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Oil and the Global Economy: How Worried Should We Be?

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Is $125 Brent a Problem?

As the price of Brent oil has moved back into the $120s over recent months, oil has begun to challenge Greece as the tail risk de jour in financial markets.

Given the importance of oil to the global economy, within Credit Suisse Securities Research, we have devoted considerable resources to exploring the implications of current and prospective prices from a range of perspectives. In this report, we bring these views together to provide clients with a “one-stop shop” on this issue.

Where Is Oil Headed?

Our global commodities team continues to believe that the majority of the increase in the price of oil over recent months has been driven by tight “fundamentals,” with the risk premia related to supply risk (Iran has been the risk of the hour) less than many believe. Although the team expects the price to remain elevated, and to even move a little higher over the rest of this year, absent a major supply shock, it does not see prices moving above the 2008 mid-$140s high this year.

- The team notes, however, that given the long list of potential supply problems, the risk of some type of supply disruption over coming months remains uncomfortably high.
- If supply were disrupted in any meaningful way, given the tight supply and demand balances (inventory cover at a global level is approaching multi-year lows), the price of oil would likely move aggressively higher, providing one of the key risks to the global macroeconomic outlook.

Impact on the Global Economy

Although increases in commodity prices are theoretically a zero-sum game for global income (some countries/companies win, while others lose), in the current uneven global economy, they have tended to exacerbate the bifurcated nature of the recovery, increasing both concerns about weak growth in the North Atlantic and inflation (and hence policy flexibility) in many emerging markets. In general terms, the fragile US consumer remains most exposed to the rapid increases in prices, with the direct real economy impact in other regions blunted by taxation and cross subsidies. Although at current levels we do not expect oil to disrupt the recovery, a move to or above $150 could have significant implications.

Impact on Equity Markets

At current levels, we do not believe that oil is a large drag on equity markets. We would be more concerned if headline inflation in Europe remains above 2% by year-end (our economists are targeting 1.5%), the price of oil rises by 40% (this would imply Brent crude at $147/bbl), or US headline inflation moves above 4%.

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Background

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During the first half of 2011, rapid increases in commodity prices acted as a significant headwind to the global economic recovery, with the spike in the price of oil a large contributor to the North Atlantic slowdown, while high and rising food prices over 2H 2010 and for corn and pork prices (the most important for China) into 1H 2011 exacerbated concerns about overheating in many emerging economies.

Although increases in commodity prices are theoretically a zero-sum game for global income (some countries/companies win, while others lose), in the current uneven global economy, they have tended to exacerbate the bifurcated nature of the recovery, increasing both concerns about weak growth in the North Atlantic and inflation (and hence policy flexibility) in many emerging markets.

As the price of Brent oil has increased toward last year's peak, for good reason the price of oil has challenged Greece as the tail risk de jour in financial markets. As the risk of an oil-related disruption has increased, many of Credit Suisse's thought leaders across the Securities Research and Analytics Department have devoted considerable time working through the implications for the global economy and equity markets.

In this note we discuss the outlook for oil, and then discuss the likely impact, starting at a global level, but then focusing on the impact on the US, Europe, Japan, and the EM. We then outline our views on the implications for global equity markets.

Exhibit 1: US GDP

Annualized quarterly changes with forecast to 4Q 2012

Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

The Outlook for the Price of Oil

What's the Worry, How Tight Are Oil Markets?

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It's about demand growth, supply issues, and Iran, as well

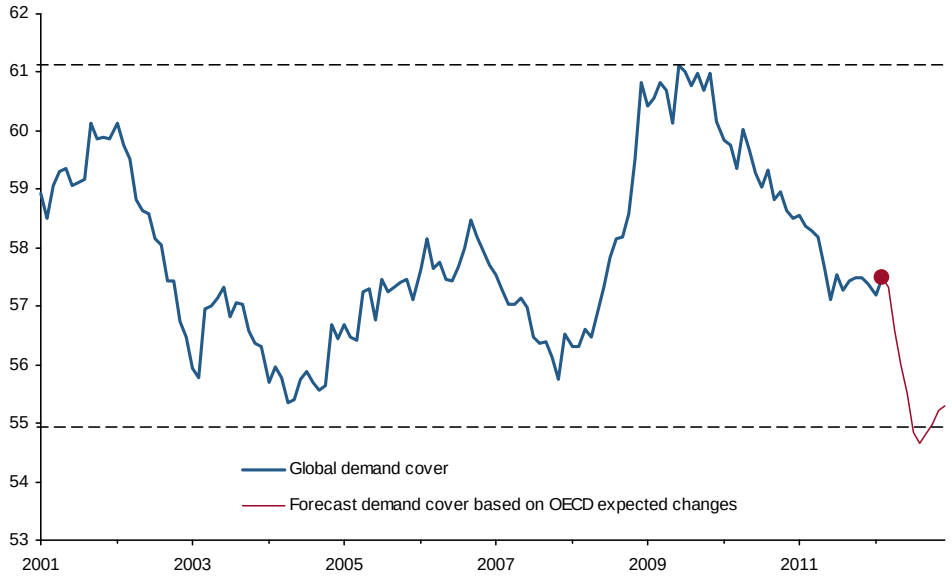
Contrary to much of the commentary surrounding this year's oil price rally, the tension surrounding Iran's alleged nuclear weapons ambitions and attendant threats have not been the main factor underpinning the increase in global oil prices in 1Q. As we highlighted in our recent note (see *What drives US gasoline retail price?*), it is really mostly about supply and demand.

Little spare capacity and relatively low commercial inventories

In the past two years, large surplus inventories have been whittled down, with global inventories falling toward levels at the bottom of the range seen over the past decade (see Exhibit 2).

Exhibit 2: Global commercial oil inventories in days of demand cover

Days of demand



Source: Credit Suisse Global Commodities Research

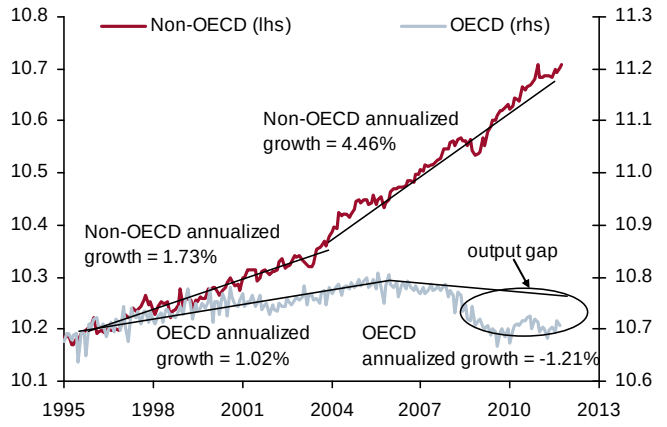
Strong demand

Much of the new news this year extends fundamental trends that we have previously highlighted. We have written about resilient oil demand and growth across Emerging Markets and the bottoming out of OECD oil demand this year. Latest data help underpin our relatively bullish view of oil demand, in that fourth quarter oil use was widely portrayed as decidedly disappointing, mostly on the basis of shallow interpretation of early and trade-linked data points.

A more complete data set and careful adjusting for seasonality revealed last month that in the fourth quarter, Emerging Market oil demand had in fact begun to re-accelerate.

Exhibit 3: OECD and non-OECD oil demand, a history of accelerating EM oil demand growth

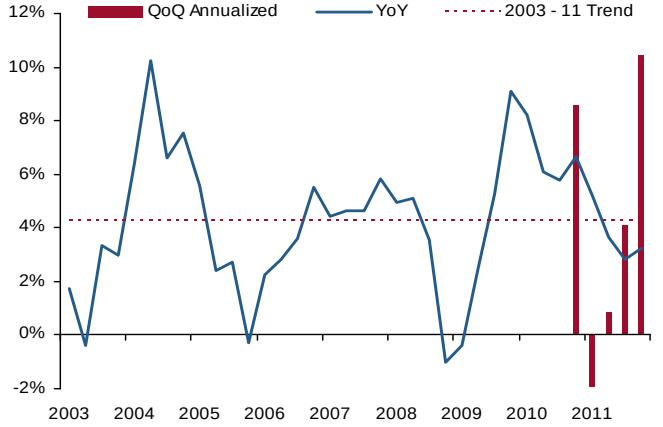
Natural log, SA



Source: Credit Suisse Global Commodities Research

Exhibit 4: Latest data on emerging market growth momentum were positive

Annualized quarterly changes, yearly changes and recent trend, SA



Source: Credit Suisse Global Commodities Research

And supply continues to struggle

Supply growth has not started well in 2012, continuing the troubling 2011 trend, where non-OPEC oil production fell well short of expectations, while supply disruptions (some substantial, some not) continued to accumulate. Of course, the biggest supply disruption of 2011 was the near-complete shutdown of Libya's oil production, and that was reversed more quickly than anticipated starting last September.

Where many expected the return of Libya's exports to offer some relief to oil markets in 2012, instead its effect was almost entirely wiped out by the shutting in of production in South and North Sudan, the delayed return of shut-in Yemeni exports, and the deepening crisis in Syria (and the near-complete shut-in of its production). What's more, non-Opec production outside North America continues to disappoint with year-to-date yoy gains amounting to next to nothing.

To top it all off, Saudi Arabia's true spare capacity, i.e., the amount of incremental oil production it can bring on line within 30 days and can sustain for more than 90 days, is apparently less than 2 Mb/d shy of its fourth quarter peak. In other words, global spare capacity is about half of what had been commonly assumed.

Elevated price levels already, before a normally tighter 2Q and 3Q

So yes, it is surprising that oil rallied so quickly to $125 Brent, but there is no great mystery as to why or how it happened. And a legitimate worry now is that prices won't retreat much. Indeed, normal seasonal trends strongly argue in favor of 2Q and 3Q oil prices reaching some 10% above those prevailing in the first quarter.

Perhaps that is why politicians in the US, France, the UK, and Japan are busily consulting about when to release strategic oil inventories. Some such release could evidently break this year's upward oil price trend – however temporarily.

The greater risk, we fear, is that oil prices would surge if there were another supply disruption and/or supplies from Iran fall off significantly as sanctions intensify.

Oil and the Economy: A Global Perspective

Global Economic Growth

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The impact of commodity prices on the macro economy has been the subject of a weighty body of academic research.

In general terms, there are two key channels that are often discussed when assessing the impact of commodity price inflation on economic growth.

- The first is that an increase in commodity prices can lead to higher inflation and therefore result in tighter monetary policy than would otherwise have been the case. This tighter policy would, in turn, reduce the pace of economic growth.
- The second is that higher commodity prices can act as a "tax" on consumers and business, lowering profits and reducing consumption and investment.

From a global point of view movements in commodity prices are in normal times a zero-sum game, with some countries (companies) benefiting from higher revenues, while others face a deterioration in their terms of trade. Although there will be frictional issues – consumers will feel the impact of higher prices more quickly than the companies and countries that benefit can spend the increased income – **the ultimate impact would normally be more one of distribution rather than being negative or positive at a global level**.

However, although this is generally the case, **in the current macroeconomic climate, as the global economy continues to recover from the "Great Recession," the distributional issues related to rapid increases in commodity prices are likely to be more pronounced than normal**.

- In simple terms, many of the countries that benefit most from increased commodity prices are in the emerging world (Saudi Arabia, Brazil, etc., although Canada and Australia are notable exceptions) and have rebounded strongly following the "Great Recession." Given that these economies have little spare capacity, increased income from higher commodity prices contributed to the need to tighten policy in early 2011, as there was little scope for output to expand further.
- In contrast, many of the countries where economies remain fragile, primarily Japan and the mature North Atlantic, are those that have experienced a marked deterioration in their terms of trade from increasing commodity prices.

Given that the North Atlantic developed economies generally experienced large recessions and have big output gaps and weak and fragile growth, increased commodity prices (particularly oil) have had a significant effect on consumer behavior over the past year, with consumers remaining vulnerable to further price spikes.

In contrast, in emerging economies the main challenge from increasing commodity prices has been in ensuring that higher prices don't flow through to generalized inflation and inflation expectations. This is because these economies are now operating with little economic slack, and many may experience a boost to their terms of trade as natural resource prices increase. In simple terms, the current imbalance between growth in the emerging and developed economies has increased the impact of higher commodity prices on global growth, with the move higher a tax on the economies trying to stimulate growth (acting to depress growth) and a stimulus to economies that are already trying to slow growth. Consequently the positive effect has been limited by policy, while the negative effect has been exacerbated in the developed world by the lack of traditional policy firepower (interest rates are already low and fiscal policy is stretched).

Oil and Inflation

The impact of commodities on inflation has also been a hot topic over recent years among academic economists and policy makers alike[1]. However, although it is clear to us that large movements (note that it is the change, not the level, that matters most) can have a significant impact on "headline" CPI inflation, there is little consensus on the ultimate impact on growth and "core" inflation or on how policy makers should react.

When thinking about the impact of movements in commodity prices on consumer price inflation, it is useful to consider the first-round effect and then to assess the likely flow through to other prices – the so-called "core inflation."

To us the first-round effect of commodity price increases on inflation is heavily dependent on which commodity prices are increasing and the stage of development of individual countries. In general, the most significant impact is felt through increases in food and energy prices, both of which form a sizable component of CPI baskets. Although increases in basic material prices are also significant, the direct impact on CPI inflation is more muted, as these commodities are not directly represented in CPI baskets.

As Exhibit 5 shows, the first-round effect of food inflation falls disproportionately heavily on emerging market economies, with the weight of food in the average CPI basket for emerging economies around 30%. By contrast, it should be noted that the contribution in mature economies was less than half that at around 13%.

Exhibit 5: Commodity price weights in CPI – year to mid 2008

Percent

	Headline	Food		Energy		Non-Food and Energy	
		Weight	Contribution	Weight	Contribution	Contribution	Actual
Mature Economies	3.7	13.3	0.7	7.7	1.4	1.7	2.1
Emerging Economies	8.1	29.5	3.8	7.7	0.9	3.5	5.4

Source: BIS, Credit Suisse

In addition, the flow through from food commodity prices to CPI food inflation is more muted in mature economies, as a greater share of food sold is processed – the share of the total price of processed foods accounted for by the raw commodity ingredient is far less than that for the price of raw produce. This means that for any given increase in raw commodity prices, the increase in CPI food inflation will be far greater in emerging market countries than in developed economies.

In contrast, the direct impact of energy price inflation is roughly the same for both (around 7.7% of the average CPI basket). However, while a given increase in raw food prices has a larger flow through to Emerging Market CPI inflation, this relationship is reversed with oil, as many emerging market economies subsidize energy prices to consumers, although these subsidies have begun to be reduced in many economies over recent years[2].

The impact of commodities on underlying inflation is more controversial. Much of the debate has focused on whether commodity price inflation should be viewed as a one-off price change or as something that is likely to continue for some time. Of course the challenge is that ex-ante it is not possible to tell which of these possibilities will play out. A key consideration is the state of the macro economy, with the flow through likely to be more pronounced when there is little economic spare capacity.

[1] For example see Cecchetti and Moessner (2008), RBA conference 2009, Hbijn (2008) and Lipskey (2008).

[2] It should also be noted, however, that the flow through to CPI inflation in many developed economies is also reduced by tax policies. However the impact is the opposite of that in EM, with many countries (particularly in Europe) taxing petroleum heavily, thereby reducing the share of the final prices actually determined by the international oil price.

Given that we don't have the ability to predict the future path of commodity prices with any precision, a simple way of assessing the impact of commodities on non-food and energy inflation is to calculate the correlation between movements in a broad-based commodity index and movements in the CPI, ex food and energy (the largest components directly driven by commodity prices). To this end, in early 2011 Credit Suisse's Chief Economist, Neal Soss, assessed the correlation between annual percentage changes in the CRB Index against the US core CPI (in the US this is calculated by excluding food and energy). Soss concluded that if the question is whether commodity price hikes have a track record of feeding through to core inflation, the answer over the past quarter century is unequivocally "No." Indeed, as Exhibit 6 demonstrates, the correlation coefficient for data going back to 1985 is -0.375. And a positive correlation does not emerge even by using the CRB to predict core inflation in future periods.

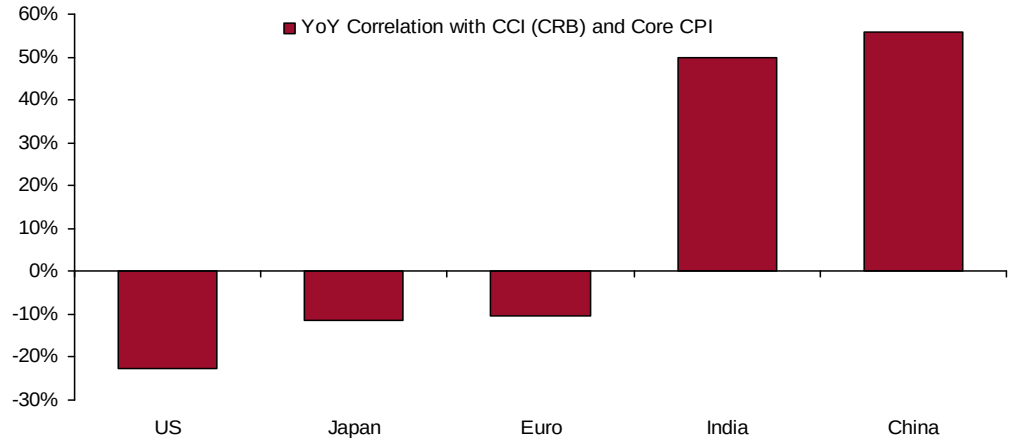
Soss went on to note that "in today's less cartelized, less unionized, more globally exposed economy, increases in oil and food usually manifest as "relative price" shocks, not generalized inflation. When prices of essentials like food and gas go up, households are left with less free cash to spend on other things, tending to restrain other (core) prices."

Although this result would not be too surprising to many in the US, with its fabled non-unionized and deregulated labor market, it is also interesting that in the euro area, where labor markets generally remain more heavily unionized and regulated, the results are essentially the same as in the US. Since 1991, the period for which the EU has been publishing euro-area-wide data, the correlation between annual changes in the CRB and euro area core (again excluding food and energy) has been negative, in this case 0.27. This suggests that as in the US, if anything, the negative impact on other sectors associated by the relative price change associated with increasing commodity prices outweighs any tendency for commodity price increases to flow through to higher inflation expectations, wages, and ultimately increases in non-commodity prices.

This analysis suggests that although large movements in commodity prices can have a significant impact on the headline rate of CPI inflation, there is little clear evidence of significant sustained flow through in the major industrial economies to core inflation. This is in line with Cecchetti and Moessner who conclude that "in recent years core inflation has not tended to revert to headline, which suggests that higher commodity prices have generally not spawned strong second round effects."[3]

Exhibit 6: Correlation between core inflation and commodity prices

Correlation of yearly changes since January 2001, note India uses WPI and China uses non-food CPI



Source: the BLOOMBERG PROFESSIONAL™ service, Thomson Reuters DataStream, Credit Suisse

[3] It is also in line with analysis conducted by RBA staff members Tony Richards and David Norman, who in 2010 concluded that in the Australian case they "find little evidence that either commodity prices or the growth rate of money directly influence Australian underlying inflation."

Although the results from our correlation analysis are clear for the mature economies, there is considerable divergence in the results for the emerging economies, with China and India in particular showing a relatively high positive correlation between movements in the CRB commodity index and core (ex food and energy) inflation over recent years[4]. This suggests that the flow through from higher commodity prices to broader inflation is substantially higher in some of these economies (although the correlation is probably overstated as **in the case of China,** in particular where the relatively short sample period is dominated by the global recession when most prices moderated substantially). Or to use the Cecchetti framework, that **core inflation has tended to revert to headline inflation in these economies**. Of course, in EM the main culprit remains food inflation, as the passthrough of global oil prices to the consumer remains blunted through an elaborate system of subsidies and cross subsidies – although as we note in the EM section of this note, the price of oil can have an impact on the price of agricultural foodstuffs.

