able to reduce their exposures quickly in times of stress.**

5: The rocketing evolution of global trade in the last two decades, the cause and outcome of the globalisation process, is coherent with the increase of the business of funding global trade. The volume of global trade has increased by 8.4% on yearly average in the last 20 years. In the same period, global GDP has increased at an average rate of 3.6%.
6:They are based on surveys undertaken by the IMF and BAFTA-IFSA.
7: For instance, banking trade finance products such as factoring, letters of credit – LCs - and the like.
8: See the seminal paper by Nadiri (1969),
9: For further details, see the decision by the Basel committee on 12 January 2014 to reduce the leverage ratio: http://www.bis.org/press/p140112a.htm.
10: This theoretical assumption has been empirically evidenced in the remarkable 65% of ICC Banking Commission 2013 survey respondents who said that implementation of Basel III regulations is "to some extent" or "to a large extent" affecting the cost of funds and liquidity trade finance.
11: CGFS Papers No 50: "Trade finance: developments and issues".

Figure B.1.3
Payment risk diagram



Source: Guide for US exporters (Dept. of Commerce)

All in all, this latter feature also introduces the possibility for banking intermediated trade finance to act as a channel to remove stress from the financial system to the real economy, when banks run down trade finance books in response to funding and liquidity strains. Accordingly, we have studied the most recent potential impacts of bank-intermediated trade finance on global trade. In the following analysis we further disentangle whether a policy that broadly addresses banking system capital and liquidity vulnerabilities and encourages vibrant competition is found to generally provide an effective means for avoiding or containing disruptions to trade finance flows.

1. But, what does bank-intermediated trade finance really mean?

Global and local banks support international trade through a wide range of products that help their customers to manage their international payments and associated risks, and provide needed working capital. The term "trade finance" is generally reserved for bank products that are specifically linked to underlying international trade transactions (exports or imports). Although trade in capital goods may be supported by longer-term credits, trade finance products typically carry short-term maturities. **Trade finance is therefore at the low-risk, high-collateral end of the credit spectrum, but this has not insulated it from the crunch.** Thus, the vast majority of world trade relies on trade finance (trade credit and insurance/guarantees), mostly of a short-term nature. The potential damage to the real economy of shrinking trade finance has been historically large (IMF 2003). International supply chain arrangements have globalised trade finance along with production. Sophisticated supply-chain financing operations – including for small- and medium-sized companies – have as a consequence become crucial to trade.

As mentioned before, trade finance products typically carry short-term maturities (see Figure B.1.3). For instance, **LCs are one of the most versatile and secure instruments available to international traders.** On average, this tool provides a broad picture, accounting for 43% of total export and import global trade finance, according to the ICC Banking Commission trade register (2013). An LC is a commitment by a bank on behalf of the importer (foreign buyer) that payment will be made to the beneficiary (exporter) provided that the terms and conditions stated in the LC have been met, as evidenced by the presentation of specified documents. Since LCs are credit instruments, the importer's credit with his bank is used to obtain an LC. The importer pays his bank a fee to render this service. An LC is useful when reliable credit information about a foreign buyer is difficult to obtain or if the foreign buyer's credit is unacceptable, but the exporter is satisfied with the creditworthiness of the importer's bank. This method also protects the importer since the documents required to trigger payment provide evidence that goods have been shipped as agreed[12].

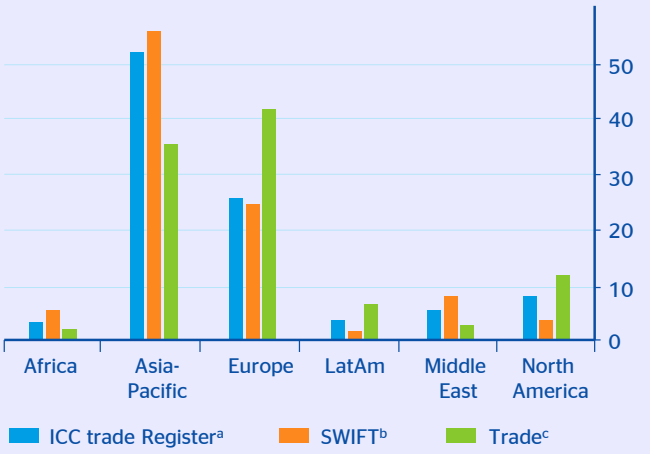
2. Is it really a "global" market?

At a global level, **bank-intermediated trade finance has increased dramatically in dollar terms over the past decade and particularly since end-2006**, despite that growth soon being interrupted after the Lehman bankruptcy in 2008. Yet, the pace has diverged notably across countries in recent years. The observed increase in trade finance activity is particularly notable in emerging economies (EM) and supports those reports suggesting that **local EM banks have started to play a larger role in the provision of trade finance and similar services.** In particular, Chinese entities appear to be increasingly active providers of trade finance[13]. The trade finance exposures of Germany and

12:However, because LCs may generate discrepancies, which may negate payment to the exporter, documents should be prepared by trained professionals or outsourced. Discrepant documents, literally not having an "i dotted and t crossed," may negate the bank's payment obligation.
13:Factors Chain International (FCI) is a global network of leading factoring companies, with members' transactions representing 90% of the world's international cross-border correspondent factoring business. Its top three export factoring markets are China, accounting for more than one-third of the volume, Turkey and Hong Kong. FCI's three largest import factoring markets are the US, France and China.

the United States – which are predominantly with respect to EMEs – have also shown a significant increase since 2006. In contrast, trade finance exposures of other European countries have been less dynamic than elsewhere since 2009 (Figure B.1.4).