Inflation and Monetary Policy

When assessing the likely monetary policy response, a key question is whether commodities price inflation is mainly driven by supply (like the oil crisis in the 1970s) or demand shocks. For example, in the case of food prices, the predominant cause has typically been supply disruptions[i], due to droughts, floods, and crop diseases. Although these disruptions can affect food prices for some time, they generally self-correct in the medium to long run. Instead, over the past decade, much of the increase in oil prices has been driven by stronger-than-anticipated demand, although supply shocks – such as the one experienced in early 2011 – remain a real risk, particularly in light of political turmoil in producing countries in North Africa and the Middle East. For basic materials, the predominant cause of prices trending up (35% for copper and 100% for iron over the past decade) has been stronger-than-anticipated demand – driven by China among other countries. Such demand-side fundamentals are likely to remain the main driver of basic metals prices for the foreseeable future. In summary, commodities price movements in recent years have often had very different drivers than the oil supply-shock of the 1970s.

An important question is whether the increase in prices is likely to be permanent or temporary (such as a one-off price adjustment), although in practice it is difficult to assess which one of these will be ex-ante. To the extent that changes are driven primarily by temporary factors (such as most supply shocks), many central banks would be expected to look through the impact when setting monetary policy. This is partly because monetary policy has very little effect on factors such as food prices. But it is also because by the time monetary policy can reasonably have begun to affect broader prices (given the long and variable lags) the price change is likely to have already reversed. The objective of monetary policy is not to control short-term inflation fluctuations but to make sure that – on average – inflation remains within an acceptable range.

On the other hand, when changes in commodity prices are driven by a demand shock, they are likely to prove more resilient, increasing the likelihood that policy makers will indeed intervene. Given the difficulties in assessing the effect of all of these factors, several central banks tend to focus on inflation expectations. If the latter remain well anchored, there is scope for monetary policy to "look through" a (likely) temporary period of higher inflation, primarily because firms and consumers are doing the same. This said, and for a variety of reasons – some related to differences in the specific country's inflation process, and some related to cultural and historical norms – it is clear that there are significant differences among the major central banks in how they assess inflation and react to a change commodity prices.

[4] Note that this analysis is made more difficult for China and India because of data limitations. China has only published a core measure of inflation since 2006, while India does not publish a CPI. We therefore have used the Wholesale Price Index for India.

- For example, at least historically, the US Federal Reserve has not been overly concerned about the effect of higher commodities prices on headline inflation, as long as core inflation remains well behaved. This stance is likely to be reaffirmed in the current environment, given the relatively low level of core inflation and large output gap (extra capacity in the economy).
- In contrast, the European Central Bank (ECB, and before that the Bundesbank) has had an explicit headline inflation target. Last year the ECB again demonstrated its willingness to tighten monetary policy if headline inflation moves above its target because of commodity prices, even if the move is likely to be transitory. It will be interesting to see how the ECB acts over coming years given the leadership change that occurred late last year.
- The People's Bank of China (PBC) has generally adopted a flexible and pragmatic approach, using monetary policy to ensure that commodity price inflation (particularly food inflation) does not unduly affect core prices and inflation expectations. As we have shown, however, it is rational for the PBoC to lean against commodity inflation as it tends to quickly flow through to other prices, probably in large part due to the significant weight of food in the CPI basket.

US Gasoline Prices

Retail Price = Crude Oil + Refining Margins + Taxes

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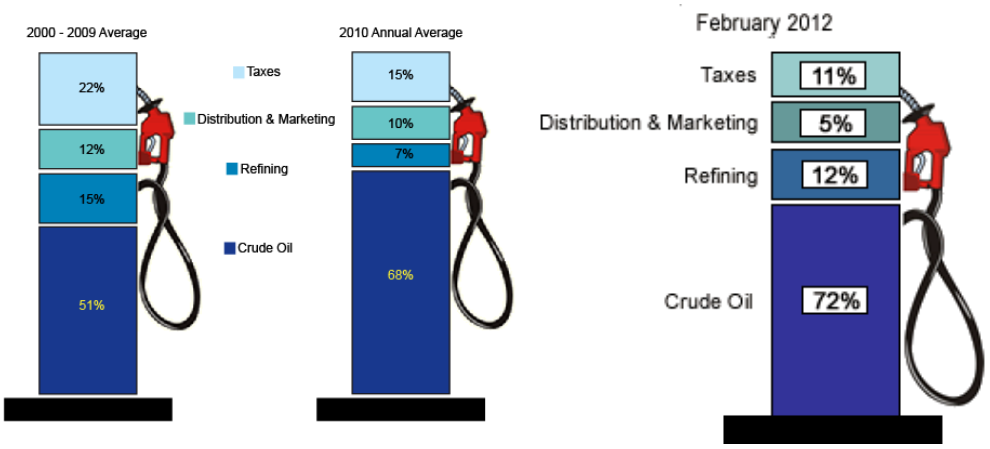
What's in the price of gasoline in the US? The authority here is the Energy Information Agency of the Department of Energy.

Exhibit 7: What do we pay for in a gallon of gasoline?



- **Crude oil:** the major feedstock oil refiners manufacture gasoline. This portion of the gasoline price (~70%) is represented by the cost of crude oil purchased by refiners.
- **Refining margin:** The refining portion of the gasoline price is the spread between the cost of crude oil purchased by refiners and the wholesale price of gasoline. This spread represents both the costs and profits associated with the refining process.
- **Distribution and marketing margin**: the part of the supply chain from the refiner gate (wholesale or "rack" markets) to the gasoline station (forecourt) and the consumer's gas tank. This margin is the retail price minus the other three price components. Proportionally it is the smallest and has shrunk over time.
- **Taxes:** The federal government levies a flat tax of 18.4 cents on each gallon of gasoline, and each of the 50 states levy on average another 22 cts/g tax. State tax regimes vary considerably (current range is 7.5 to 37.5 cts/g).

Source: EIA

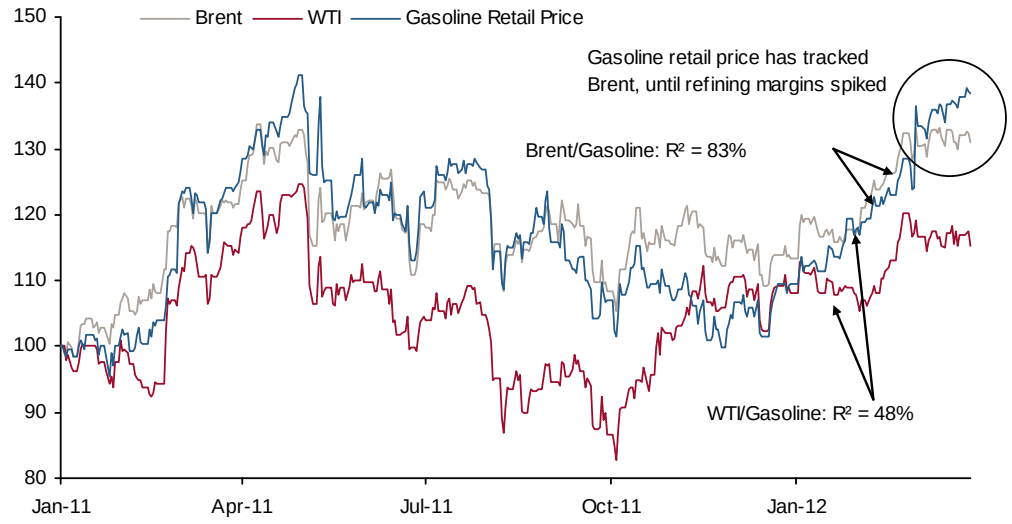
If the principal component is crude oil, question is which one?

The short answer is that the Brent crude oil price remains the principal driver (~70%) of what the "all important" US consumer is charged at the pump. Brent prices correlate very closely with US retail gasoline prices (see Exhibit 8). US refiners and importers manufacture and deliver gasoline across the US. Internally, the American market is fully connected, despite literally hundreds of gasoline quality differences. And critically, the marginal supply of gasoline still comes from coastal refiners and importers who process crude oil priced in a global market (i.e., Brent linked). This globally priced crude oil from which most of the US gasoline is manufactured is the floor under its retail price.

Sidebar: the benefit of much lower feedstock costs in the American hinterland accrues almost entirely to refiners in the mid-continent who have access to cheaper WTI and other inland crude oil grades (including Canada's export streams). But, because gasoline prices are set at the refining centers (along the East, Gulf, and West Coasts of the US) and because the mid-continent is still a net importer of gasoline (and price), it is the global crude oil feedstock price that sets the floor under gasoline prices in all of the US. In short, consumers in the mid-continent do not get the benefit of cheap inland feedstock, refiners do. And WTI prices have disconnected from retail gasoline prices (the r-square between them is only about half of that of Brent and US gasoline, see Exhibit 8).

Exhibit 8: US retail gasoline prices have disconnected from WTI

US$/bbl



Source: EIA

Seasonality of gasoline – it is all about summer driving

Gasoline is the most used petroleum product in the United States. The United States produces about 19 gallons of gasoline from every 42-gallon barrel of crude oil that is refined. According to the EIA, Americans used about 378 million gallons per day of gasoline in 2010 (latest annual data). Gasoline is mostly used in cars, SUVs, and light trucks. Although produced year-round, gasoline is a very seasonal product, as US drivers hit the road more often in the summertime, demand for gasoline tends to peak in summer months. In addition, it is more difficult to make summer-grade gasoline, which can exacerbate the price effect of the demand peaks.

- Summer versus winter specifications: Gasoline blending differs in summertime and in wintertime. Driven by concerns about pollution (smog), authorities have put ever stricter limits on the proportion of volatile organic components allowed in the extremely complex blend ingredients that make up modern gasolines. Pollution is most difficult to control in summer when much higher ambient temperatures allow for easier evaporation of harmful ingredients. Winter grade US gasoline is allowed a higher Reid vapor pressure value (rvp).
- The biggest difference is that in summer-grade gasolines refiners are allowed much more limited use of Butanes (of which there are high and rising surpluses across much of North America). The greatest shortage in summer is typically that of octane-boosting alcalytes.

What else can "shock" gasoline prices significantly: Refining margins

Secondary drivers of retail prices in the US are refining margins (~15%). These can blow out when utilization rates are high and/or refiners trip off line, in summer especially.

The risk of some such blow-out of refining margins has risen significantly, as five refiners that supply the East Coast have shut down or will shut down soon.

Oil and the US Economy

When Oil Does – and Doesn't – Matter

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Summary

Oil is challenging Greece as the tail risk du jour in financial markets. So far, the US economy seems not to have noticed. "Gasoline-sensitive" economic data covering the month of February have so far powered straight through the rise.

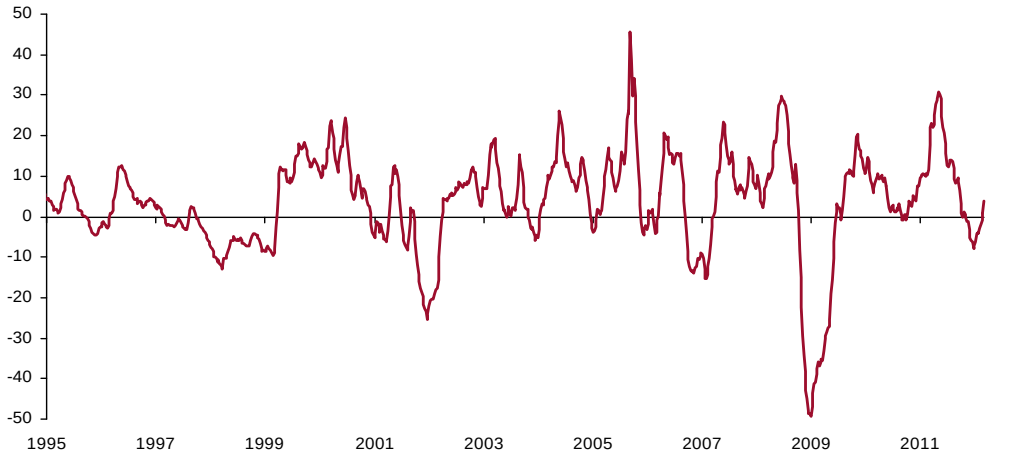
Temporary factors (the absence of a true winter in much of the country) may be shielding the economy from the effect of higher gas prices. But we also believe that consumers are becoming habituated to higher prices, as this year's price rise doesn't carry the same "shock value" as last year's spike. And the forces of a cyclical recovery are becoming more entrenched, attenuating higher gasoline's negative impulse to the economy.

Our baseline view for the economy remains sanguine, albeit rather dull. The risk of a new "slowdown scare" in the data over the spring months has probably gone up with the rise in oil and gasoline, but we would expect a less intense scare this year than last year's flirtations with $4 gas and "double-dip" recession. This view could change if oil were to move dramatically higher from current levels in a short period of time. And if oil and gasoline prices broke significant new ground beyond recent experience and stayed there, confidence and growth could potentially take a bigger hit than we currently expect.

We run "linear" simulations for what oil means for headline inflation and real disposable income, and a "non-linear" simulation showing what different oil scenarios might imply for GDP growth. Both sets of analysis point to $150 oil (Brent) as a potential nexus of strain for the economy, roughly consistent with nationwide retail gasoline prices in the $4.50-$4.75 zone.

Exhibit 9: Retail gas price – deviation from trend

Percentage deviation from 52-week moving average



Source: Energy Information Administration, Credit Suisse

Background

Oil is challenging Greece as the tail risk du jour in financial markets. So far, the US economy seems not to have noticed. Even though gasoline prices rose sharply in recent weeks, the "gasoline-sensitive" economic data covering the month of February have so far powered straight through the rise. Consumer sentiment reached a 12-month high, just as news about $4 gas in many parts of the country entered the media spotlight. Motor vehicle sales surged dramatically in February, exceeding 15 million units for the first time since March 2008. Early reports on non-auto retail sales have been decidedly upbeat.

Of course, confidence and spending do not always respond instantaneously to changes in gasoline prices. And it is possible that the absence of a real winter in much of the US is effectively muting gasoline's potential drag. A number of retailers cited warm and dry weather as a factor that lifted sales in February. And energy prices could have further to run. From our Global Commodities Energy Research team, led by Jan Stuart:

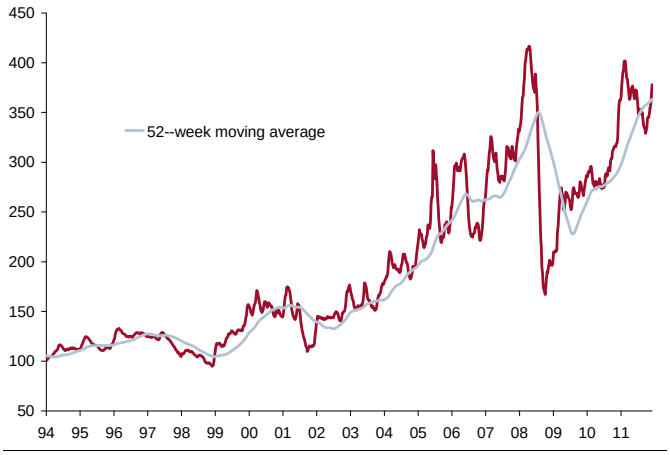
"Our contention is that global supply/demand balances look and feel significantly tighter than what market consensus anticipated. Tensions in relations with Iran and headlines about further supply disruptions have added momentum but cannot alone explain the rally. Indeed the pertinent concern is with a more insidious tightening of balances going forward. Price creep toward difficult to support levels may follow."

Still, we think the stronger economic data carry deeper underlying messages. Consumers are becoming habituated to higher gas prices, as this year's price rise doesn't carry the same "shock value" as last year's spike. And the forces of a cyclical recovery are becoming more entrenched, especially with respect to the labor market. This attenuates higher gasoline's negative impulse to the economy.

The charts below show a weekly history of retail gasoline prices. Exhibit 10 shows the price plotted against a trailing 52-week moving average. Exhibit 11 shows the deviation from trend (the percentage difference between the actual price and the moving average). So far, gasoline prices have not broken significant new territory relative to the averages of the past year, even with the recent break higher. Current wholesale gasoline futures suggest retail prices at the pump should move a bit higher from the current level – towards $4 by April. Still, $4 gasoline was "novel" last year – a considerable departure from recent experience at the time. It would not be so novel this year.

Exhibit 10: Retail gas price

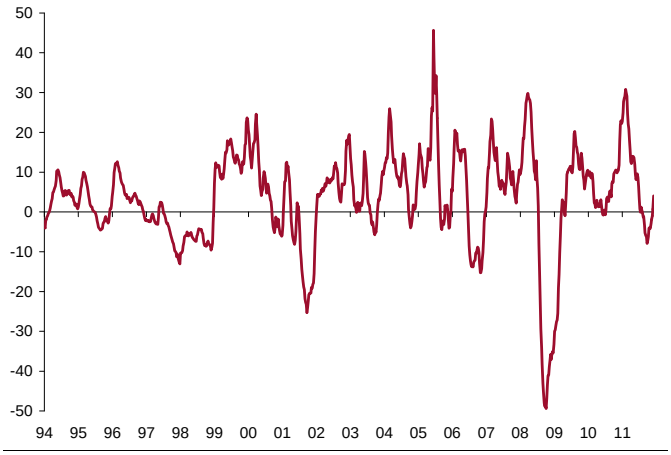
All Grades US Average (ct/gal)



Source: Energy Information Administration, Credit Suisse

Exhibit 11: Retail gas price – deviation from trend

Percentage deviation from 52-week moving average



Source: Energy Information Administration, Credit Suisse

The story is similar when measured in units of dollars, or the so-called "energy tax." Every penny at the pump is akin to a $1 billion tax hike for the household sector (or $1 billion not available to spend on non-energy items, assuming a slow response in the alteration of driving habits). As of now, this year's marginal energy "tax" hike from the lows is only about half the size of last year's surge. Current futures prices imply a 64-cent rise in gas prices from the lows (measured from the December 2011 low to our April forecast). The shock from late-2010 though spring 2011 was almost twice as large – a $1.20 increase at the pump when gas peaked at around $4 in April 2011. The level of prices often gets the most attention, but it is the rate of change that matters for inflation and real income growth. The rates of change implied here point to a considerably smaller hit to the economy than last year.

The initial conditions also matter. A labor market with momentum can buffer the economy from higher gas prices through the new paychecks generated for an expanding workforce. We estimate that if payroll growth continues at its recent pace, along with a modest increase in the average workweek, nominal disposable income would grow by almost $500bn in 2012. The rise in the gasoline bill under a central oil price scenario provided by our Global Commodities Energy Research team would amount to less than $50bn for the full year relative to last year.

Economists often attempt to distinguish supply-induced oil price increases from demand-driven increases. Growth expectations should not necessarily be lowered if the rise in prices is an "endogenous" reflection of economic strength, as opposed to an "exogenous" shock. Our Global Commodities Energy team suggests that global demand is an underappreciated driver of the recent price rise, beyond supply-related fears over the Iranian situation. Admittedly, regional performance complicates this "endogenous/exogenous" analysis. For example, if Asian demand is the driving force behind higher oil prices, the US economy would still get pinched – perhaps less so if it were a pure supply-side story, but pinched nevertheless.

Our baseline view for the economy remains sanguine, albeit rather dull. The risk of a new "slowdown scare" in the data over the spring months has probably gone up with the rise in oil and gasoline, but we would expect a less intense drag this year than in last year's episode. This could certainly change if oil were to move dramatically higher from here in a short period of time. And we are mindful of the "non-linearities" that could assert themselves in a more negative fashion. For example, if oil and gasoline prices broke significant new ground beyond recent experience and stayed there, confidence and growth could potentially take a bigger hit than we currently expect.

Rules of thumb

There are "rules of thumb" we can apply for inflation, gasoline spending, and real income that are helpful for analytical purposes, although the actual impact on the economy is more complex.

- For every $1 rise in the price of oil, gasoline prices rise by about 2.5 cents at the pump.

- Every penny rise at the gasoline pump adds slightly more than $1bn to the household sector gasoline bill (assuming no alteration in driving behavior).

- Every $10 increase in the price of crude oil raises headline CPI inflation by 0.3-0.4 ppt.

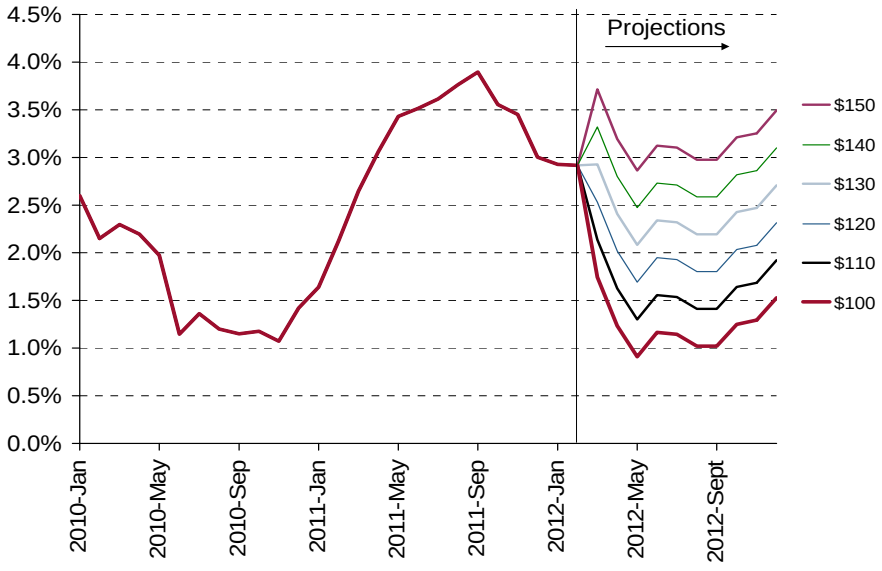
- Every $10 increase in the price of crude oil reduces real income growth by 0.3-0.4 ppt.

Headline inflation scenarios and oil

Exhibit 12 shows scenarios for headline CPI inflation over the course of 2012 at different levels for oil prices. We assume "ex-energy" inflation is constant. Scenarios range from $100 oil (Brent) up to $150, and the range of inflation by the end of the year is 1.5% at the low end to 3.5% at the high end. Base effects are powerful. Because prices were elevated for much of last year, it takes a significant increase in the oil price (to around $150) to take inflation anywhere near where it was last year (when it came close to 4% yoy). And if oil stays where it is currently (around $120 on Brent), headline CPI inflation measured year over year would actually fall below 2% around spring.

Exhibit 12: CPI and oil price scenarios

Headline CPI yoy%, oil is Brent crude ($/Barrel)



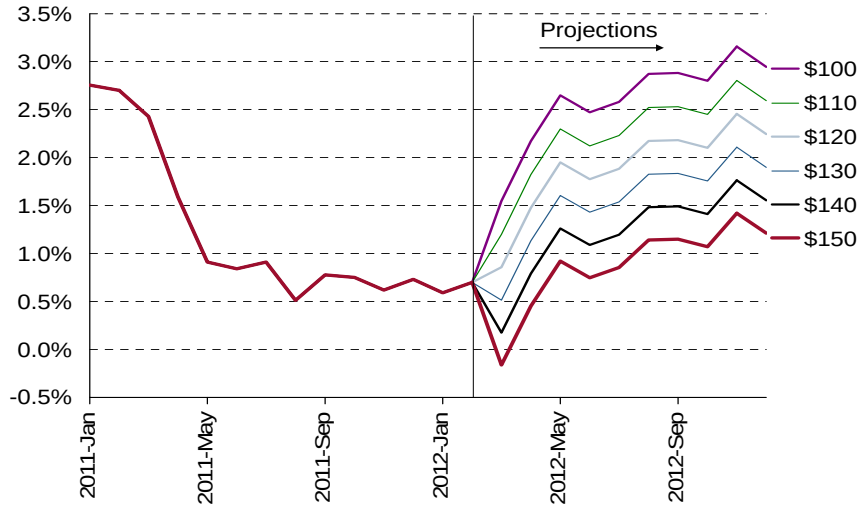
Source: Bureau of Labor Statistics, Credit Suisse

Real income growth scenarios with oil

Exhibits 13 and 14 show scenarios for real disposable income (DPI) growth at different levels of oil prices through 2012. We show two sets of scenarios: (1) a "strong" labor market, where firms don't react to the rise in the oil price by stepping up firings or reducing hiring; oil's income effect is therefore only a direct one through the rise in inflation, and (2) a "weak" labor market, where the labor market softens in response to oil, in addition to the inflation effect. The "strong" labor market assumes payroll growth around the average pace of the last three months (about 220K) and a modest rise in the average workweek. The "weak" labor market assumes job growth akin to last summer's soft patch pace (about 100K per month).

Exhibit 13: Oil scenarios and real disposable income growth: Strong labor market

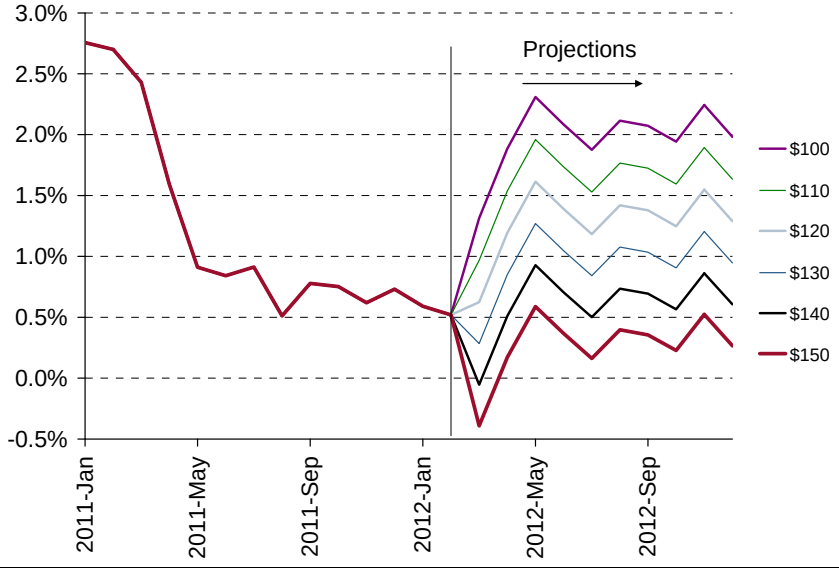
Real DPI yoy%; oil is Brent crude ($/Barrel)



Source: Bureau of Labor Statistics, Credit Suisse

Exhibit 14: Oil scenarios and real disposable income growth: Weak labor market

Real DPI yoy%, oil is Brent crude ($/Barrel)



Source: Bureau of Economic Analysis, Credit Suisse

The price scenarios in our exercise take effect immediately, so a move to $150 oil relatively quickly causes real disposable income to contract in the short run in both batches. The combination of $150 oil and a weak labor market generates very little real income growth through the year. Such a scenario would force a significant cut in the savings rate to generate much in the way of consumer spending growth. In the strong labor market with $150 oil, real DPI would still grow about 1¼% for the year – hardly a good outcome but not a catastrophe (in fact, that is slightly above where it finished 2011). Current levels of Brent crude imply real income growth of 2¼% in the strong labor market and about 1¼% growth in the weak one. At the other extreme of $100 oil, real DPI grows between 2% and 3% in the weak and strong labor markets, respectively.

Oil and GDP: A non-linear exercise

Our inflation and income exercises are "linear" by design. A large body of economic research suggests a more complex "non-linear" relationship may exist between oil prices and GDP growth. Oil price increases dampen economic growth, whereas decreases do little to boost economic activity. And increases following a long period of stable prices are more disruptive than those simply restoring from previous declines. In our opinion, for an excellent review of this topic, please see James Hamilton, "Nonlinearities and the Macroeconomic Effects of Oil Prices," *Macroeconomic Dynamics*, 2011, vol. 15, Supplement 3, pp. 364-378, and "What Is an Oil Shock?" *Journal of Econometrics,* April 2003, vol. 113, pp. 363-398.

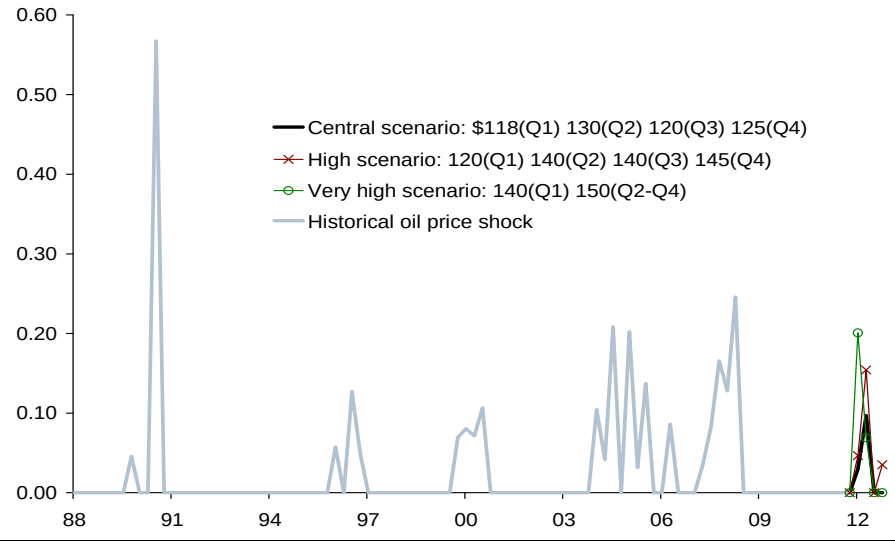
Professor Hamilton adopted a "net oil price increase" calculation to estimate oil's potential non-linear impact on GDP growth. An oil shock is deemed to have occurred in his framework if oil reaches a new three-year high. A zero value is assigned if prices are lower than the previous three-year high. Professor Hamilton demonstrated that this non-linear transformation can be useful in forecasting GDP, as it captures the "exogenous" component of oil price changes (although he acknowledged this is just one of many transformations which may work).

The analysis below takes his framework and applies it to the Brent oil price. For various technical reasons, Brent has been a more important driver of the retail price of gasoline we pay than the more traditional WTI benchmark.[5] The monthly Brent data are converted to quarterly by using end-of-period values.

We simulate three scenarios. The first is a central scenario provided by our Global Commodities Energy team, where Brent tops out at $130 in 2Q and fluctuates in the $120-$125 zone over the second half of the year. The second is a "high" scenario of oil drifting up to $140 by 2Q and $145 by the end of the year. The third scenario has oil moving up to $150 by 2Q, with the price staying at that level for the rest of the year.

Exhibit 15: Oil price shocks (Brent crude oil)

Log level, US$/Barrel



Source: Financial Times, Haver Analytics©, Credit Suisse

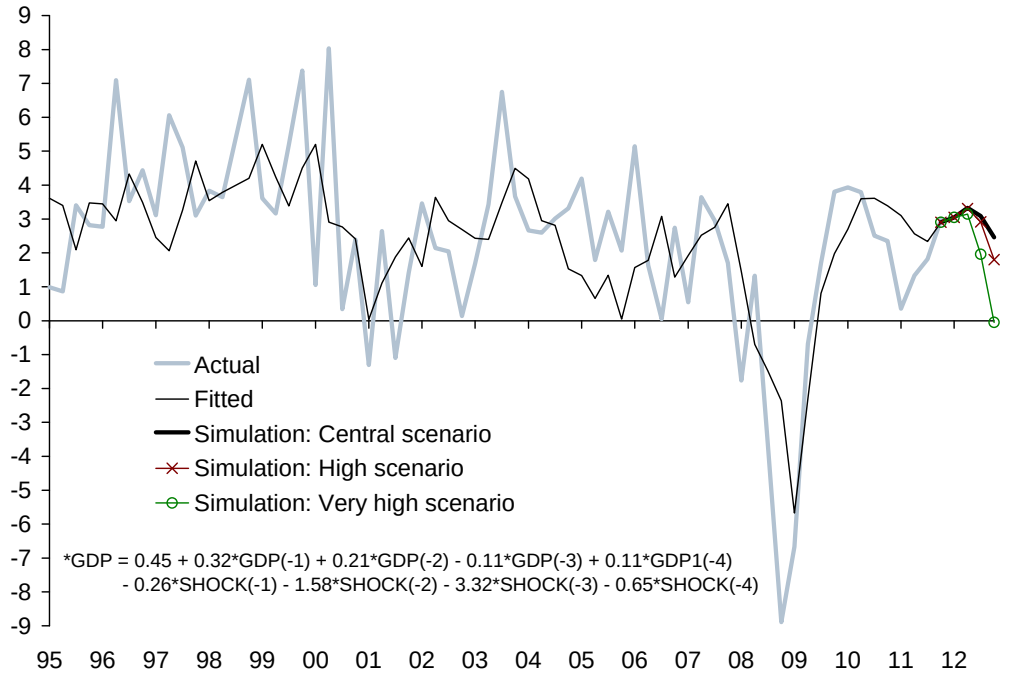
Exhibit 15 shows oil price shocks since the late 1980s under this framework. The largest shock in our sample is the Persian Gulf War episode in 1990 (which is widely viewed as the trigger for that recession). The oil price shock during summer 2008 is the second largest shock. There were also a series of shocks in the mid-2000s – including one on the eve of the Iraq War in 2003, and another after Hurricanes Katrina and Rita in 2005. Surprisingly, last year's "Arab Spring" surge doesn't register as a "shock" in this particular exercise, as prices did not exceed the 2008 high (we tend to believe the true effect on the economy was more significant than is depicted here). In the current situation, oil prices in excess of $115/barrel would be classified as a shock. Brent is above $120 as of now, emitting a minor shock signal.

The worry is that a rapid run-up in oil prices from here would amplify the impact on the real economy through its non-linear relationship with GDP growth. Below we run our three scenarios through a GDP growth simulation. As a top-down exercise, we regress quarterly GDP growth on four lags of GDP growth and four lags of the oil price shock variable (the equation is in Exhibit 16). Then we take our estimated parameters and apply them to our three price scenarios.

[5] For more discussions on this topic, please refer to our commodities research *What's the real price of oil?* published February 17, 2011.

Exhibit 16: GDP growth under oil price shocks

qoq% Ann., Sample period: 1Q 1995– 4Q 2011 (not including the lagged initial values)



Source: Credit Suisse; * This is the same formulation as those presented in Hamilton's 2003 and 2011 papers. Quarterly non-annualized GDP growth rates are applied to the regression. The exhibit is charted with quarterly annualized growth rates for easy interpretation. The Wald Test, a statistical method commonly used to test the true value of the parameter based on the sample estimate, rejects the null hypothesis of the four coefficients of oil shocks jointly equal to zero, suggesting statistically significant non-linear impact of oil price increase on the economy.

In our central scenario, our simulation suggests that real GDP growth would emerge relatively unscathed, with GDP predicted at 2.5% annualized by 4Q. This result comes very close to the current consensus estimate (2.6% based on February Blue Chip) and our own forecast (2.3%).

The "high" scenario assumes a somewhat faster oil price increase and predicts slightly slower growth. Our simulation suggests that real GDP growth would slow down to 1.8% by 4Q this year, close to the average bottom ten 4Q GDP forecasts in the February Blue Chip (1.7%), though similar to the 2011 GDP performance.

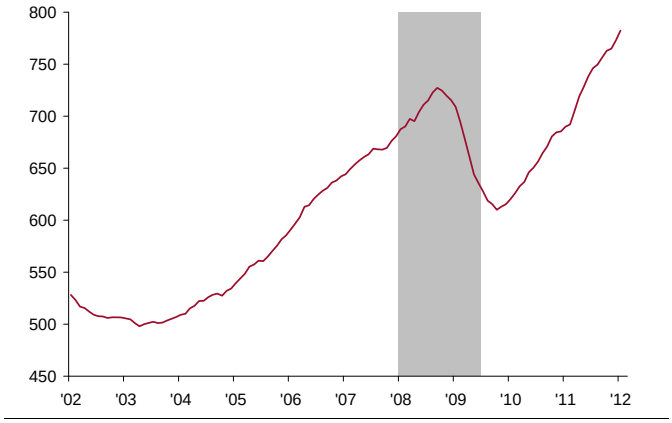
What level of oil price would increase recession risk in a material way? Our third scenario of $150 oil comes close to doing the trick. Under this scenario, the "non-linearity" imposes a more negative impact on the economy, and real GDP growth would stall by 4Q this year. **This seems to dovetail with our income exercise, which highlights $150 oil as a potential nexus of strain.**

Silver linings

Although the effects are relatively small at the macro level, the energy exploration boom is providing a degree of offsetting benefit for the economy in the form of faster job creation in mining/exploration sectors (Exhibit 17, the mining sector has added about 170K net new jobs from the 2009 bottom), a surge in oil and gas industrial production (Exhibit 18), and a much improved petroleum trade position (Exhibit 19).

Exhibit 17: Mining sector employment

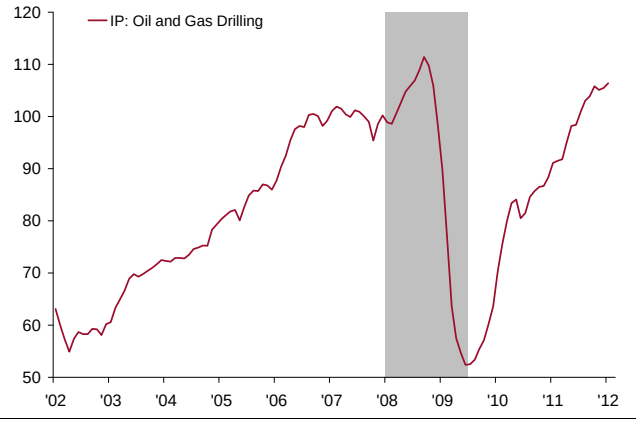
Thous.