Figure B.1.4
Geographical breakdown of trade finance and trade (as a share of total, %)



a Average from 2008 to 2011. b Based on average value of sent and received SWIFT MT700 messages in 2011. c Merchandise trade (average of imports and exports) from 1Q08 to 4Q 12.
Source: Berne Union; ICC; IMF; SWIFT; national data; BIS calculations.

3. The impact of bank-intermediated trade finance on trade

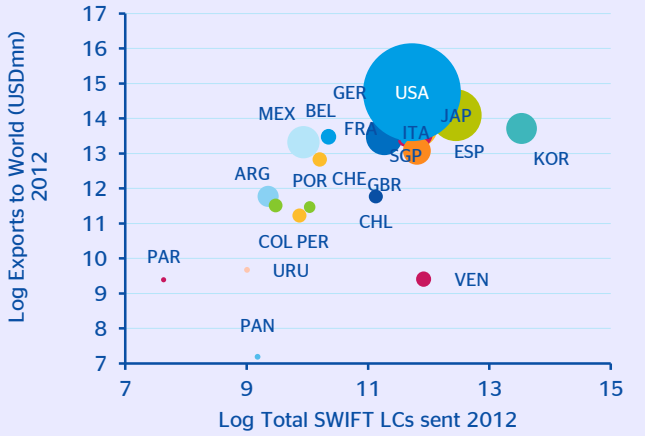
Previous related literature has mainly focused on non-bank-intermediated global trade finance based on ambiguous national data and, in particular, on the 2008-09 crisis period.[14] Anyway, a consensus has emerged among academic studies; **global changes in final expenditure were the main contributor to the decline in global trade observed during the crisis.** It is broadly consistent with the IMF-BAFT trade finance survey evidence which cited reduced demand as the main driver[15].

As mentioned above, taking into consideration the common movement between both variables (trade finance and global trade), **the scarcity of trade finance is a risk for world trade (and output).** On this issue, there is mounting evidence of supply chain operations being disrupted by lack of financing for developing country suppliers, particularly in Asia. This circumstantial fact is coherent with the coincidence of shocks to global financial conditions and the sudden adjustment of trade growth across the board. Thus, tighter **global financial conditions proxied by our BBVA Financial Stress Index[16], surges in risk aversion (as measured by the VIX), dollar funding pressures (as measured by the 3M FX swap spread) and bank-capital-to-total-assets ratios have all been statistically correlated with declines in bank-intermediated trade finance.** All in all, it seems reasonable to consider that "demand for finance" might not be the main factor behind the evolution of trade finance, especially in the most recent period, 2012-13. Consequently, we employ a good barometer of bank-intermediated trade finance such as overall usage trends for LCs via the Society for the Worldwide Interbank Financial Telecommunication (SWIFT) network, which captures about 90% of these transactions[17]. We use SWIFT flows to apply a generalised method of moments (GMM) estimator for dynamic panels based on Arellano and Bover (1995) to account for potential endogeneity, covering 24 countries during 2012 and 2013 (quarterly data). The set of selected variables comprises relative prices, income, BBVA Financial Stress Index, global risk aversion, dollar funding pressures and bank-capital-to-total-assets ratios.

Previous empirical results suggested that trade finance typically does not significantly affect a country's international trade performance, except during crises. However, during the period covering 2012-13, holding constant the effects of other determinants, **our findings support the idea that a 10% drop in bank-intermediated trade finance is associated with an approximate 9% drop in exports and a 6% drop in imports.** For clarity purposes, we present in Figure B.1.5 the statistical positive relationship between exports and LCs sent in 2012. In addition, two more findings stand out from our empirical results. First, **the impact on exports compared to imports of bank-intermediated trade finance is substantially higher,** in line with previous related literature on non-intermediated trade finance. Second, once we split the sample regions, it may be observed that **the relative impact on exports is noticeably larger for the group of EMEs than for advanced economies.**

14: See for instance Auboin & Engemann (2013), Ahn et al. (2011), Asmundon et al. (2011) and Chor & Manova (2012) among others.
15: IMF-BAFT-IFSA (2010).
16: For further details see EcWatch (2011) "Financial stress and economic activity in the US and the eurozone".http://www.bbvaresearch.com/KETD/fbin/mult/111006_Observatorio_economico_escenarios_ec_tcm346-270914.pdf?ts=.
17: To this end, we gather information on MT 700 traffic, which, is usually used as an indicator of trade finance because it becomes a structured message containing information related to the currency code and the amount of documentary credit.