Source: BLS, Credit Suisse

Exhibit 18: Industrial production: Oil and gas drilling

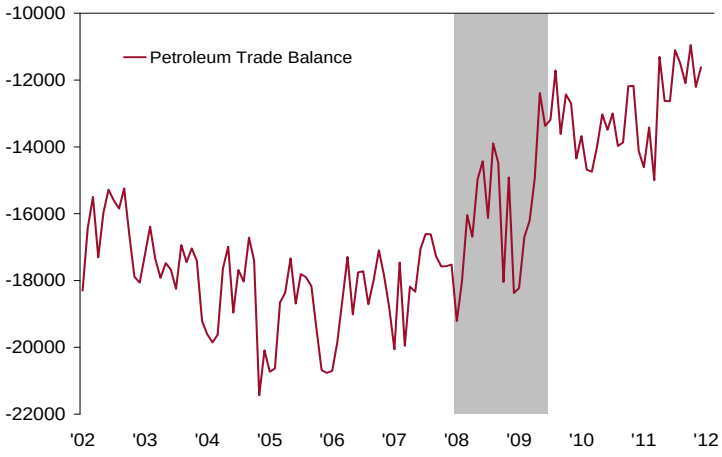
Index, 2007=100



Source: Federal Reserve, Credit Suisse

Exhibit 19: Petroleum trade balance

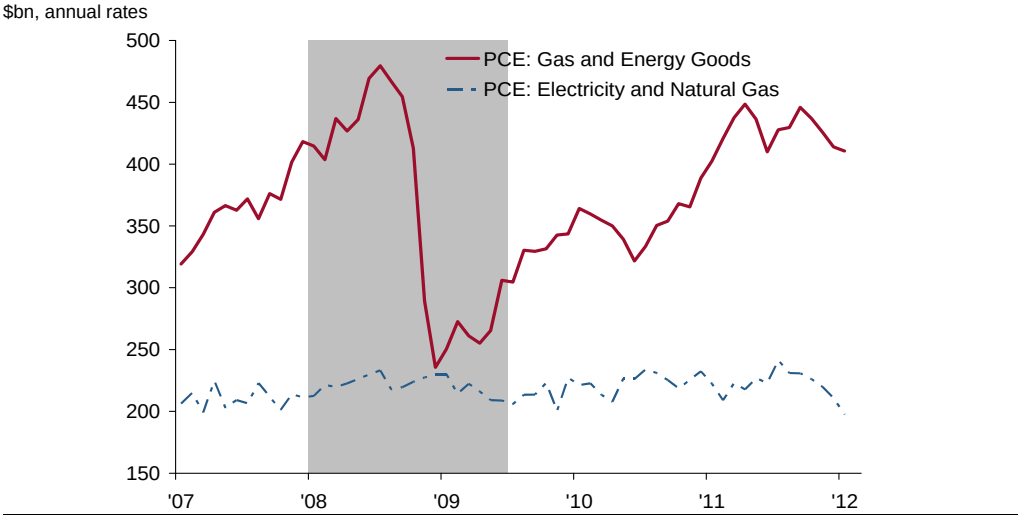
Inflation-adjusted, $ millions



Source: Bureau of Economic Analysis, Credit Suisse

The plunge in natural gas prices has been mentioned as a potential offset to the rise in motor fuel prices. We doubt that this amounts to much. Direct consumer spending on natural gas is tiny relative to motor fuel (0.5% of total PCE compared to 3.8% for gasoline and other energy goods). And second-round effects into electricity generation are also likely to be small. As our Equity Research US Utilities Analyst Dan Eggers points out, utility companies continue to reinvest in infrastructure that is pushing up the overall cost of electricity temporarily. At best, falling natural gas prices will probably only slow this rate of increase. Moreover, natural gas only drives about 20%-25% of electricity generation, (the rest mainly coming from coal, nuclear, and renewables). And electricity prices tend to be much more stable relative to gasoline. The real benefit to the economy from the adoption of natural gas – greater energy self-sufficiency – is likely to accrue over the course of many years; the short-run relief from cheaper natural gas is welcome news at the margin but is not large enough to be a game-changer.

Exhibit 20: Consumer spending: Energy goods versus energy services spending



Source: Bureau of Economic Analysis, Credit Suisse

Oil and Fed policy

The reaction of monetary policy to increasing energy prices is necessarily situational. A persistent rise in the oil price that feeds into inflation expectations would require a much different policy response from an oil price rise that imparts a temporary boost to headline inflation. In his Monetary Policy Report testimony last week, Fed Chairman Bernanke did not dwell on recent energy price movements. But even his limited comments were telling:

"Looking farther ahead, participants expected the subdued level of inflation to persist beyond this year. Since these projections were made, gasoline prices have moved up, primarily reflecting higher global oil prices--a development that is likely to push up inflation temporarily while reducing consumers' purchasing power. We will continue to monitor energy markets carefully. Longer-term inflation expectations, as measured by surveys and financial market indicators, appear consistent with the view that inflation will remain subdued."

The critical word in Bernanke's text is "temporarily." It implies that the chairman, and his many like-minded colleagues on the FOMC, are more concerned about the headwinds that higher gasoline prices might impose on economic growth than about gasoline's potential influence on general price levels and inflation expectations. The menu of policy responses, then, includes doing nothing and easing further. Tighter policy in this scenario would be seen by the majority of FOMC voters as a dangerous over-reaction.

This view would be consistent with earlier research performed by Professor Bernanke (and colleagues) in the 1990s, which showed that "a substantial part of the recessionary impact of an oil price shock results from the endogenous tightening of monetary policy rather than from the increases in oil prices per se."[6]

[6] Ben S. Bernanke, Mark Gertler, and Mark Watson, "Systematic Monetary Policy and the Effects of Oil Price Shocks", *Economic Research Reports*, C.V. Starr Center For Applied Economics, June 1997.

Europe

Oil and the Real Economy

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Our previous research note on this topic (*Tailwinds and tail risks*, 19 January 2012) suggests that **the potential impact of oil price shocks on real activity in Europe is moderate.** At the margin, a strong supply shock, causing upward pressure on oil prices, would have the potential to tip an already precarious European economy onto a weaker growth path.

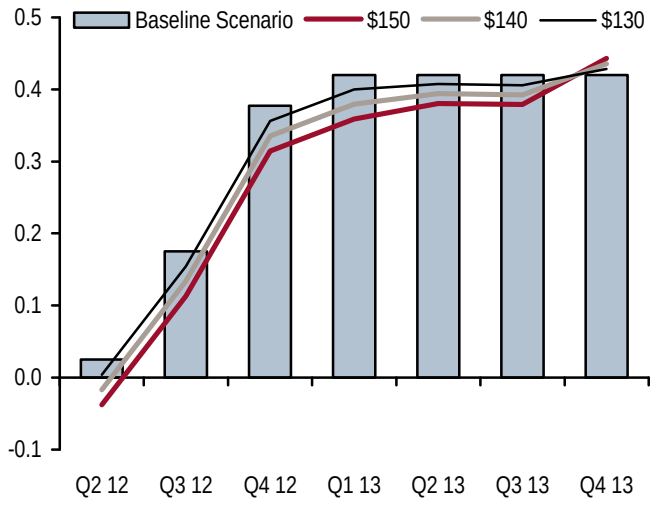
In the euro area, estimates suggest that an oil price shock that raises prices to $150 in 1Q 2012 would lead to economic activity being 0.3% lower by the end of 2013. Exhibit 21 shows the path of growth rates given oil price shocks of varying degrees in 1Q 2012, against our baseline scenario of unchanged oil prices. With oil at $150pb, next quarter's growth would be negative and around 0.1pp lower per quarter for the next year.

In the UK, the overall effect of an oil price shock on the level of output in the medium term is higher than for the euro zone. However, the short-run effect is less, possibly because of the interaction between higher prices and domestic oil production revenues. The timing of the pass-through means that the full oil-price effect will potentially hit the UK only next year, as shown in Exhibit 22. This reduces the chance that the shock would push a faltering recovery into recession, other things being equal.

Estimates are based on simple linear coefficients. However it should be noted that non-linear estimates can increase the oil price shock effect. This is particularly true for the euro area, where the non-linear estimate gives an impact on GDP of around three times that of the linear case[7]. Below, we examine only oil price increases. There is a body of evidence that suggests oil price decreases have a relatively smaller impact on economic activity than prices' increases. As an illustration, a shock that pushes oil prices to $100 would increase euro area GDP by 0.2%, and UK GDP by 0.4% at the end of two years.

Exhibit 21: Euro area GDP quarterly growth rates

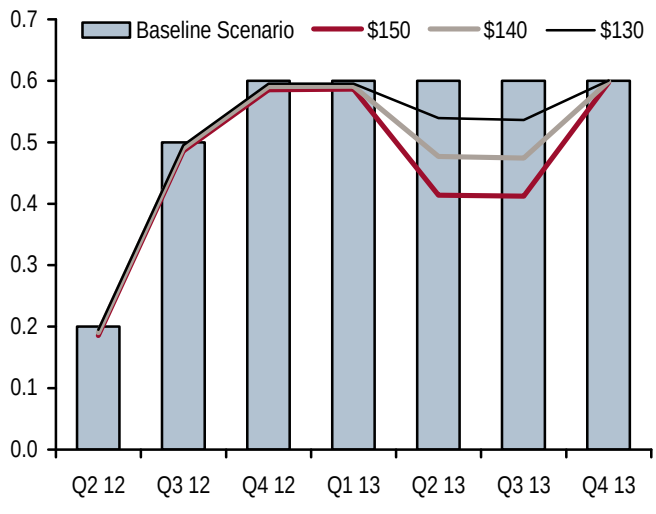
q/q%



Source: Credit Suisse, Thomson Reuters DataStream

Exhibit 22: UK GDP quarterly growth rates

q/q%



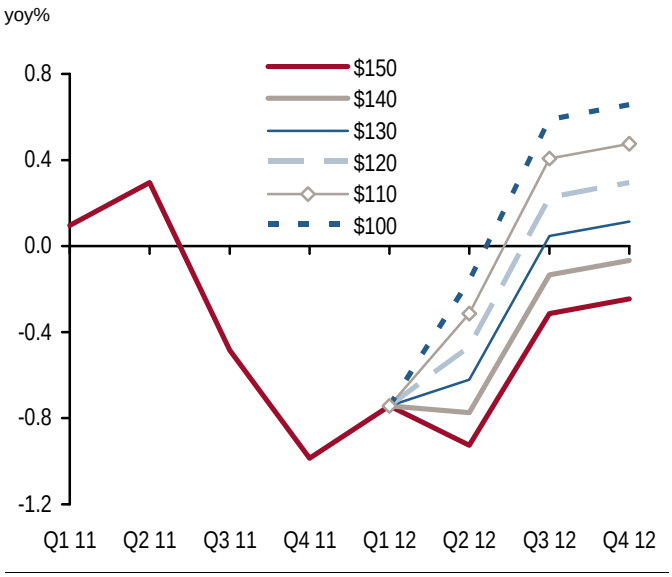
Source: Credit Suisse, Thomson Reuters DataStream

[7] Several estimates of the impact of oil price shocks on GDP exist in the economic literature. We have taken model coefficients from ECB working paper 362, "Oil Price Shocks and Real GDP Growth. Empirical Evidence for Some OECD Countries."

While the GDP figures are interesting, the effect of an oil shock on disposable income is equally informative. The real income position of households in Europe is already weak. A further inflationary shock, via high oil prices, can only be detrimental to household's financial positions, dampening consumer spending. **Euro area consumers could be particularly hard hit by high oil prices.** Under the assumption that nominal income growth continues at the same rate as the previous year and that oil hits $150 per barrel, real disposable income growth in the euro area would only become positive at the start of 2013.

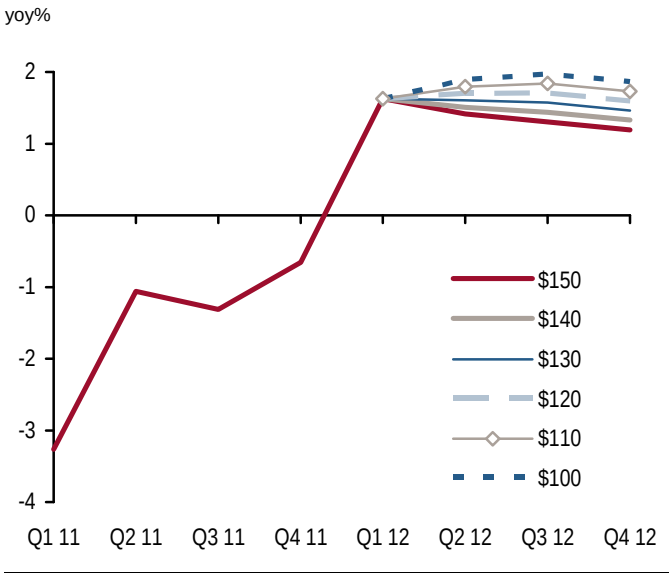
In the UK, real disposable income growth should recover (from negative territory) as we move through the year. As a result of this momentum, an oil price shock to $150 should not push consumers' real disposable income back into negative growth. Moreover, the strength of the oil price effect on disposable income growth rates is weaker than for the euro zone as a whole.

Exhibit 23: Euro area real disposable income



Source: Credit Suisse, Thomson Reuters DataStream

Exhibit 24: UK real disposable income



Source: Credit Suisse, Thomson Reuters DataStream

Oil and Inflation

We have run a sensitivity analysis of oil prices on euro area and UK inflation. For the short term, the analysis is based on our own estimates of the impact of oil prices changes on the euro area HICP and the UK CPI indices, mainly via their petrol components. For the long term, we have used the results of the OECD INTERLINK model that shows the impact of a shock in oil prices over a five-year horizon. The impact of an oil shock on European inflation, though, is less clear-cut than in the US because of relatively higher taxes on petrol prices in Europe versus the US.

Exhibit 25 summarizes our findings, assuming a 10% mom change in oil prices. **Results show that the impact of an oil shock is largest in the first year, both for euro area and UK prices.** However, the OECD model shows that UK prices tend to be stickier than euro area ones. In the UK, the impact of oil prices remains relatively significant across the all time frame.

Exhibit 25: Oil sensitivity

Index levels' increases for a 10% mom rise in oil prices

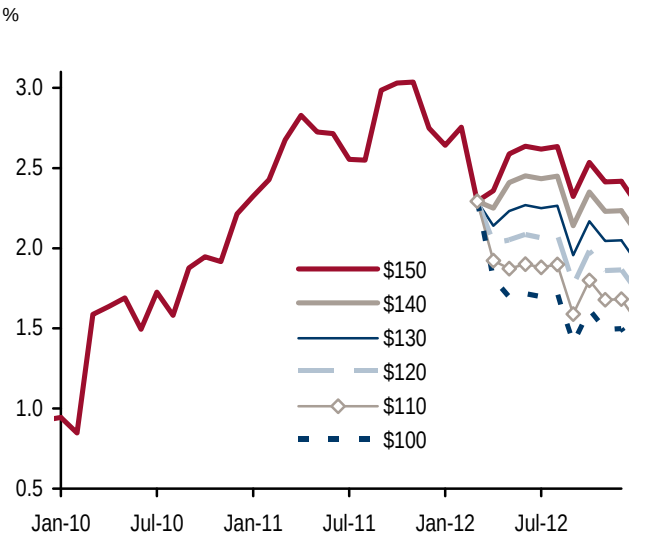
	Euro area HICP	UK CPI
Year 1	0.22	0.15
Year 2	0.04	0.06
Year 3	0.02	0.08
Year 4	0.04	0.12
Year 5	0.06	0.10

Source: Credit Suisse, OECD

In the euro area, we estimate that a 10% oil prices rise leads to the HICP being 0.2 higher than otherwise in the first year and a cumulative 0.4 higher by year five, other things being equal. In the UK, a similar oil price move would lead to the CPI being 0.15 higher by the first year and 0.5 higher by year five. A 10% mom rise in oil prices (in local currencies) would imply oil prices at just below $140.

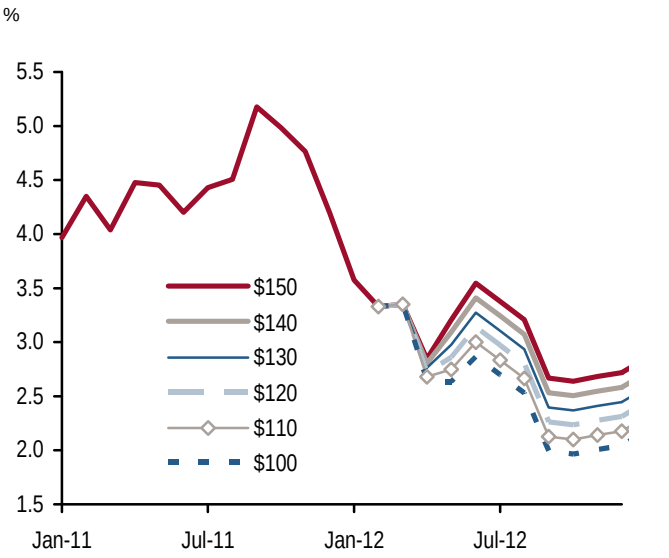
In the charts below, we apply the analysis to the different oil scenarios described above. By December 2012, euro area inflation would be between 2.4% and 1.5%, with oil prices up to $150 or down to $100. In the UK, CPI inflation would be between 2.7% and 2.0%. It is worth noting that despite a relatively sharp rise in oil prices, favorable base effects imply that even with oil prices jumping to $150, inflation in Europe would be lower at the end of this year than it is at the moment.

Exhibit 26: Euro area HICP inflation



Source: Credit Suisse, Thomson Reuters DataStream

Exhibit 27: UK CPI inflation



Source: Credit Suisse, Thomson Reuters DataStream

Oil and Japan

Worry about the Trade Balance

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A rise in import energy prices is thought to adversely affect the trade balance, the current account balance, GDP growth, and eventually the government's ability to finance its budget deficit. In this report, we tackle this issue by gauging the divergences of major economic variables from our baseline scenario for several different assumptions for crude oil prices, based upon our own macroeconomic model.

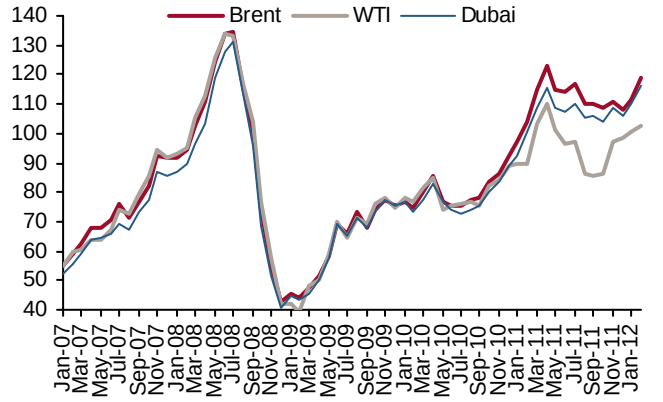
We set several scenarios for the price of Brent crude oil (in USD/barrel; same hereafter) in this context, which are shown in Exhibit 28. Our Credit Suisse Japanese Economic and Fiscal Model (CS-JEFM) actually uses WTI and Dubai crude oil prices as simulation inputs (see Exhibit 29 for the recent price developments), and so we have constructed parallel scenarios based on each trajectory for the Brent crude oil price based on average price differences over the past three months.

Exhibit 28: Scenarios for Brent oil price (USD/barrel)

	Low	Centre	High	Higher
2012/3	115	118	120	120
2012/6	120	130	140	140
2012/9	110	120	130	140
2012/12	110	125	135	145

Source: Credit Suisse

Exhibit 29: Crude oil prices



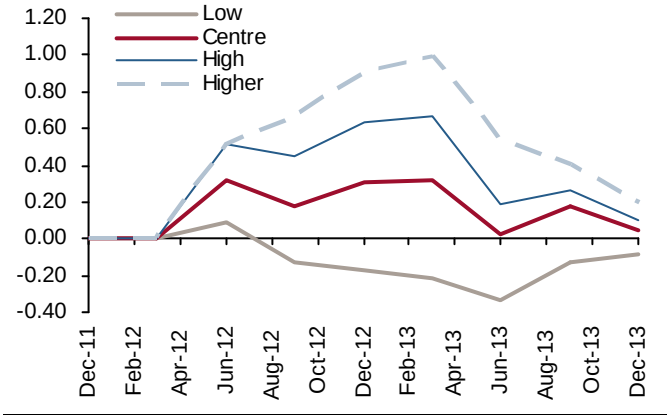
Source: the BLOOMBERG PROFESSIONAL™ service, Credit Suisse

Below we simulate the trajectories for major economic variables under each scenario (which exogenously determines WTI and Dubai crude oil prices). Our simulation analysis covers the period from 1Q 2012 through 4Q 2013. In our previous analysis, we assumed crude oil prices would remain at their average levels for January-February 2012 and unchanged for the simulation period. In the analysis below, we use this oil price assumption (made as of 24 February 2012) as the baseline and compare the results of each of the aforementioned scenarios of rising oil prices with the results obtained under the baseline scenario.

To summarize our main findings, we estimate the core CPI inflation rate would be boosted by 0.9pp, real GDP growth would be depressed by 0.4pp, and the current account balance to GDP ratio would be dampened by 0.9pp, compared with the baseline scenario, by the October-December quarter of 2012 if we assume the Brent crude price has risen to $145 per barrel by then. Importantly, the current account surplus, which is estimated to stand at 0.5% of GDP in the October-December quarter of 2012 in the baseline scenario, is simulated to have disappeared in the above-mentioned high oil price scenario and, in that case, ten-year JGB yields are simulated to rise to 1.8% by the end of 2012 (a 0.2pp higher than the baseline scenario yield).

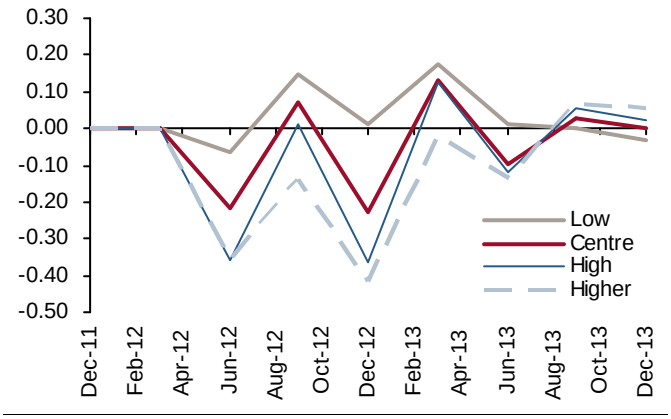
Our simulation results are summarized in Exhibits 30-38.

Exhibit 30: Oil price impact on core CPI inflation rate (divergence from the baseline scenario, pp)



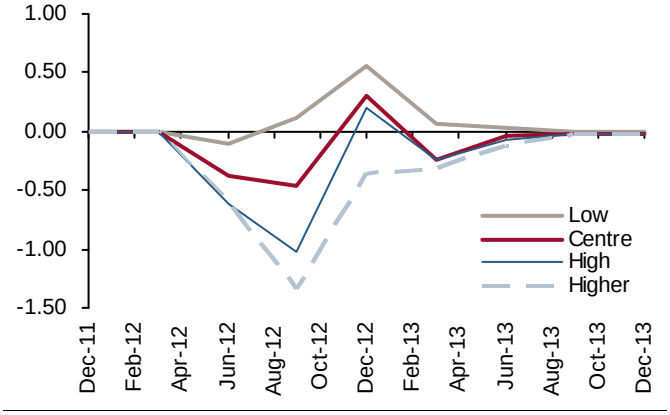
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 31: Oil price impact on real growth rate qoq SAAR (divergence from baseline scenario, pp)



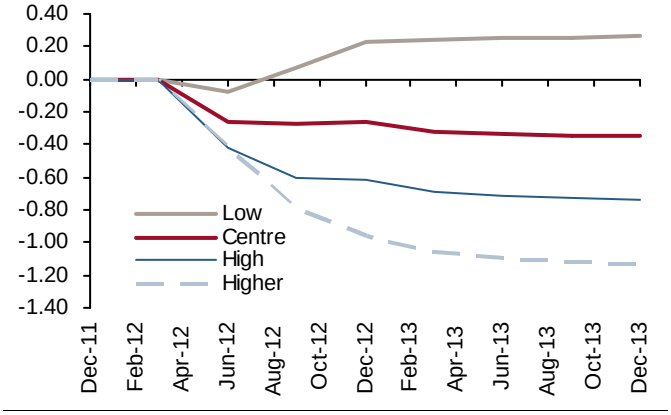
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 32: Oil price impact on nominal growth rate qoq SAAR (divergence from baseline scenario, pp)



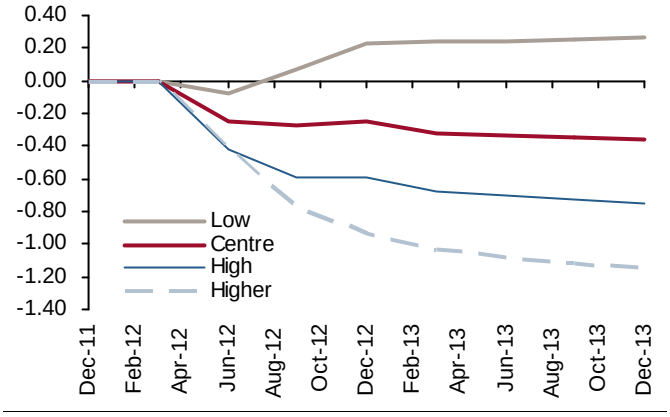
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 33: Oil price impact on trade balance to GDP (divergence from the baseline scenario, pp)



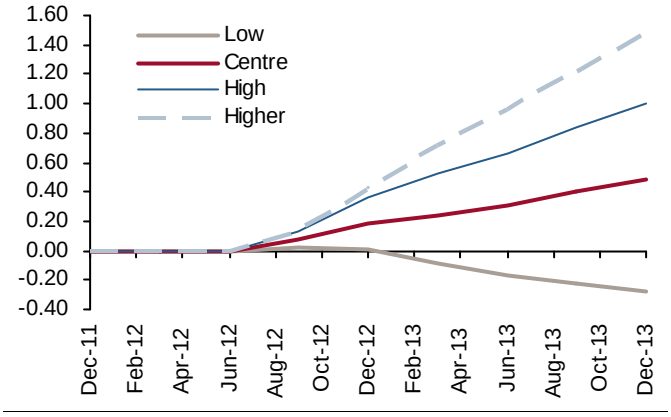
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 34: Oil price impact on current account balance to GDP (divergence from baseline scenario, pp)



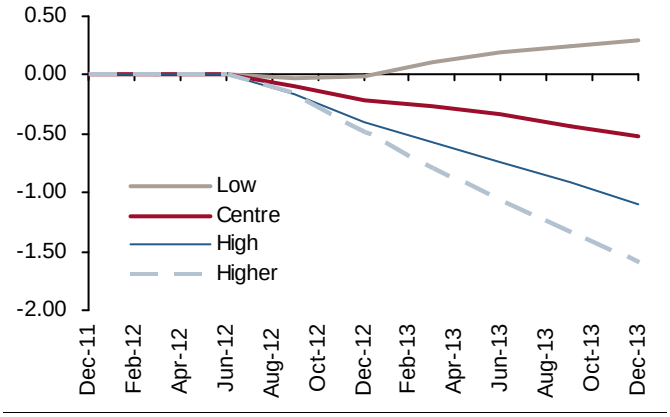
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 35: Oil price impact on JPY/USD rate (divergence from the baseline scenario, yen)



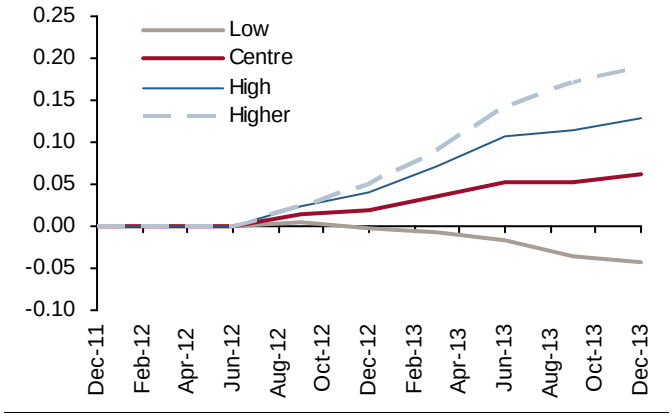
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 36: Oil price impact on real effective exchange rate (divergence from the baseline scenario, %)



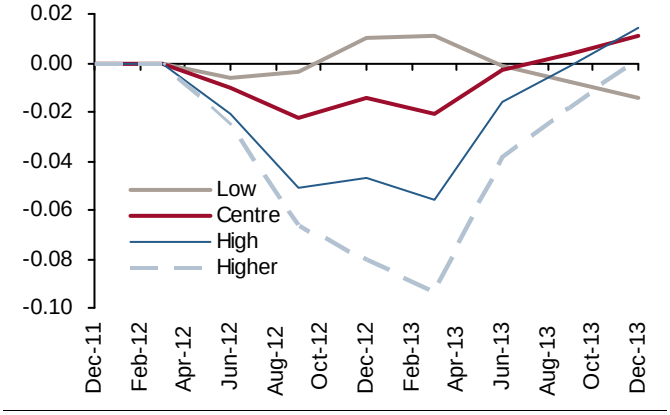
Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 37: Oil price impact on real effective exchange rate (divergence from the baseline scenario, %)



Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

Exhibit 38: Oil price impact on fiscal balance to GDP (divergence from the baseline scenario, pp)



Source: MIC, BoJ, Cabinet Office, METI, MHLW, Credit Suisse

We begin by looking at the core CPI inflation rate, which is perhaps the variable most directly affected by higher oil prices (Exhibit 30). We find that the central scenario of Brent crude reaching $130 in 2Q 2012 would see the core inflation rate boosted by as much as 0.3pp (in 4Q 2012) relative to our baseline scenario of oil prices remaining at their January-February 2012 average. This implies that the inflation rate would peak at +0.4%yoy in 4Q 2012. The scenario of Brent crude reaching $140 in 2Q 2012 would see the core inflation rate reach +0.7%yoy (0.6pp higher than under our baseline scenario) in 4Q 2012, while the scenario of Brent crude reaching $145 in 4Q 2012 would see inflation reach +1.0%yoy (0.9pp higher than under our baseline scenario) in 4Q 2012, thereby matching the Bank of Japan's "price stability goal."

Higher oil prices would also have an impact on real GDP growth by depressing real disposable incomes. We find that real growth would be depressed by as much as 0.23pp (in 4Q 2012; same hereafter unless otherwise noted) under the central scenario of Brent crude rising to $130, 0.36pp under the $140 scenario, and 0.42pp under the $145 scenario (Exhibit 31). In other words, the potential ramifications of higher oil prices for the Japanese real economy are clearly too great to ignore, in our view.

Higher oil prices would also mean higher average import prices, thereby causing the terms of trade to deteriorate[8]. The ratio of the trade balance to GDP would fall (relative to our baseline scenario) by as much as 0.35pp (in 4Q 2013, same hereafter unless otherwise noted) under the central scenario of Brent crude rising to $130, 0.74pp under the $140 scenario, and 1.13pp under the $145 scenario (Exhibit 33). The impact on the current account balance would be very similar, with our simulations pointing to a 0.35pp deterioration under the $130 scenario, 0.75pp under the $140 scenario, and 1.15pp under the $145 scenario (Exhibit 34). Importantly, the current account surplus, which is estimated to stand at 0.5% of GDP in the October-December quarter of 2012 in the baseline scenario, is simulated to have disappeared in such a high oil price scenario.

Although this worsening of Japan's external position could be expected to have a negative impact on the yen, our simulation results point to only a moderate depreciation of the yen due to simultaneous inflationary impacts on global prices; the USD/JPY exchange rate could be around 0.5pt higher than in our baseline scenario (in 4Q 2013, same hereafter unless otherwise noted) under the central scenario of Brent crude rising to $130, 1pt higher under the $140 scenario, and 1.5pt higher under the $145 scenario (Exhibit 35).

Although long-term interest rates would be likely to face a certain amount of upward pressure as a result of Japan's deteriorating current account balance and domestic inflationary pressures associated with higher oil prices, we would expect this to be offset partially by the impact of weaker economic growth. According to our simulation results, the ten-year JGB yield could be around 6bp higher than in our baseline scenario (in 4Q 2013, same hereafter unless otherwise noted) under the central scenario of Brent crude rising to $130, 13bp higher under the $140 scenario, and 20bp higher under the $145 scenario (Exhibit 38).

Note that our CS-JEFM simulations show relatively mild responses for both the USD/JPY exchange rate and the long-term interest rate[9], with our approach failing to allow for the possibility of a change in market expectations triggering some form of capital flight. If market participants were to anticipate a continued deterioration in Japan's current account balance owing to the inflationary impact of higher oil prices, then the household sector might begin to shift its financial assets overseas, thereby triggering a vicious cycle of further yen depreciation, further rises in domestic oil prices, further deterioration in the current account balance, and a further rise in long-term interest rates (including the potential for "overshooting").

[8] Given our framework, the terms of trade will continue to deteriorate unless the price of oil falls. Each of our scenarios assumes that oil prices level off after the initial change, meaning that the terms of trade do not improve during our simulation period under any scenario.

[9] This reflects our reliance on error correction formulations, which effectively means that overshooting is "automatically" followed by a return to levels commensurate with fundamentals. In particular, any potential impact of oil price shocks is likely to be outweighed by the impact of (1) the cumulative current account balance, the short-term interest rate gap, and the monetary base within our exchange rate model, and (2) the cumulative current account balance and the potential nominal growth rate within our long-term interest rate model.

Sensitivity of the EM World to a Further Increase in Global Oil Prices

Introduction and Summary

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There are many channels of influences of rising global oil prices on the EM economies

The most obvious channel is the combination of an increase in real income in oil-exporting countries and declines in real income in oil-importing countries

The principal ways in which moderate changes in global oil prices matter to economic performance are in some – but not all – respects the same in the EM world as in the developed economies:

- Among the countries that have the largest ratios (above 19%) of net fuels export proceeds to GDP are Saudi Arabia, Kazakhstan, UAE, Venezuela, and Russia. Large ratios (above 7%) also apply to Colombia and Malaysia.
- The largest ratios of net energy import costs to GDP (all above 7%) pertain to Ukraine, Singapore, Korea, Thailand, Hong Kong, and Hungary.
- A spike in global oil prices leads directly to a decline in real income (via an increase in the import bill) in those countries that are net importers of energy. Correspondingly it leads to an increase in the real income level (via a move up in the export proceeds) in those countries that are net exporters of energy.
- Among the second-round effects in the energy-importing countries are a fall in real GDP growth, as the fall in real incomes drives down demand for goods and services. The opposite will happen in the energy-exporting countries.
- In some of those EM countries that have a turbulent crisis history (including Brazil, Russia, and Turkey), company managers tend to put their fixed investment decision on hold in response to bad global news even when it is not entirely obvious that the local economy will be heavily influenced via external trade links by the global crisis. Thus, any increase in global oil prices that is big enough to cause a substantial global credit market sell-off is likely to be reflected in a drop in fixed investment in many EM countries.
- The increase in the import bill of the energy-importing countries will pull in the direction of depreciation of the currencies of these countries and/or a decline in the pace of their central banks' accumulation of FX reserves. The opposite will happen in the energy-exporting countries.
- By weakening investor confidence in global growth and financial stability, rapid and large oil price increases tend to drive up EM credit spreads and weaken capital flows to the emerging markets countries. If the oil price increase is big, this negative capital account effect can at times outweigh the positive current account effect for some of the oil-exporting countries.
- A large increase in the dollar price of oil in the global markets will directly tend to push up inflation throughout the EM world. In the energy-importing countries this will happen via currency depreciation and local energy price increases. In the energy-exporting countries it will happen via growth in domestic demand for goods and services as well as through local energy price increases – but currency appreciation may mitigate the overall inflationary effect in the energy-exporting countries.
- Oil price increases may have a particularly large impact on EM inflation if they help significantly to push up global food prices. This is because food prices have a particularly large weight in the CPI baskets in the EM countries.

In the past, swings in oil prices have at times had a major impact on the EM world. For example, an important contributor to the Russian default crisis in August 1998 was a halving of the international dollar price of crude oil during the preceding year. As a major exporter of oil and gas, the incomes of Russia's energy companies, and the tax revenues of the government, were badly hit by that massive decline in global oil prices.

Prior to this, the strength of the dollar price of internationally traded oil in 1996 and early 1997, alongside strength of the dollar against other G3 currencies, contributed to a major currency crisis in many of the oil-importing Asian economies, although it is worth stressing that dollar strength (in the context of Asia's many dollar pegs) was the dominant crisis-driver at the time.

Large global oil price increases help drive up food prices, which in turn influence inflation and monetary policy substantially in the EM world

In the first half of 2008 and in the period from August 2010 to March 2011 oil price increases helped push up global grain prices. The increase in oil prices affected global food prices through at least two channels: (1) it pushed up the prices specifically for soy and corn because these two grains had become important substitutes for oil as an energy source, and (2) the increase in oil prices fed directly into the cost of inputs used in food production, including electricity, petrol, and fertilizer.

Sharp food price increases tend generally to lead to large spikes in headline inflation in the EM world (which is indeed what happened in the first half of 2008) because food has a very large weight in the CPI indices in many EM countries.

EM central banks tend to respond to food price increases very differently than would the US Fed – the central banks in, for example, China, Brazil, and Mexico are generally inclined to tighten credit policy when food prices shoot up because they are keen to prevent the possibility of food price increases leading to large-scale wage increases and upwardly adjusted inflation expectations and being reflected in a lasting increase in inflation.

Trade Balance Effects

The table below tells us which countries will likely experience the largest positive and negative "first-round dollar income shock" when global oil prices rise. The term "first-round shock" refers in this context purely to the "terms-of-trade effect" (i.e., the impact of the change in export and import prices). By definition it does not take into account "second-round effects" which include possible changes in the quantity of imports or changes in real GDP that the oil price increase may trigger.

Given that prices of internationally traded natural gas are typically linked to global oil prices (with a time lag of three to nine months), we find it sensible to focus on the column in the table that sets out, for 2012, each country's total net fuels exports (a concept that includes exports of petroleum, natural gas, and coal), expressed as a percentage of GDP, instead of focusing exclusively on the figures for net exports of petroleum.

Among the countries that are included in the table, the largest ratios (above 19%) of net fuels export proceeds to GDP pertain to Saudi Arabia, Kazakhstan, UAE, Venezuela, and Russia. Large ratios (above 7%) also apply to Colombia and Malaysia.

The largest ratios of net energy import costs to GDP (all above 7%) pertain to Ukraine, Singapore, Korea, Thailand, Hong Kong, and Hungary.

Among the countries with large ratios of net fuels export proceeds to GDP are Saudi Arabia, Kazakhstan, UAE, Venezuela, and Russia

Large ratios of net energy import costs to GDP (all above 7%) pertain to Ukraine, Singapore, Korea, Thailand, Hong Kong, and Hungary

Exhibit 39: Net exports of fuels as a percentage of nominal GDP

Net exports of fuels in % of GDP. The figures for 2010 have been published in the UN's Comtrade database. We generated the columns for 2012 by multiplying the 2010 values by the ratio of the current price of Brent crude to the average Brent crude price in 2010, and by taking into account our forecasts for changes in nominal dollar GDP for each country between 2010 and 2012. Argentina is an exception in that the 2012 data quoted are a CS estimate that is based on national oil trade data for 2011.

	2010		2012F	
	Total Fuels	Petroleum	Total Fuels	Petroleum
LATIN AMERICA				
Argentina	0.3%	0.5%	-0.6%	-0.8%
Brazil	-0.5%	-0.1%	-0.6%	-0.2%
Chile	-5.2%	-4.1%	-6.5%	-5.1%
Colombia	7.1%	5.0%	8.1%	5.7%
Mexico	1.6%	2.1%	2.1%	2.7%
Panama	-0.9%	-0.8%	-1.1%	-1.0%
Peru	-0.6%	-0.9%	-0.7%	-1.0%
Venezuela	26.3%	26.2%	22.6%	22.6%
EEMEA				
Czech	-3.7%	-2.6%	-5.3%	-3.7%
Hungary	-5.2%	-2.4%	-7.5%	-3.5%
Israel	-4.6%	-3.8%	-6.4%	-5.2%
Kazakhstan	26.1%	25.0%	28.6%	27.3%
Poland	-2.7%	-2.8%	-3.7%	-3.9%
Russia	17.1%	13.2%	19.0%	14.7%
Saudi Arabia	47.7%	46.1%	52.4%	50.7%
South Africa	-2.3%	-3.6%	-3.2%	-4.9%
Turkey	-3.0%	-2.3%	-4.3%	-3.2%
Ukraine	-12.4%	-4.5%	-14.2%	-5.1%
UAE	24.2%	23.6%	26.9%	26.2%
EMERGING ASIA				
China	-2.8%	-2.5%	-3.0%	-2.7%
Hong Kong	-6.6%	-5.5%	-8.7%	-7.3%
India	-4.6%	-3.6%	-5.3%	-4.2%
Indonesia	2.7%	-1.7%	3.2%	-2.0%
South Korea	-8.9%	-5.5%	-11.4%	-7.0%
Malaysia	6.3%	1.8%	7.2%	2.0%
Philippines	-4.4%	-4.0%	-5.6%	-5.1%
Singapore	-11.0%	-11.1%	-13.1%	-13.3%
Thailand	-6.9%	-5.3%	-8.8%	-6.8%
DEVELOPED MARKETS				
Germany	-3.0%	-2.0%	-4.0%	-2.7%
UK	-0.5%	-0.2%	-0.7%	-0.2%
USA	-1.9%	-1.9%	-2.8%	-2.7%

Source: UN Comtrade, Credit Suisse

When we prepared our latest comprehensive set of macro-economic forecasts for the EM countries – published on 14 March in our *Emerging Markets Quarterly* – we assumed that the average price for Brent crude oil would be $120 per barrel in 2012 and $115 in 2013.