Figure B.1.5
Global: Exports to world and LCs MT 700 SWIFT messages sent (in logs)



Note: Size is based on relative weight on world GDP ppp.
Source: BBVA Research

4. Conclusions

The growing relevance of global bank-intermediated trade finance proved evident in light of recent business trends. However, little attention has been devoted to shedding some light on this specific industry in global terms after crisis periods such as 2012 and 2013. We have tried to fill this gap by estimating a dynamic panel model employing reliable data on LCs provided by SWIFT and covering 24 countries. As expected, our results confirm that **bank-intermediated trade finance helps to explain both exports and import volumes in addition to the usual determinants such as income and prices.**

In addition, two significant findings stem from our empirical results. First, **the impact on exports compared to imports of bank-intermediated trade finance is dramatically higher,** in line with previous related literature with regard to non-bank-intermediated trade finance. Second, once we split the sample by regions, one may observe that **the relative impact on exports is larger for the group of EMEs than for advanced economies.**

To conclude, we consider that these results provide some justification for policies aimed at supporting bank-intermediated trade finance after financial crisis periods, particularly when domestic banks are in distress and are not able to intermediate properly the demand of foreign trade finance.

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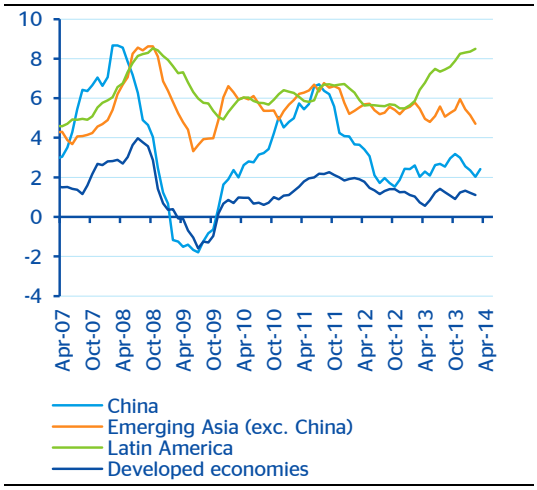
3. Inflation: too low for too long in some economies

Inflation is moving as expected, but remains very low in some areas

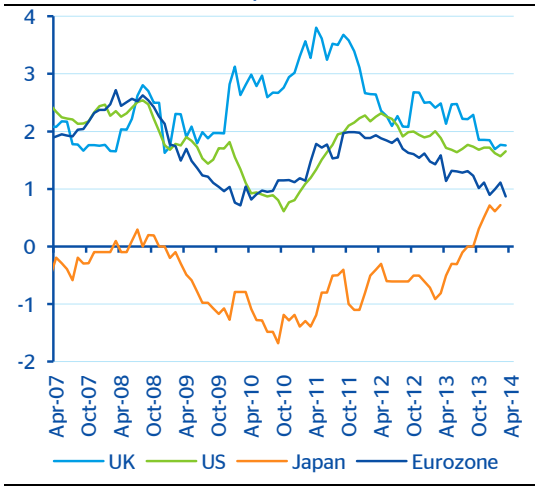
Inflation, or rather its absence, continues to be a source of concern in the global economy. Some central banks have shown signs of being uncomfortable with current levels and have expressed their willingness to act, should the situation warrant it (the ECB particularly) or have already acted (Bank of Japan). The current process of disinflation started, in general terms, in mid-2011, but is very heterogeneous. On the whole, the current disinflationary process continues to affect only developed economies (Figure 3.1) and, even though it is also affecting China, it is only in these markets where inflation levels are below the 2% threshold. In developed economies it is also important to bear in mind the dispersion that is occurring. Disinflation has been more modest in the US (Figure 3.2) where core (a measure which excludes fresh food and energy) inflation is only a few pp below 2%, whereas in the eurozone this process has been more intense, with inflation flirting with 1%, although disinflation seems to have slowed down so far in 2014. In Japan, meanwhile, after last year's intense monetary boost, core inflation has entered strongly into positive territory.

Figure 3.1
Worldwide inflation (%, YoY)



Source: Haver Analytics and BBVA Research

Figure 3.2
Core inflation in developed economies (%, YoY)



Source: Haver Analytics and BBVA Research

According to forward-looking alternative measures, inflation's core tensions will remain low

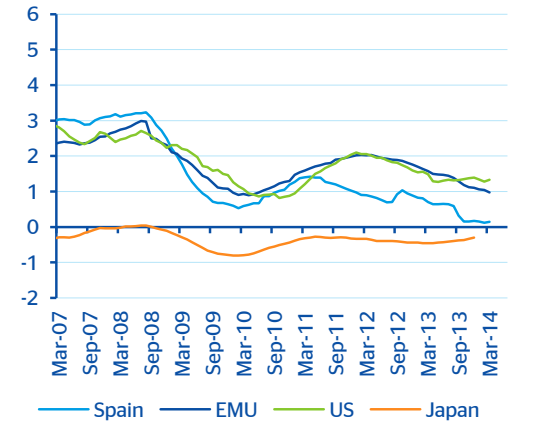
Headline inflation measures ignore the fact that some components behave in a volatile manner, unaffected by incidence on demand or other non-transitory supply factors. The most common way of correcting these biases is to eliminate or trim energy and food from the consumption price basket, but even that decision looks arbitrary for the purpose here. Patterns of behaviour that are erratic, volatile and irrelevant to price tension analysis do not have to be limited to these specific categories. **A more detailed analysis allows categories to be trimmed from the basket according to explicit volatility criteria which minimise the forecast error for a given period[18], obtaining in this way a trend direction which**

18: For more information on trimmed means, see, our Spain Economic Outlook, report for January 2014, here: http://www.bbvaresearch.com/KETD/fbin/mult/1402_Spain_Economic_Outlook_tcm348-426396.pdf?ts=452014.

approaches underlying price tensions. Figure 3.3 illustrates our trimmed inflation mean for several economies. Inflation has behaved similarly, in both the US and the eurozone, and is around 1%, although the trend to the downside is more intense in Europe. However, Japanese inflation, which by traditional core inflation measures had gone into positive territory, is still in deflation. In line with this analysis, current positive inflation rates are due, above all, to the more volatile components in the basket.

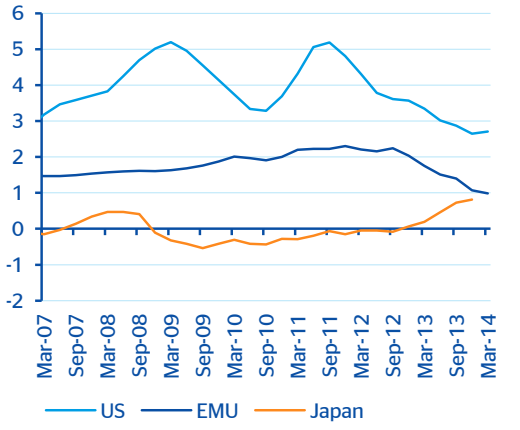
If we follow an alternative methodology (see "Estimating underlying inflation with a latent variables model" box), the results are similar. The most important differences are not to be found in the eurozone, where estimates using both approaches come in at around 1% and with a trend to the downside, although this is more pronounced in the case of estimates with latent variables. In the case of Japan, even with different levels, negative with the trim and recently positive with the model of latent variables, at least the trends are similar, to the upside. This is consistent with the measures taken by Japanese authorities and their impact on the exchange rate and on prices. Finally, it is in the US where the differences in estimates are greatest, both in levels and in volatility. The reasons for this divergence lie not mainly in the proxy chosen for consumer prices: the personal consumption expenditure price index (PCE) in the case of the trim and the CPI[19] in the case of the latent model, but that they start principally in the different signal-to-noise ratio used in each methodology. As explained in the box below, the model of latent variables after the crisis tracks a signal-to-noise ratio which means that the resulting trend is more volatile (imitating the original series more closely) than the trimming methodology.

Figure 3.3
Inflationary tensions. Trimmed CPI means for Eurozone and Japan and CPE for the US (%, YoY)



Source: Dallas FED and BBVA Research

Figure 3.4
Inflationary tensions. Estimations from a latent components model



Source: BBVA Research

The most likely scenario continues to be one of low inflation for a long time, not deflation. But a strong enough shock could lead to negative inflation

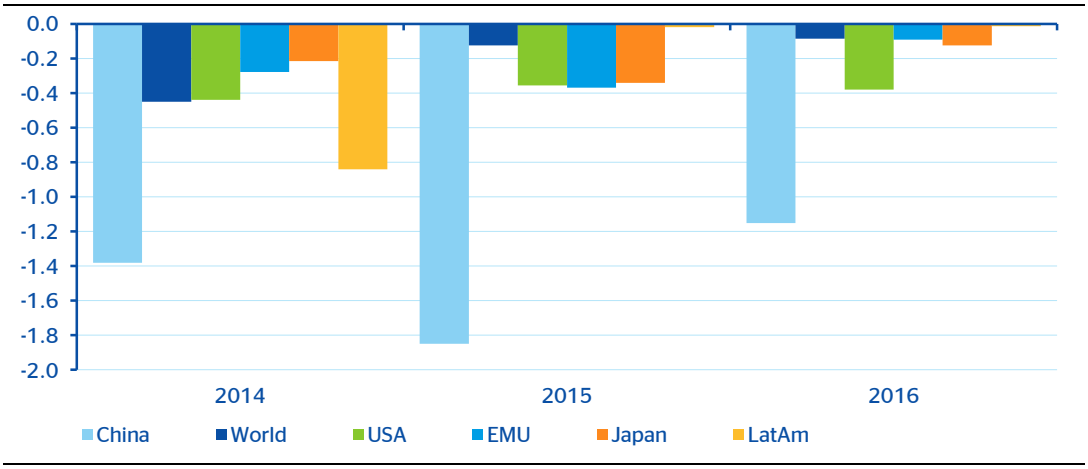
In recent months, inflation has behaved as expected in most economies, among them the eurozone, where the risk of sustained disinflation is important and even that of deflation is not residual. According to our most probable scenario, eurozone inflation will start to pick up again in the second quarter of 2014, ending the year above 1%, consistent with the recovery

19: The PCE price index measures the change in prices paid for goods and services by households in the U.S. national income and product accounts. The PCE is based on a Fisher formula, and relative weights used are based mainly on business surveys.
The CPI measures the change in prices paid by urban consumers for a market basket of consumer goods and services, and as a result measures the out-of-pocket expenditures of all urban households. The CPI is based on a modified Laspeyres formula, and the relative weights used in the CPI are based mainly on household surveys.

of demand and the lack of major financial tensions affecting credit supply capacity. We continue to estimate the likelihood of deflation in the eurozone as very improbable.