The figures in Exhibit 39 allow us to compute the change in the energy trade balance that would result if oil prices were to exceed the level we assumed in our Quarterly. For the purpose of this sensitivity analysis we apply the following simplifying (and not entirely accurate) assumptions: (1) all prices of traded fuels change immediately by the same percentage as any change in the Brent crude oil price, and (2) the quantities of energy imports and exports would not change for any country. Exhibit 40 below shows the result for a selection of countries, drawn from the table above.

Exhibit 40. Emerging Markets: Net fuel exports for 2012 (% of GDP) at different Brent crude prices

	Price per barrel (in US$)				
Price per barrel of Brent crude	123	120	130	140	150
	Net fuel exports (% of GDP)				
Saudi Arabia	52.4	51.1	55.4	59.6	63.9
Venezuela	22.6	22.0	23.9	25.7	27.6
Russia	19.0	18.5	20.1	21.6	23.2
Colombia	8.1	7.9	8.6	9.2	9.9
Malaysia	7.2	7.0	7.6	8.2	8.8
Indonesia	3.2	3.1	3.4	3.6	3.9
Mexico	2.1	2.0	2.2	2.4	2.6
Brazil	-0.6	-0.6	-0.6	-0.7	-0.7
China	-3.0	-2.9	-3.2	-3.4	-3.7
India	-5.3	-5.2	-5.6	-6.0	-6.5
Hungary	-7.5	-7.3	-7.9	-8.5	-9.2
Thailand	-8.8	-8.6	-9.3	-10.0	-10.7
South Korea	-11.4	-11.1	-12.0	-13.0	-13.9
Singapore	-13.1	-12.8	-13.8	-14.9	-16.0
Ukraine	-14.2	-13.9	-15.0	-16.2	-17.3

Source: Credit Suisse, UN Comtrade

An increase in the Brent crude oil price from $120 per barrel to $150 per barrel adds 5-6 percentage points to Venezuela's ratio of net fuel exports to GDP and adds about 3 percentage points to South Korea's ratio of net fuel *imports* to GDP

A Negative Currency Response in Oil-Importing Countries

EM exchange rates are affected by a sharp global oil price increase through a number of channels, one of which is a shift in the current account of the balance of payments.

Any global oil price increase should positively influence the consolidated current account balance of the EM world as a whole because the EM world in aggregate is a net oil exporter (that is only to a small extent true of the 30 EM countries that Credit Suisse follows, but that is because we miss some of the major oil exporters, such as Iran and Iraq).

But it follows from the data in Exhibit 39 above that the current account impact of an oil price increase differs sharply from country to country within the EM world. Net exporters of energy will see a strengthening of the current account (generating appreciation pressure on their currencies), while the opposite will be true of the net importers of energy.

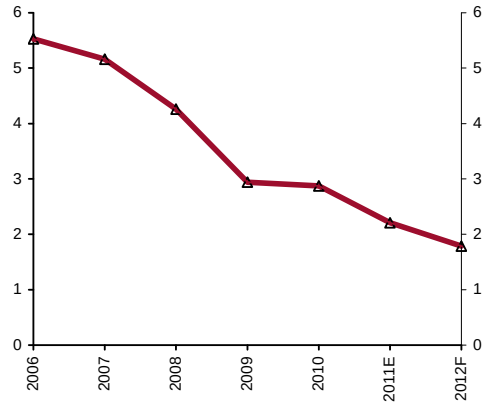
Russia is the only BRIC country that is a significant net exporter of fuels

Among the BRIC countries (Brazil, Russia, India, and China),

- Russia is a net energy exporter,
- Brazil is largely self-sufficient in energy but doesn't export much,
- India and China are net energy importers.

Exhibit 41. Emerging Markets: Current account balance

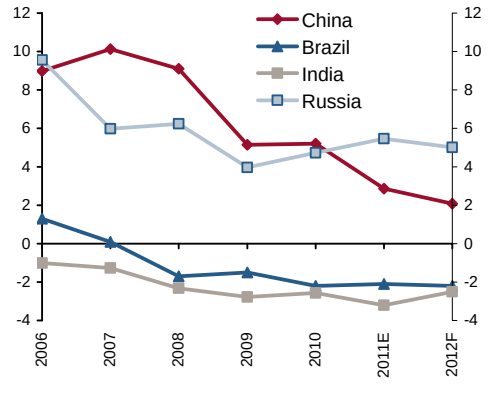
% of GDP



Source: Credit Suisse's Emerging Markets Quarterly 2Q 2012

Exhibit 42. BRIC: Current account balance

% of GDP



Source: Credit Suisse's Emerging Markets Quarterly 2Q 2012

The risk that an oil price spike – on its own -- could cause a major currency crisis in the oil-importing BRIC countries is low in the case of China and moderate in the case of India

Any possible imminent further increase in global oil prices would happen against the background of a recent trend weakening in the BRIC countries' current accounts. But it is important to note that despite the deterioration, the current account balances do not look terribly bad in any individual EM country in level terms.

All of the BRIC countries saw a deterioration in the ratio of the current account balance to GDP between 2006 and 2011: The ratio weakened in that period by 5.8 percentage points in Russia, 5.1 percentage points in China, 3.4 percentage points in Brazil, and 1.7 percentage points in India. Yet both Russia and China continue to run current account surpluses, and the deficits in Brazil and India are relatively moderate at 2%-3% of GDP.

A further increase in global oil prices would raise the deficit in India to levels that might be of some concern to the main players in the currency markets, but the risk of a serious currency/default-type crisis in India would be sharply mitigated by the combination of a stock of central bank foreign currency reserves that is very large by historical standards and the presence of exchange rate flexibility (factors that were missing in East Asia in 1997 and in Russia in 1998).

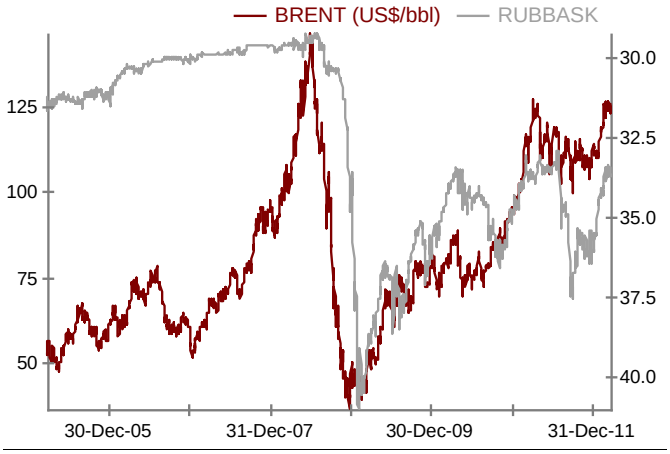
A major increase in global oil prices would, at the margin, shrink China's current account deficit pull towards a slowing of the pace of accumulation of FX reserves at the central bank. It could also weaken investor confidence in the buoyancy of the Chinese yuan, but the central bank's stock of FX reserves is so enormous that it can choose pretty freely what to do with the exchange rate even if the current account balance deteriorates substantially.

In the case of Russia the current account unequivocally benefits from large oil price increases, but the capital account impact is ambiguous

Conversely, a large global oil price increase would strengthen Russia's current account which would, everything else being equal, strengthen the FX-flow support for appreciation of the Russia rouble, given Russia's status as a major oil exporter. However, if the increase in global oil prices becomes sufficiently large to generate a substantial negative reaction in global markets for risk assets (including credit, equities, and EM currencies), the negative capital flow response may outweigh the positive current account effect of the increase in oil prices such that the Russian currency and its sovereign credit end up weakening despite these countries' terms-of-trade gain. This is not so easy to discern empirically in currency space because the central bank has historically tended to manage the exchange rate closely, as illustrated in Exhibit 43. But Exhibit 44 shows that investor concerns about global credit market developments overshadowed a steep global oil price increase in the second half of 2007 and the first half of 2008 – so much so that Russian sovereign credit underperformed broader EM benchmarks in that period.

Exhibit 43: Brent oil price (in $/barrel) and the exchange rate of the rouble against a basket of dollars and euros

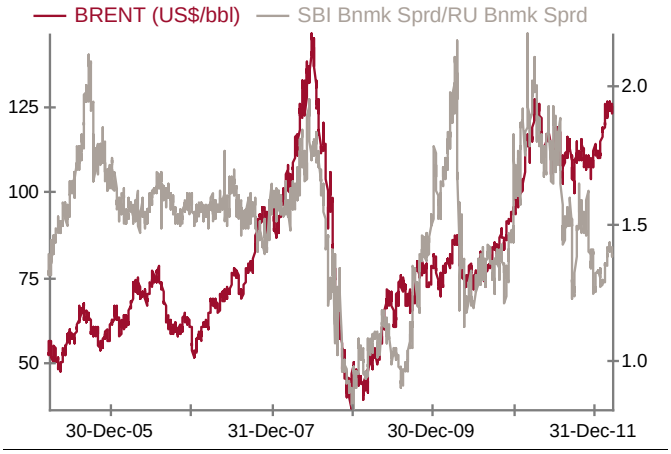
US dollar price of a barrel of Brent crude oil (on the left-hand scale); exchange rate of the rouble against a basket containing 0.45 euros and 0.55 US dollars (inverse scale on the right-hand side).



Source: Credit Suisse Locus

Exhibit 44: Brent oil price (in $/barrel) and the ratio of a broad measure of EM sovereign credit spreads to a measure of Russian sovereign credit spreads

Left-hand scale: US dollar price of a barrel of Brent crude oil (on the left-hand scale). Right-hand scale: ratio of (1) the spread over USTs on Credit Suisse's index for EM sovereign dollar debt to (2) the spread over USTs on the Russia-component of the same index.



Source: Credit Suisse Locus

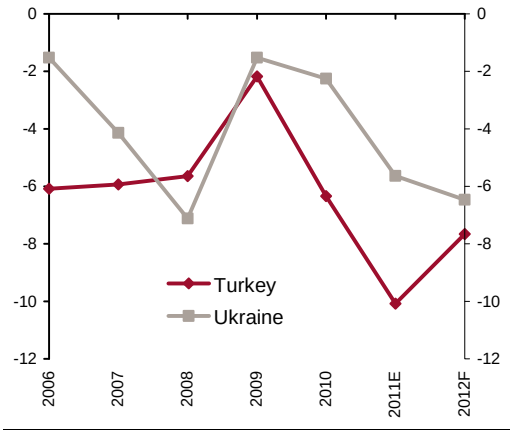
In the case of Brazil, the current account does not change much in response to shifts in global oil prices, as Brazil's net energy trade balance is close to zero.

Ukraine would be vulnerable if global oil prices were to spike further

Looking outside the BRIC world, there are two of the medium-sized EM countries – Turkey and Ukraine – that have current account deficits that are large in absolute terms (larger than 5% of GDP in 2011) and worse than the deficits that were recorded in 2006-2007. The policy makers in both of these countries are aiming to contain the current account deficits through demand management policies, but do not appear at present to sense an enormous urgency to do so aggressively. Both are energy importers and the current account balances in both countries would be adversely affected by a further increase in global oil prices. At the margin this would pull towards depreciation pressure on the Turkish lira, while it would induce the Ukrainian central bank, which is currently effectively maintaining a fixed exchange rate regime, to overcome its reluctance to let go of its currency peg (in the context of many other factors that pull in the same direction).

Exhibit 45: Current account balance

% of GDP



Source: Credit Suisse's Emerging Markets Quarterly 2Q 2012

Turkey is running a large current account deficit but is not among the countries that have the highest ratios of fuel imports to GDP

It is important to note that the current account is far more sensitive to changes in energy import prices in Ukraine than in Turkey. Exhibit 45 above illustrates this. It shows that Turkey is a country that has a relatively moderate ratio of net energy imports to GDP by the standards of, for example, the energy importers in Asia, and by the standards of some of the other EEMEA countries, such as Hungary.

In the case of Ukraine, the energy import dependency is large, but it is important to note that the price of its gas imports is set in negotiations with Russian counter-parties – negotiations that have a political overlay that sometimes delinks the price trends somewhat from movements in global oil prices.

The EM Inflation Response Depends Crucially on the Extent to Which Global Oil Price Increases Drive Up Global Food Prices

EM inflation is currently benign

When it comes to inflation, an oil price spike is never welcome, but if it were to happen right now, it would at least not be the most inopportune time ever, given that EM inflation has recently been very well behaved (helped by recent EM currency strength), even as global oil prices have been climbing (Exhibits 46 and 47).

Food prices matter more to EM inflation than do oil prices

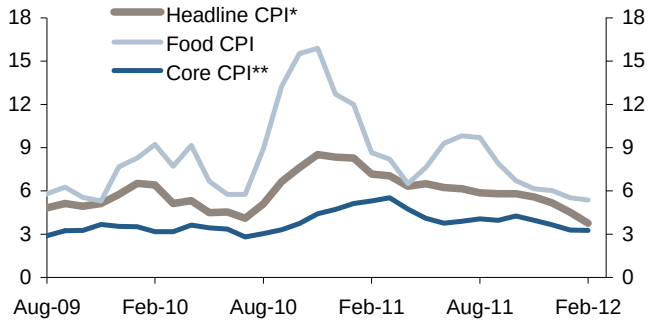
It is important to note that big swings in EM inflation have tended in the past to be driven mainly by swings in global or local food prices (much more so than oil prices) – because food has a much larger weight in the CPI indices in many of the EM countries than in a typical developed country (and a far higher weight than oil and oil products). Oil prices are not irrelevant for inflation in the EM countries but clearly matter much less than food prices.

Oil price increases may influence EM inflation by helping to raise food prices

There is some causal link from oil prices to food prices, and corn and soy prices may well be pushed up substantially by a very large increase in oil prices. This would in turn feed significantly into EM inflation, and it would possibly lead to a tightening of EM monetary policy. As noted above, this effect was at work in the first half of 2008 and again in early 2011. But at present EM food price inflation looks very benign.

Exhibit 46: Our sequential measure of EM headline inflation has been declining since December after remaining stable for a few months

Annualized % change in the seasonally adjusted CPI indices for the EM world as a whole over the last three months

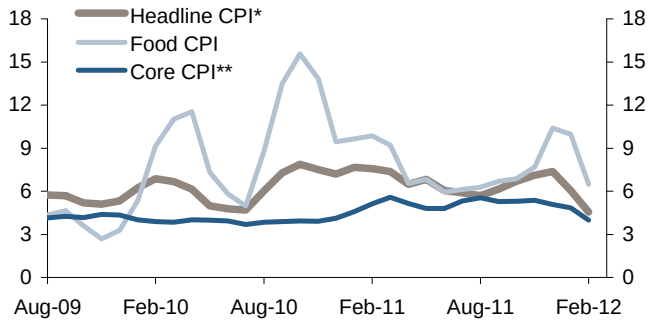


*For headline inflation, 31 EM countries are taken into account and weighted by their 2010 nominal GDP. For India, the index used is the WPI. **For core inflation (defined here to be the change in the CPI index excluding food, energy, alcohol and tobacco), 22 countries are taken into account and weighted by their 2010 nominal GDP.

Source: Haver Analytics®, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse.

Exhibit 47: In the EM world outside of China and India, headline inflation fell in January and February 2012 after spiking a bit in late 2011

Annualized % change in the seasonally adjusted CPI indices for the EM world excluding China and India over the last three months



* For headline inflation, the same 31 countries are taken into account as in Exhibit 46, excluding China and India. The countries are listed in footnotes to the latter charts. **For core inflation (defined here to be the change in the CPI index excluding food, energy, alcohol and tobacco), we use the same subset of EM countries as in Exhibit 46, but excluding India and China.

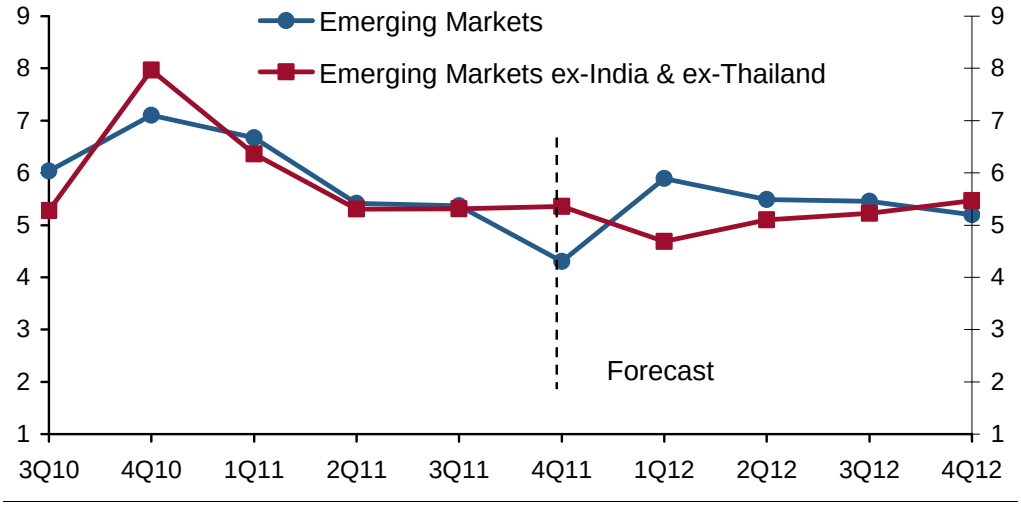
Source: Haver Analytics®, the BLOOMBERG PROFESSIONAL™ service, Credit Suisse.

Bad Time for Oil Price Spikes to Dampen Real GDP Growth

In cyclical terms, a big spike in global oil prices would, if it were to happen right now, be highly inopportune for the EM world whose quarter-on-quarter growth rates have already weakened very substantially over the past year. The weakening of the growth rate is shown in the line with square dots in Exhibit 48.

Exhibit 48: Real GDP growth, quarter on quarter (in %)

Annualized qoq growth in seasonally adjusted real GDP. 26 EM countries were taken into account; country-specific observations were weighted together using figures for each country's 2011 nominal dollar GDP as weights.



Source: Credit Suisse and national statistical agencies in the EM countries.

EM sequential GDP growth has fallen significantly over the past year

The weakening of the growth rate is shown in the line with square dots in Exhibit 48. The exhibit shows a fall of about three percentage points since 4Q 2010 in sequential real GDP growth for the EM world, excluding India and Thailand. We think it makes the best sense to try to get a sense of the evolution in the "underlying" EM growth rate by looking at a measure that excludes India and Thailand, as growth in both of these countries has been extremely volatile recently for reasons that are likely to be temporary.

Mixed recent PMI signals

The PMI data for February suggested tentatively that EM real GDP growth would trough in 1Q 2012 and pick up somewhat in 2Q – which is consistent with the forecast we show in the exhibit above, but data released so far in March have been moderately less encouraging, and a new oil price spike could wipe out the prospect of recovery and replace it with a further deepening of the slowdown.

Strong global oil price increases would almost certainly lead to substantial weakening of EM real GDP growth

Although the oil-exporting EM countries would – if global oil prices were to shoot up – see rising export earnings and, possibly, strength in domestic demand, the impact of this on overall global EM growth would be outweighed substantially by the negative influence on real incomes and growth in the oil-importing EM countries. Additionally, as mentioned above, in those EM countries with a turbulent crisis history (including Brazil, Russia, and Turkey), company managers have tended to put their fixed investment decisions on hold in response to bad global news even when it is not entirely obvious that the local economy will be heavily influenced via external trade links by the global crisis. Thus, any increase in global oil prices that is big enough to cause a substantial global credit market sell-off would likely be reflected in the drop in fixed investment in many EM countries.

… although the dollar income level in the oil-exporting countries would shoot up

Not necessarily in the medium-term interest of the oil producers to see the price rise sharply and quickly

In terms of the impact on real income levels in the EM countries it is important to keep in mind that the terms-of-trade effects and the real GDP changes are separate effects that both affect income. Especially for the major oil-exporting countries in the Middle East plus Russia and Venezuela (and some of the African countries that we don't cover in the tables above, such as Nigeria and Angola), the terms-of-trade effect (or a large increase in global oil prices) is a far more important influence on incomes and welfare than is the level change in real GDP or the change in the real GDP growth rate. Thus, those EM countries that are large-scale net energy exporters would benefit from a lasting increase in global oil prices even if the initial impact on their real GDP growth were ambiguous.

However, if (as in 2008) the spike in oil prices leads, or contributes, to a sharp global economic slowdown that subsequently generates a reversal of the oil price spike, the benefit that accrues to the oil exporters from the initial oil price increase will be short-lived and may even be outweighed by the cost of the subsequent oil price decline. Indeed, this is the reason why some of the large Opec countries do not pursue oil price strength blindly.

"Winners" and "Losers" in Latin America from Higher Oil Prices

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Mexico is a net exporter of energy, whose fiscal and external accounts, as well as its growth prospects, would benefit from higher oil prices. The government's budget assumes that the price of Mexico's crude oil export mix will average $84.9 per barrel in 2012. Year to date, the price of the country's crude oil export mix has averaged $110.7 per barrel. The government has hedged its oil export revenues through the purchase of oil put options with a strike price of $85.0 per barrel, effectively eliminating downside risk. Oil hedging has been a recurring annual activity by the Mexican government for several years. This strategy paid off in 2009 when Mexico's crude oil mix averaged $58 per barrel, well below the government's budget estimate of $70.0 per barrel. In all other years since 2003 oil prices have been above budget estimates.

Last year approximately 34% of public sector revenues were oil-related. This proportion was as high as 38% in 2006. Though higher oil prices should, in principle, strengthen Mexico's fiscal balance, the reality is that the government has spent most of the oil-related revenue windfall in recent years. We expect it to be the case in 2012 if oil prices remain above budget estimates. We project that Mexico's fiscal deficit in 2012 will be equivalent to 2.5% of GDP.

On the external accounts, we are projecting a current account deficit of 1.0% of GDP in 2012. This forecast assumes an average Brent price of $120 per barrel. We estimate that the current account deficit would narrow by 0.15% of GDP for every $10 increase in oil prices, relative to our central scenario.

Higher international oil prices do not necessarily have an adverse impact on inflation in Mexico, given the government's influence on local energy prices. Specifically, the government sets gasoline prices in most of Mexico (the only exception is in cities and towns along the US border, to prevent arbitrage). Currently, gasoline prices in Mexico are approximately 16% lower than in the US. Since December 2009, gasoline prices in most of Mexico have been rising by 0.8%-1.0% per month.

Venezuela is among the net oil-exporting EM countries that would be a net beneficiary of a further increase in global oil prices. In 2011, the country was a net exporter of oil and related products to the tune of $82bn or 26.1% of GDP. We estimate that for each $1 increase in the price of the Venezuelan oil mix, which typically trades at a 5%-10% discount to Brent crude, Venezuela's oil exports would rise about $550mn[10]. Thus, every

[10] We assume production 1.5mn bpd in cash-generating exports sold at market prices (after accounting for Venezuela's energy supply cooperation agreements).

$10 jump in the price of the Venezuelan mix is worth about 1.3% of 2012 forecast GDP of additional exports. Venezuela's overall current account surplus would also rise on the back of higher oil prices as the current macro policy framework, including FX supply constraints, make it very unlikely that imports and other debits would surge in line with exports.

Higher oil prices are also supportive of Venezuela's on and off budget fiscal position, via higher royalties and taxes, as well as transfers to the government's development funds (i.e., FONDEN). The latter limits the potential magnitude of the increase in international reserves, though the public sector's liquid foreign asset position, which totaled $67bn including international reserves at year-end 2011, would almost certainly improve.

Venezuela's real GDP growth and inflation typically rise on the back of higher oil prices, mainly owing to stronger domestic demand fueled by increased government consumption. In the case of inflation, much of the direct impact of higher global oil prices is buffered by heavily subsidized gasoline and electricity prices.

The direct impact of higher oil prices would also be positive for **Colombia's** external and fiscal accounts. Colombia's exports of oil and oil derivatives reached $28bn in 2011 (49% of total exports in dollar terms), up from $16.5bn in 2010. In turn, imports of oil derivatives amounted to only $3.9bn in 2011, up from $2.1bn in 2010. Thus, last year, net exports of oil and oil derivatives were a hefty $24.1bn (7.3% of GDP). We estimate that for each dollar that the price of oil rises, all else constant, the merchandise trade balance would increase by 0.07% of GDP.

Meanwhile, despite subsidies to domestic fuel prices, the central government would still be a net beneficiary of higher oil prices. The two main sources of revenues are income taxes on the oil companies and dividends from the state-owned oil company (Ecopetrol). The government estimates that for each dollar the price of oil rises, all else constant, the central government's deficit would improve by 0.04% of GDP (the fiscal impact, however, would accrue over a two-year period: income taxes raise contemporaneously but the increase in dividends from Ecopetrol would not materialize until a year after).

Chile is a net importer of energy. We estimate that last year's energy trade balance was a deficit of approximately 6.4% of GDP. This deficit was offset by a surplus of $27bn in non-energy trade. Our central scenario is that the current account in Chile will post a manageable current account deficit of 1.9% of GDP in 2012. Ceteris paribus, a $10 increase in oil prices, relative to our central scenario, would widen the current account deficit by approximately 0.6% of GDP.

Chile would also be affected on the inflation front if international energy prices continued to rise. Swings in domestic gasoline prices largely reflect swings in international gasoline prices, particularly those in the US. Further rising pressures on energy prices would complicate the inflation outlook for the Chilean central bank, which has already been facing a steady increase in core inflation particularly since the second half of last year.

Peru's fiscal and external balances would be negatively affected by higher oil prices. Peru's exports of oil, oil derivatives and natural gas reached $4.7bn in 2011 (10% of total exports in dollar terms), up from $3bn in 2010. Last year's increase in oil sector revenues reflect not only higher prices but also an increase in natural gas exports ($1.3bn in 2011, up from $284mn in 2010, as the Camisea fields are now producing enough gas to be exported). Still, with imports of fuels reaching $5.7bn in 2011, Peru is a net fuel importer. Peru's net fuel imports reached $1bn in 2011 (0.6% of GDP) and were essentially flat from 2010 due to the increase in natural gas exports. We estimate that for each dollar that the price of oil rises, all else constant, Peru's merchandise trade balance would decline by 0.01% of GDP. Meanwhile, due to the government subsidies of fuel and natural gas, the impact of higher oil prices would be negative on the fiscal sector. We estimate that a one dollar increase in the price of oil, all else equal, would worsen the government's fiscal balance by 0.02% of GDP.

Similarly, the impact of higher oil prices would be detrimental to **Argentina's** net exports and fiscal accounts. Argentina has become a net importer of fuel. Argentina exports oil, fuel and natural gas and the revenue from these exports reached $6.4 in 2011 (7.6% of GDP) and despite higher prices, last year's exports were essentially flat relative to 2010 (this happened because hydrocarbon production in Argentina is declining, while domestic demand is rising). With fuel imports amounting to $9.4bn, Argentina's net fuel imports reached $3bn in 2011 (0.7% of GDP).

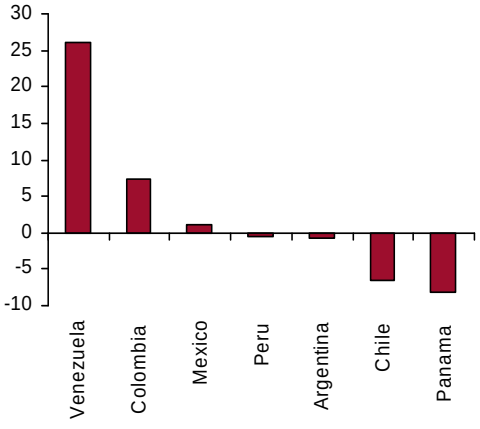
Given the 2011 data, we estimate that for each dollar that the price of oil rises, all else constant, Argentina's merchandise trade balance would decline by 0.01% of GDP. Meanwhile, on the fiscal front, higher oil prices would translate into higher revenues from taxes on oil exports but these would be offset by larger outlays on subsidies (the government subsidizes the fuel and gas used to produce electricity for most residential consumers, the natural gas sold to most residential consumers as well as the fuel used by the public transportation system). We estimate that a one dollar increase in the price of oil, all else equal, would worsen the government's deficit by 0.03% of GDP.

As a small, open economy and a net oil importer, **Panama's** real GDP growth performance would suffer from any deterioration of the US and global growth dynamics, as well as higher import prices. We estimate that net petroleum imports were as much as $2.5bn (8.1% of GDP), while the overall current account deficit was $3.7bn (12.7% of GDP). Higher oil prices could drive the current account deficit wider in a year where we already expect it to grow to $4.2bn, largely due to heavy demand for imports required for public investment projects. Still, we think there is little risk to currency stability in Panama, where official dollarization has withstood oil price and other external shocks for over 100 years and the balance of payments adjusts automatically according to the financing available.

In Panama, the bigger risks are to inflation and the fiscal accounts, in our view. Fuel and electricity-related items have a smaller weight in Panama's CPI basket (8.2%) than food and beverages (32.3%) and the impact of higher oil prices is muted slightly by cooking gas subsidies and temporary gasoline price buffers. In the absence of independent monetary policy, the government could opt to expand temporary buffers between consumers and higher prices at the pump. In turn, the cost of these measures could increase the risk that the full-year 2012 non-financial public sector deficit comes out wider than our current projection of 2.1% of GDP (which is already beyond the 2.0% of GDP limit under the fiscal responsibility law), particularly if a higher oil price scenario also leads to lower real GDP growth than our 6.0% forecast.

Exhibit 49: Net oil and fuel exports in 2011

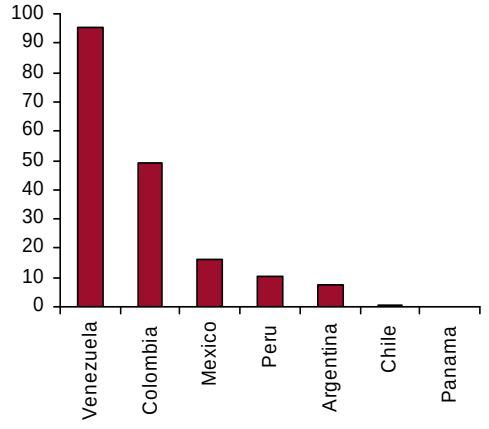
% of GDP



Source: National governments and central banks, Credit Suisse

Exhibit 50: Oil and fuel exports in 2011

% of total exports



Source: National governments and central banks, Credit Suisse

The Impact of Oil on Equity Markets

Where Will Oil Prices Go?

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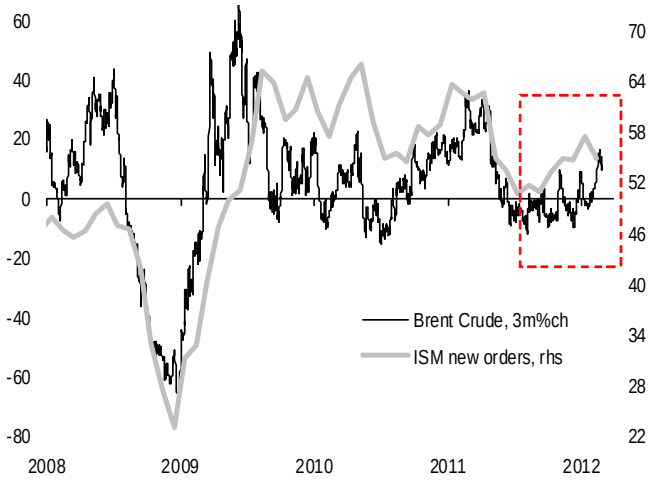
Our house view is that Brent will average $105/bbl during the year, with a consensus of $110bn for this year. We also think the oil price has some downside – and would expect oil prices to fall towards $100-$110/bbl. We are cautious on the oil price for the following reasons:

The increase in the oil price has to some extent been a game of catch-up.

The oil price had initially lagged the improvement in macro momentum, but recently PMIs have stopped improving in Europe, the UK, the US, and globally.

Exhibit 51: The rise in oil price has caught up with lead indicators

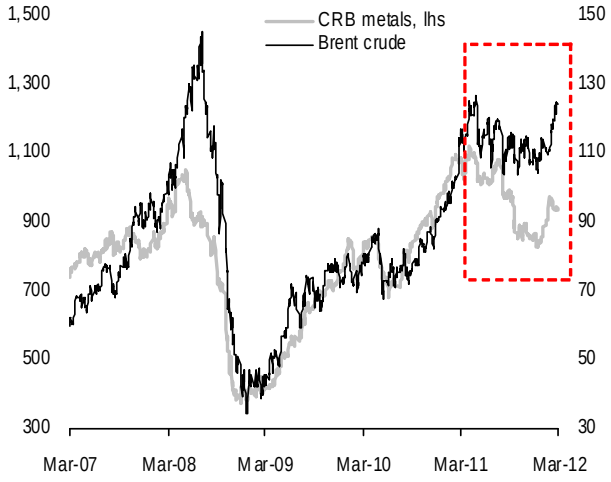
3m % change and level



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 52: Oil prices versus metal prices

Index level and US$/bbl



Source: Thomson Reuters DataStream, Credit Suisse

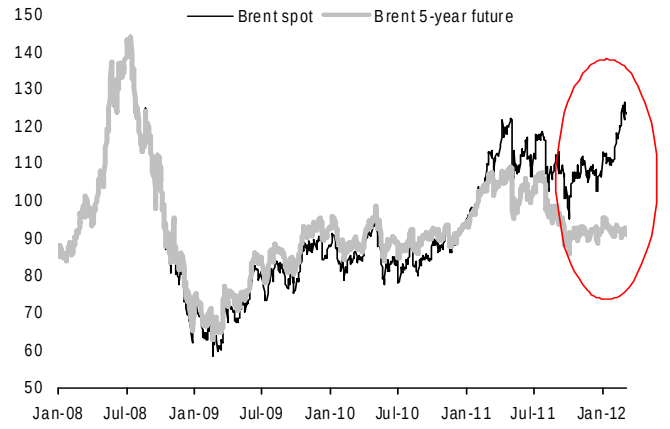
Additionally, oil to some extent had to play catch-up against industrial commodity prices.

This time around the futures curve has not rallied with the spot price, indicating expectations of a blip up in prices.

The 5-year Brent future is $33 below the spot price.

Exhibit 53: The oil market is in deep backwardation

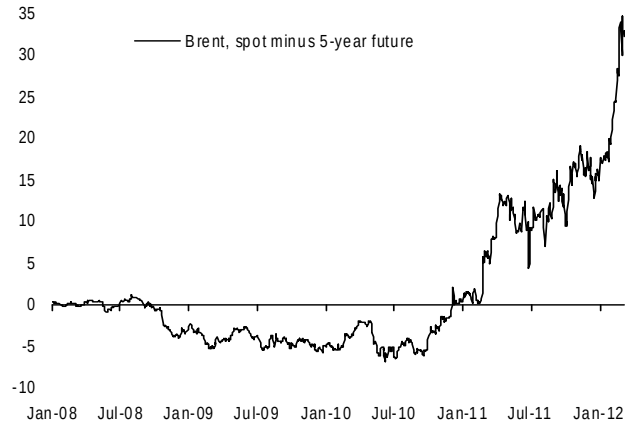
US$/bbl



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 54: The gap between the spot and the 5-year future price is abnormally high

US$



Source: Thomson Reuters DataStream, Credit Suisse

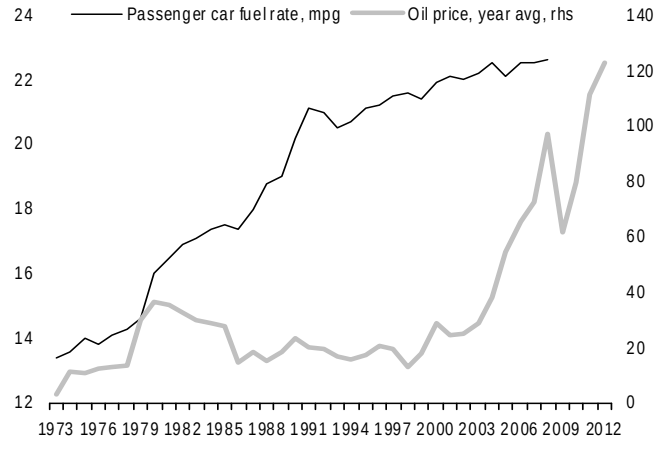
We think that in the long run investors have underestimated the switch towards other types of fuel and improvements in energy efficiency.

We have clearly seen a sharp decline in gas prices and there remains an ongoing switch towards gas and renewables. Owing to advances in completion technology (hydraulic fracturing), US gas reserves have risen and the US could begin to export significant quantities of natural gas through LNG subject to governmental approval, with the US now self-sufficient in gas for the next 50+ years, according to our US Gas analyst, Arun Jayaram.

Additionally, we believe that high prices tend to increase oil efficiency (see Exhibit 55). It is noteworthy that partly because of these changes, the long-term demand forecasts for oil demand have fallen substantially from projections made five years ago.

Exhibit 55: Vehicle fuel efficiency rose sharply after the oil price shocks in the 1970s

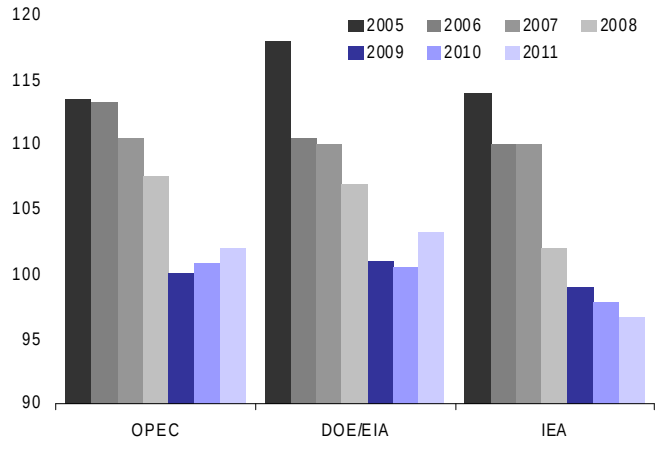
Mpg, US$/bbl



Source: EIA, Thomson Reuters DataStream, Credit Suisse

Exhibit 56: Long-term oil demand forecasts have fallen

US$/bbl

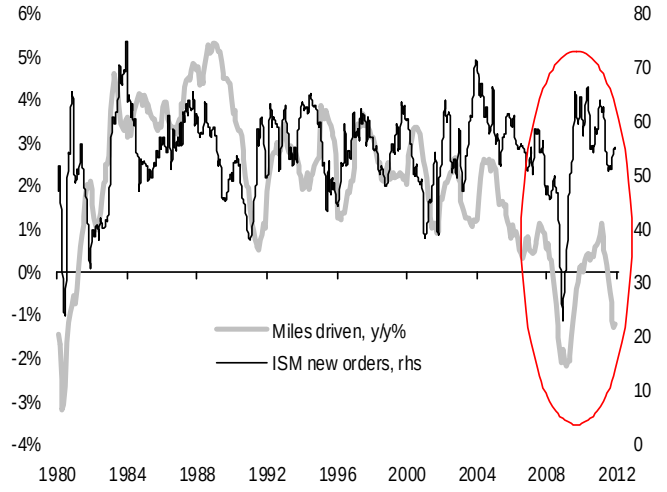


Source: Thomson Reuters DataStream, Credit Suisse

Meanwhile, miles driven has been much weaker than would typically be consistent with the rebound in the ISM, again suggesting that the oil price is leading consumers to economize on their journeys.