The risk in an environment of inflation as low as the current one is the heightened danger that any shock might tip European inflation over into negative rates, which is a necessary but not sufficient condition for setting off the beginning of a "deflationary spiral". Figure 3.5 illustrates the estimate of the impact on inflation in different areas of a scenario of a downwards adjustment of activity in China. It corresponds to a reduction of around 1 percentage point in China's GDP average growth rate (y-o-y) in 2014 and 2015 and 0.5 in 2016 respect our baseline scenario, under the assumption that such adjustment is accompanied by a strong negative response of the world financial market (10% tail of the distribution of the possible responses of world equity prices variation. This brusque adjustment would cause a substantial slowdown in the rate of world growth through lower demand for goods from China and a substantial increase in global financial volatility. The impact on inflation in the different areas is far from negligible.

Figure 3.5
Variation in inflation caused by a slowdown in China (pp compared to baseline scenario)
BBVA-GSVAR Model



Source: BBVA Research

Box 2. Estimating underlying inflation with a latent variables model

The purpose of this box is to present a measure of underlying inflation in addition to those already submitted ("core" and trimmed inflation), to establish the trend of consumer prices. This is particularly relevant in this stage of low inflation rates, which are vulnerable to negative shocks that may lead to falls, given that, by definition, the trend (which is made equivalent to the underlying signal) is not observable. To do this, we attempt to estimate an alternative measure of core inflation for three developed economies: the US, the eurozone and Japan, based on a model of non-observable components as conducted by Doménech and Gomez in their work20for the US economy. The authors of that paper emphasise the importance of considering the overall information provided by the different macroeconomic variables such as GDP, the unemployment rate, the investment-to-GDP ratio and inflation itself, if the purpose is to estimate underlying price stresses in an economy. Said conclusion is reached from the observation of the following stylised facts that economies present:

1. There is a trade-off relationship between the acceleration of inflation (with respect to its trend) and the deviation of the unemployment rate with respect to the structural rate or NAIRU[21]. This relationship is usually called the Phillips curve.
2. There is also a negative correlation between the cyclical component of GDP or output gap (deviation of output with respect to its trend) and the deviation of the unemployment rate with respect to NAIRU, a relationship which is called Okun's Law.

In summary, and taking the latter into account, the strategy we adopt is to break down all of the noted macroeconomic variables into two latent variables[22]: *trend* and *cycle*, as is usually done with GDP (e.g.: the Hodrick-Prescott filter). With this purpose in mind, the theoretical relationships[23] between the included variables are represented in a State Space Model, given that this type of model provides a highly flexible structure when the goal is to represent (linear) relationships between latent variables. When applying this type of modeling strategy, the unobserved components (latent variables) are estimated by the Kalman filter[24], and subsequently extracted by applying a smoothing algorithm, given that the model's parameters are estimated by maximum likelihood.

What follows below is a presentation of the model's results for each geographic area. In each case, we take the estimate of the trend component of inflation as a measure of core inflation.

In the case of the US, we have used a quarterly frequency for a sampling period that runs from the first quarter of 1946 to the first quarter of the current year. We included the two breaks in volatility[25]used in the work of Doménech and Gomez (I:1972, II:1983), to which we added an additional break (which lies outside the sampling period of the original work) in the first quarter of 2006, to capture the change in volatility evidenced by the data as a result of the crisis.

Figure B.2.1 reveals that the trend of inflation returned by the model accompanies headline and core inflation with higher or lower volatility over the length of the sampling. At the beginning of the sampling, one may observe that the volatility of the estimated trend is high, and that it rises during the 1970s as a result of the oil price shocks witnessed over that decade. In the mid-1980s, the trend of inflation becomes more stable as monetary policy gains credibility and manages to anchor expectations. However, the uncertainty generated by the crisis partially reverses this process, although it seems that the trend manages to once again stabilise over the last three quarters at around 2.5%, that is, one point above the current levels of headline inflation, and 0.7% with respect to core inflation.

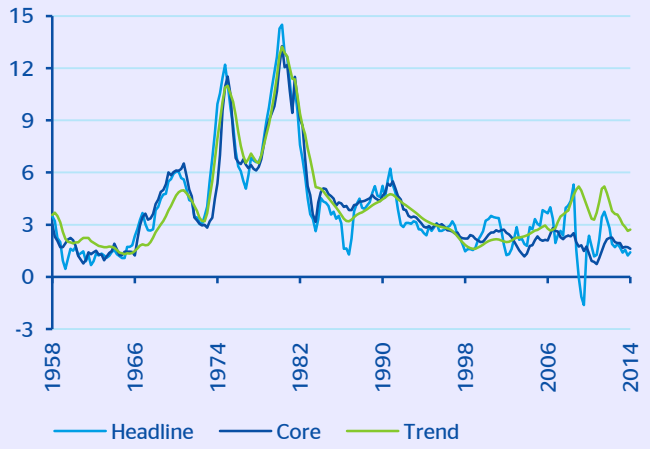
With respect to Japan, we worked with quarterly data for a sampling period that runs from the first quarter of 1982 to the first quarter of 2014. An analysis of these data reveals the need to include a break in volatility in the second quarter of 1990, a time in which a drastic drop in the growth rate is observed, from 5.3% on average to 1.5%.

Figure B.2.2 displays the course of Japan's trend inflation as estimated by the model. As may be observed, prior to 2000 Japan fell into deflation twice (1986 and 1995) but, as these processes were

20: R. Domenech and V. Gomez, "Estimating potential output, core inflation, and the Nairu as latent variables," Journal of Business & Economic Statistics, July 2006.
21: NAIRU: non-accelerating inflation rate of unemployment.
22: A latent variable is one which is not observed directly but rather is inferred from variables observed through mathematical models.
23: The theoretical relationships mentioned are supported by the previously described stylized facts and, in a more extensive sense, pertain to the New Keynesian school of economic theory. Interested readers may see these relationships in the technical appendix.
24: Kalman's filter operates recursively on the data that contain noise to generate a statistically optimal estimate of the state of the underlying system of equations (relationships among variables).
25: From the statistical point of view, a break in volatility represents the possibility that the model may modify the signal-to-noise ratio (trend-cycle) used up to that point. In practical terms, this means that there arises the possibility of the trends becoming more or less volatile or, expressed differently, that they may more or less mimic the dynamics of the observed variable. These breaks would have to be consistent with meaningful economic events.

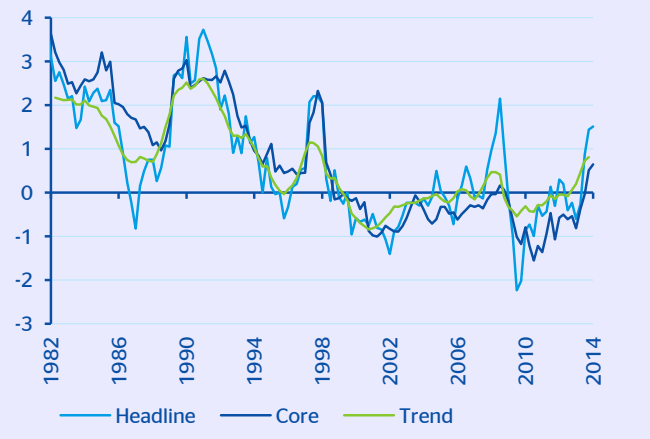
transitory, the estimated trend does not include them as such. However, the deflationary process that began in 1999 and ran until last year is construed as more permanent, leading the model to make trend inflation turn negative almost immediately. Something that stands out over the course of the sampling is that trend inflation shows high volatility, which may be interpreted as the result of the difficulties the Central Bank of Japan faced in anchoring price expectations, mainly during the disinflationary stage. However, the recent quantitative easing policy which began in April of 2013 is enabling an end to deflation and, in principle, a raising of price pressures, as extracted by the model, by levels of close to 1%.

Figure B.2.1
US: Inflation. March: latest data available



Source: BLS and BBVA Research

Figure B.2.2
Japan: Inflation. February: latest data available



Source: MIAC and BBVA Research

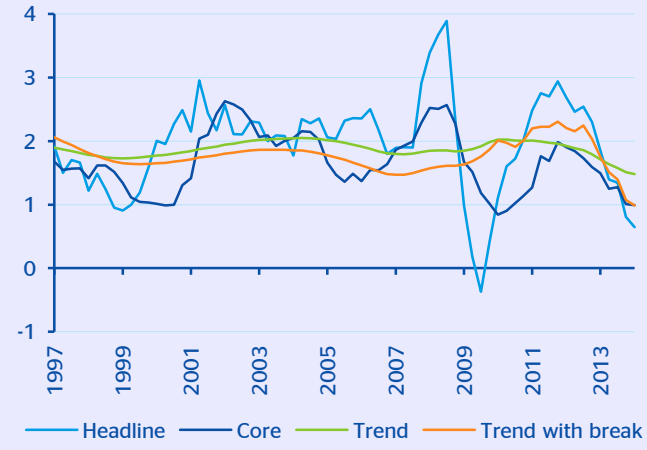
As we know, the current debate centres around whether over the mid-term Europe could fall into a deflationary process similar to that recorded in Japan over the last 15 years. Said debate is entertained in spite of the most recent headline consumer inflation levels of around 0.7%, because the figure is low enough to entail the potential risk of a sufficiently powerful shock sending the level into negative territory. Nevertheless, we note that the current levels of inflation are temporarily low as a result of transitory effects (see Economic Observatory: "Inflation Expectations in Spain and Europe: Low, but Positive"), which can be partially verified when observing core inflation at around 1.0%, which would place us in a less vulnerable position with respect to a shock. This is the context in which alternative measures of inflationary trends such as those proposed in this box become important, for purposes of having greater certainty of the distance that separates us from deflation.

The estimate of trend inflation for Europe arises from a model that includes data from the first quarter of 1995 to the first quarter of 2014. In an initial specification and bearing in mind the reduced breadth of the sampling, we did not include volatility changes in the estimate. However, this decision implies results in which inflation expectations are anchored similarly both before and during the crisis, which seems improbable and contradictory with other measures of core inflation such as those from survey results or those discounted by the financial markets. Therefore, we worked on a second specification that includes a break in volatility at the beginning of the Great Recession of 2009[26], which seems to be reasonable given its systemic nature.

Figure B.2.3 reveals that, prior to the crisis, estimated trend inflation, both with and without a break, stabilised at around 2,0%, a level which the ECB also associates with price stability (below but close to 2% over the mid-term). Additionally, both estimates are perceived as a smoothing of the traditional estimate of core inflation. However, once the crisis explodes, both estimates separate, and while the estimate without a break remains relatively stable and comes in at 1.5% in March (latest data available), the estimate that includes a break in its specification becomes somewhat more volatile, and records a clear downward trend from June 2012 to March of this year (latest data available), which also coincides with the estimate of underlying core inflation.

26: The break in volatility is introduced in the fourth quarter of 2009.

Figure B.2.3
Eurozone: Inflation.March: latest data available



Source: Eurostat and BBVA Research

By way of summary, we note that our measure of trend inflation for the US would support the idea that is gleaned from both headline and core inflation levels. Thus, this country currently has a very slight risk of falling into deflation. Meanwhile, in the case of Japan, the monetary stimuli conducted by the Central Bank of Japan have enabled a breaking of the deflationary trend that ravaged the country over the last 15 years. Lastly, in the case of Europe, to the degree that the crisis which began in 2008 is considered to have entailed a large enough break in the price formation process, which seems reasonable given the intensity and duration of the recession, the most appropriate measure would be obtained with a break in the signal-to-noise ratio.

Technical Appendix

1. GDP Breakdown

The logarithm of GDP is broken down into a trend component and a cyclical component.

$$Y_t = Y^*_t + Y^c_t$$

The cyclical component is assumed to follow an AR(2) stationary process with complex roots.

$$Y^c_t = 2\theta_1 \cos(\theta_2)\, Y^c_{t-1} - (\theta_1)^2\, Y^c_{t-2} + \omega_{yt}$$

The dynamics of the trend component are as follows:

$$\Delta Y^*_t = \gamma^*_y + \omega_{yt}$$
$$\gamma^*_y \rightarrow drift$$

Where,

$$\{\omega_{yt}\}\ iid.\ N(0, \sigma^2_{\omega y}),\ \theta^2 \in [\pi/20, \pi/3],\ 0 < \theta_1 < 1$$
$$\Delta = 1 - L,\ L y^*_t = y^*_{t-1},\ \{\omega_{\gamma t}\}\ iid.\ N(0, \sigma^2_{\omega \gamma})$$

2. Phillips curve

We used a hybrid version of the Phillips curve, in which inflation includes rational and adaptive expectations.

$$\pi_t = \mu E_t(\pi_{t+1}) + (1-\mu)\pi_{t-1} + \delta\, Y^c_t + \upsilon_t$$

3. Okun's law

The unemployment rate separates from its trend component following the cyclical component of GDP and exhibiting certain inertia.

$$U_t = \phi_u U_{t-1} + (1-\phi_u) U^*_t + \phi_y(L) Y^c_t + \upsilon_{ut}$$

The dynamics of the trend component are as follows:

$$U^*_t = \gamma_{ut} + U^*_{t-1}$$
$$\gamma_{ut} = \rho_u \gamma_{ut-1} + \omega_{ut}$$

Where,

$$\{\upsilon_{ut}\} iid. N(0, \sigma^2_{\upsilon u}),\ 0 \le \rho_u \le 1,\ \{\omega_{ut}\} iid. N(0, \sigma^2_{\omega u})$$

4. Investment

The deviation of the investment-to-GDP ratio with respect to its trend is pro-cyclical, and depends on the cyclical component of GDP.

$$\chi_t = \beta_\chi \chi_{t-1} + (1-\beta_\chi)\chi^*_t + \beta_Y(L)\, Y^c_t + \upsilon_{\chi t}$$

The dynamics of the trend component are as follows:

$$\chi^*_t = \gamma_{\chi t} + \chi^*_{t-1}$$
$$\gamma_{\chi t} = \rho_\chi \gamma_{\chi t-1} + \omega_{\chi t}$$

Where,

$$\{\upsilon_{\chi t}\}\ iid. N(0, \sigma^2_{\upsilon \chi}),\ 0 \le \rho_\chi \le 1,\ \{\omega_{\chi t}\} iid. N(0, \sigma^2_{\omega \chi})$$

4. Tables

Table 4.1
Macroeconomic Forecasts: Gross Domestic Product

(YoY growth rate)	2011	2012	2013	2014	2015
United States	1.8	2.8	1.9	2.5	2.5
EMU	1.6	-0.6	-0.4	1.1	1.9
Germany	3.4	0.9	0.5	1.8	2.0
France	2.0	0.0	0.3	0.9	1.5
Italy	0.6	-2.4	-1.8	0.7	1.4
Spain	0.1	-1.6	-1.2	1.1	1.9
UK	1.1	0.3	1.7	2.8	2.4
Latin America *	4.1	2.6	2.3	2.3	2.5
Mexico	4.0	3.7	1.1	3.4	3.0
Brazil	2.7	1.0	2.3	2.0	1.6
EAGLES **	6.7	5.0	5.3	5.3	5.6
Turkey	8.5	2.4	4.0	1.5	5.1
Asia Pacific	6.1	5.2	5.2	5.0	5.2
Japan	-0.5	1.5	1.5	1.1	1.3
China	9.3	7.7	7.7	7.2	7.0
Asia (exc. China)	3.8	3.5	3.3	3.5	3.9
World	4.0	3.2	3.0	3.4	3.8

* Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela.
** Brazil, China, India, Indonesia, Mexico, Russia, Turkey.
Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.2
Macroeconomic Forecasts: Inflation (Avg.)

(YoY growth rate)	2011	2012	2013	2014	2015
United States	3.1	2.1	1.5	1.8	2.2
Eurozone	2.7	2.5	1.4	0.9	1.3
Germany	2.5	2.1	1.6	1.3	1.6
France	2.3	2.2	1.0	1.1	1.2
Italy	2.9	3.3	1.3	0.7	1.2
Spain	3.2	2.4	1.4	0.3	0.9
UK	4.5	2.8	2.6	1.9	2.0
Latin America *	8.1	7.6	8.9	11.8	10.8
Mexico	3.4	4.1	3.8	4.0	3.5
Brazil	6.6	5.4	6.2	6.4	5.8
EAGLES **	6.5	4.8	5.1	4.8	4.7
Turkey	6.2	8.7	7.6	8.2	5.3
Asia Pacific	4.9	3.4	3.5	3.6	3.8
Japan	-0.3	0.0	0.4	2.2	1.5
China	5.4	2.6	2.6	2.6	3.3
Asia (exc. China)	4.6	4.0	4.2	4.4	4.1
World	5.1	4.2	3.8	3.9	4.0

* Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela.
** Brazil, China, India, Indonesia, Mexico, Russia, Turkey.
Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.3
Macroeconomic Forecasts: Current Account (% GDP)

	2011	2012	2013	2014	2015
United States	-3.0	-2.7	-2.3	-2.6	-2.2
Eurozone	0.1	1.2	2.3	2.2	2.1
Germany	5.7	7.0	7.5	6.7	7.0
France	-2.0	-2.3	-1.6	-1.7	-1.6
Italy	-3.1	-0.7	0.8	1.1	0.9
Spain	-3.7	-1.2	0.8	1.3	1.5
UK	-1.6	-4.6	-3.3	-2.8	-2.3
Latin America *	-1.0	-1.6	-2.5	-2.5	-2.4
Mexico	-1.1	-1.2	-1.8	-2.0	-2.0
Brazil	-2.1	-2.4	-3.7	-3.7	-3.5
EAGLES **	-0.1	-0.1	-0.1	0.1	0.2
Turkey	-9.9	-7.6	-7.0	-5.8	-6.3
Asia Pacific	1.5	1.0	1.4	1.9	1.9
Japan	2.2	1.0	0.7	1.5	2.0
China	1.8	2.3	2.0	2.5	2.8
Asia (exc. China)	1.2	0.1	1.0	1.4	1.2

* Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela.
** Brazil, China, India, Indonesia, Mexico, Russia, Turkey.
Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.4
Macroeconomic Forecasts: Government Balance (% GDP)

	2011	2012	2013	2014	2015
United States	-8.7	-6.8	-4.2	-3.1	-2.7
EMU	-4.1	-3.7	-3.0	-2.6	-2.1
Germany	-0.8	0.2	0.0	0.0	0.0
France	-5.3	-4.8	-4.3	-3.8	-3.0
Italy	-3.8	-2.8	-3.0	-2.6	-2.0
Spain *	-9.1	-6.8	-6.6	-5.8	-5.1
UK **	-7.8	-6.3	-5.8	-5.8	-4.4
Latin America ***	-2.2	-2.3	-2.6	-3.5	-2.9
Mexico	-2.7	-2.6	-2.3	-4.1	-3.6
Brasil	-2.6	-2.5	-3.3	-3.8	-3.4
EAGLES ****	-2.3	-2.9	-2.9	-3.4	-3.3
Turkey	-1.4	-2.1	-1.2	-2.2	-1.6
Asia Pacific	-3.7	-3.7	-3.6	-3.6	-3.4
Japan	-10.0	-9.5	-10.0	-8.5	-8.0
China	-1.1	-2.1	-1.9	-2.5	-2.5
Asia (exc. China)	-5.4	-4.8	-4.8	-4.3	-4.0

* Excluding aid to financial sector.
** Fiscal year from 1 April to 31 March.
*** Argentina, Brazil, Chile, Colombia, Mexico, Peru, Venezuela.
**** Brazil, China, India, Indonesia, Mexico, Russia, Turkey.
Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.5
Macroeconomic Forecasts: 10-year Interest Rates (Avg.)

	2011	2012	2013	2014	2015
United States	2.8	1.8	2.3	3.0	3.7
Eurozone	2.6	1.6	1.6	1.7	2.4

Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.6
Macroeconomic Forecasts: Exchange Rates (Avg.)

US Dollar per national currency	2011	2012	2013	2014	2015
United States (EUR per USD)	0.72	0.78	0.75	0.74	0.75
Eurozone	1.39	1.29	1.33	1.35	1.33
UK	1.60	1.59	1.56	1.65	1.69
Japan (JPY per USD)	79.7	79.8	97.6	108.0	117.1
China (RMB per USD)	6.46	6.31	6.20	6.11	5.91

Forecast closing date: 30 April 2014.
Source: BBVA Research

Table 4.7
Macroeconomic Forecasts: Official Interest Rates (End period)

	2011	2012	2013	2014	2015
United States	0.25	0.25	0.25	0.25	0.50
Eurozone	1.00	0.75	0.25	0.25	0.25
China	6.56	5.75	6.00	6.00	6.00

Forecast closing date: 30 April 2014.
Source: BBVA Research

DISCLAIMER

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