Exhibit 57: Miles driven is much weaker than the ISM suggests

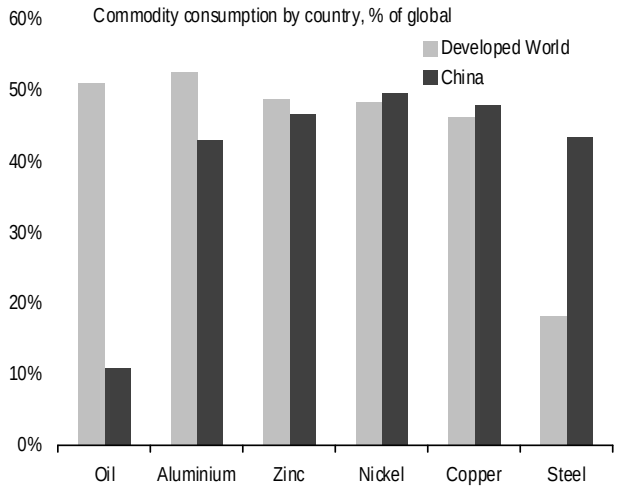
yoy change, level



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 58: Oil is still more a developed market than an emerging market play

Percentage of global

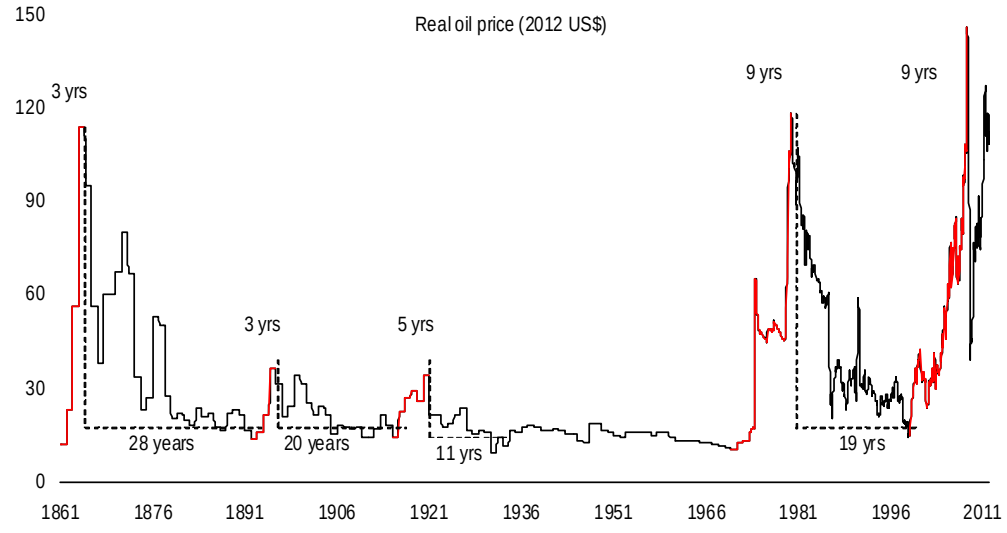


Source: IEA, Thomson Reuters DataStream, Credit Suisse

We also note that bull markets in oil last 4 to 11 years and bear markets 9 to 28 years, with the real oil price already close to the top of its historical range (see Exhibit 59).

Exhibit 59: Real oil prices are high, but we think the change is more important than the level

US$/bbl



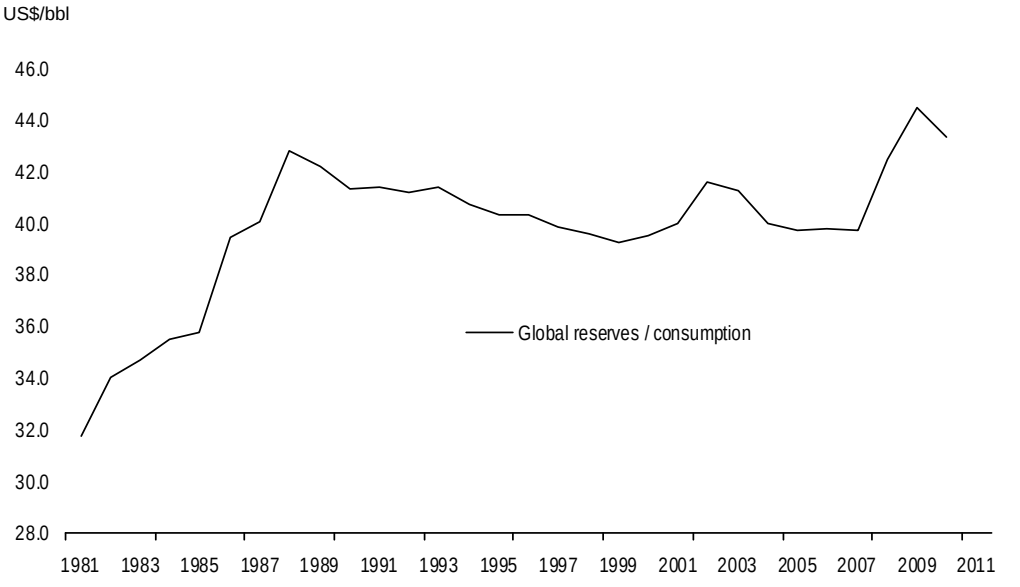
Source: Thomson Reuters DataStream, Credit Suisse

The problem is threefold, in our view: emerging market demand, supply shock, and geopolitical risk.

- On emerging markets, we would note that currently oil is still more a developed market than an emerging market play (hence the importance of US data): 11% of global oil demand is from China, compared to 43% of steel demand and 48% for copper.
- On the supply side, clearly there has been a major problem – but, as above, the high price should bring on supply, switch consumers towards alternative sources of energy and improve demand efficiency (and many emerging market governments are now reducing the fuel subsidies that used to blunt the price signal);
- On geopolitical risk: in Iran, it appears encouraging that there are attempts again to seek a diplomatic solution (with the six powers due to meet Iran's chief negotiator next month). Moreover, President Obama's approach seems to be that the best way to stop Iran getting a nuclear weapon is through negotiations rather than force. We also found it interesting that the President of Israel reportedly has said privately "it would be madness for Israel to go ahead with an attack" (Sunday Times, 4/3/12). From an economic point of view, we think it would be clearly counterproductive for Iran to develop a nuclear bomb (owing to the sanctions that would likely result). We also note that there are clearly lots of tail risks that would have to be monitored, as a third of seaborne oil goes through the Straits of Hormuz.

In passing, we note that the world does not appear to be running out of oil in the foreseeable future – as highlighted by the ratio of global oil reserves over consumption. The difficulty is that in many cases it will take a long time to turn these reserves into production.

Exhibit 60: Oil reserves are high relative to consumption

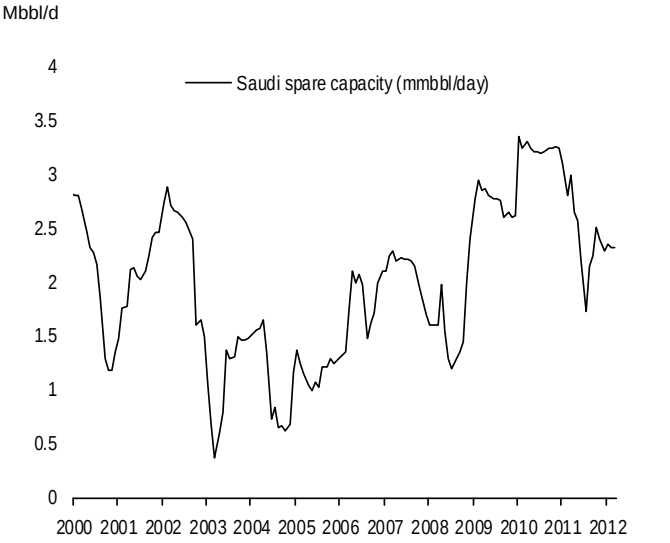


Source: Thomson Reuters, Credit Suisse

On oil supply, disruptions to supply in Yemen, Sudan, Syria, and Libya since January 2011 sum to nearly 1.25mbd of supply. Meanwhile, the increase in oil power consumption in Japan has boosted demand by nearly 300kbd. Taken together, these one-off factors have tightened the market by nearly 1.5mbd.

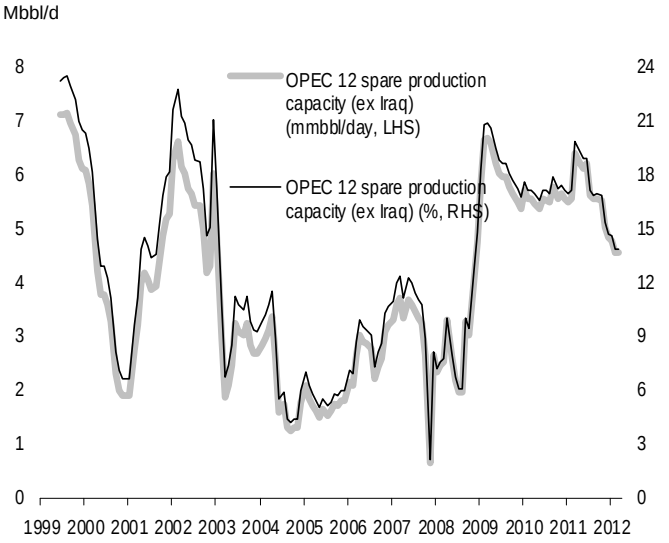
The net result is that Saudi Arabia's spare capacity is now just 2.3mbd, compared to a recent peak of 3.4mbd. It could fall to as little as 1mbd over the summer, as Saudis switch on their air conditioners.

Exhibit 61: Saudi spare capacity has fallen



Source: Thomson Reuters DataStream, Credit Suisse

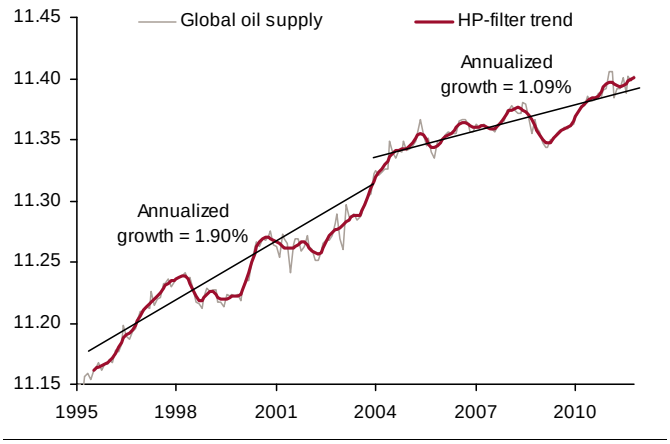
Exhibit 62: OPEC spare capacity has fallen



Source: Thomson Reuters DataStream, Credit Suisse

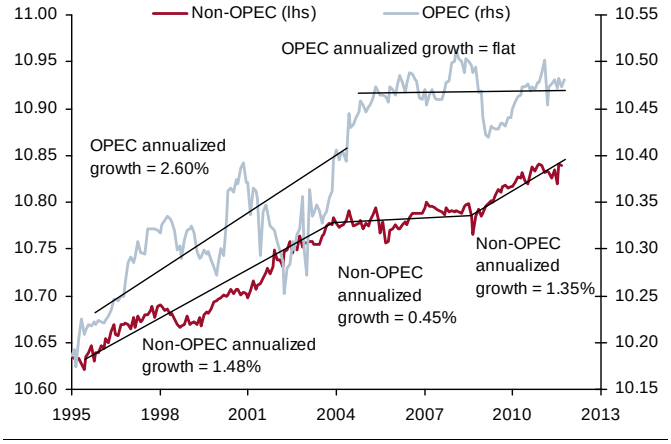
Below, we show our Commodities team's analysis of oil supply:

Exhibit 63: Global oil supply



Source: EIA, Credit Suisse

Exhibit 64: OPEC and non-OPEC supply



Source: EIA, Credit Suisse

We Believe That the Current Oil Price Is Manageable

We believe the rise in the oil price is manageable for markets and growth until it hits around $150/bbl (Brent), as we show below. This dovetails with the analysis done by our global economics research team, headed by Neal Soss (*When oil does – and doesn't – matter*, 6 March), according to which the oil price would have to rise to $150/bbl for it to have a significant effect on inflation and real disposable income growth – and for higher oil prices to make a renewed recession likely.

There are six reasons we believe that the current oil price is manageable:

(1) The percentage increase in the energy price is still low.

(1) The terms of trade loss should to some extent be offset by energy exporters spending more (though they do so with a lag).

(2) Unlike 2011, there is unlikely to be a monetary response to a higher oil price this time around in Europe or emerging markets.

(3) Other commodity prices are much better behaved.

(4) US consumer confidence seems more resilient than normal to a higher oil price.

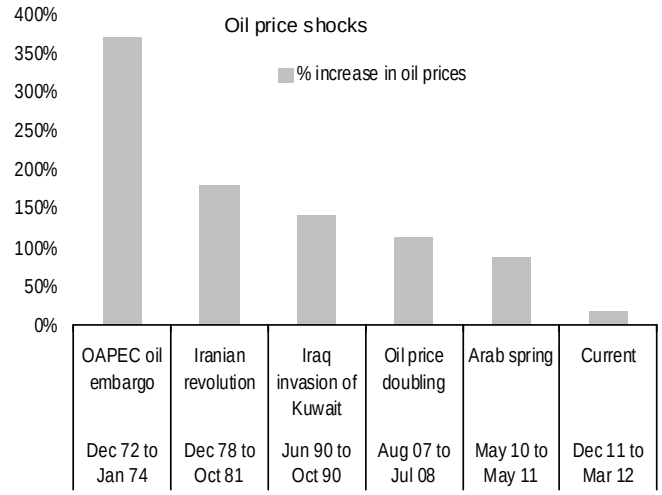
(5) US macro momentum is consistent with 3% growth, some 0.8% above consensus, giving some buffer before higher oil prices lead to GDP downgrades.

(1) The change in the oil price is more important than the level

What matters for growth, in our view, is the increase in the oil price more than the level of the oil price (given that we are concerned with the effect of higher oil prices on the change in output, it is the magnitude of the move in prices that we have to focus on). As our charts below highlight, the real oil price is very high, but the increase in the oil price from its recent low is small compared to previous shocks (indeed currently we are about 10% above the consensus oil price for this year – $110pb).

Exhibit 65: The current episode can hardly qualify as an oil price shock

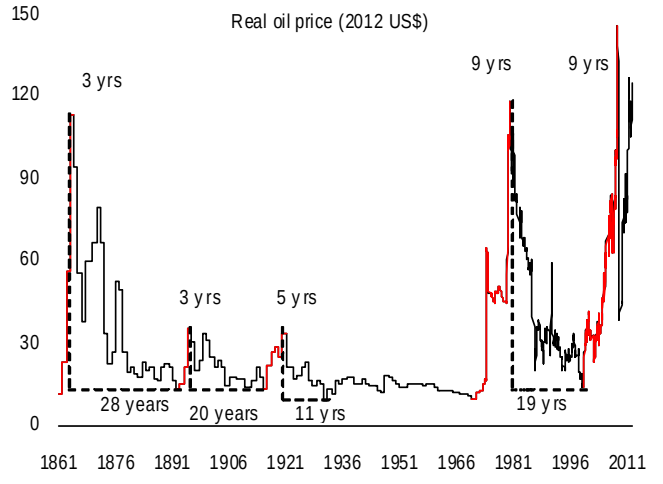
Percentage increase in oil prices



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 66: Real oil prices are high, but we think the change is more important than the level

US$/bbl



Source: Thomson Reuters DataStream, Credit Suisse

Looking at previous US recessions, we find that the oil price has nearly doubled in the year prior to the start of the downturn.

Exhibit 67: In the run-up to recent recessions the oil price has almost doubled

Trough in oil price	Recession start	Peak in oil price	Change in oil price		Trough in oil price to start of recession (month)	Start of recession to peak oil price (month)
			Trough to recession start	Trough to peak		
Dec-73	Nov-73	Jan-74	na	293%	-0.5	1.5
Nov-78	Jan-80	Nov-80	179%	194%	14.5	9.5
Jun-90	Jul-90	Oct-90	13%	133%	1.5	2.5
Feb-99	Mar-01	Nov-00	133%	192%	25.4	-4.9
Nov-06	Dec-07	Jul-08	57%	151%	13.5	6.5
Average			95%	193%	10.9	3.0
Median			95%	192%	13.5	2.5
Recent increase in the oil price			18%			

Source: Thomson Reuters DataStream, Credit Suisse

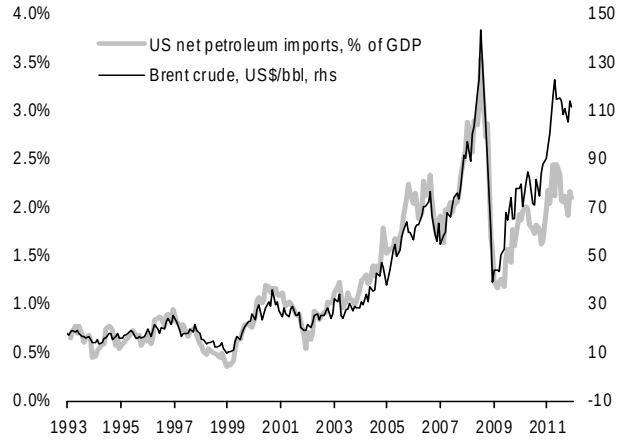
(2) The critical hit to GDP is from the terms of trade loss

A key transmission mechanism from higher oil prices to lower growth is via the terms of trade effect. Many commentators focus on the loss to consumption (each $10/bbl on the oil price typically increases consumer spending on gasoline-related products by $30bn, or 0.25% of disposable income). Yet, there are, of course, offsets. For instance, if a country has a large energy sector, as is the case in the US and in the UK, the volume and value of its production rises. Consequently, we believe that the best measure of the net first-round effect of a higher oil price is looking at the terms of trade, namely, the additional import bill that a country faces because of a higher oil price.

In the case of the US, this terms of trade effect is clearly lower than it used to be, thanks to booming domestic energy production.

Exhibit 68: Net petroleum exports as a proportion of GDP is now around 2%, compared to 3.5% in 2008

Percentage of GDP, US$/bbl



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 69: The IMF estimates a 10% increase in the oil price takes off c.0.1% of global GDP growth in the first year

Percentage change

	Years after shock			
Region	1	2	3	4
US				
GDP	-0.15	-0.20	-0.20	-0.10
CPI rate	0.40	0.25	0.15	0.10
Euro area				
GDP	-0.10	-0.20	-0.20	-0.10
CPI rate	0.35	0.25	0.20	0.15
Japan				
GDP	-0.05	-0.10	-0.15	-0.10
CPI rate	0.15	0.10	0.05	0.05
GEM				
GDP	-0.05	-0.10	-0.10	-0.10
World				
GDP	-0.10	-0.15	-0.15	-0.10

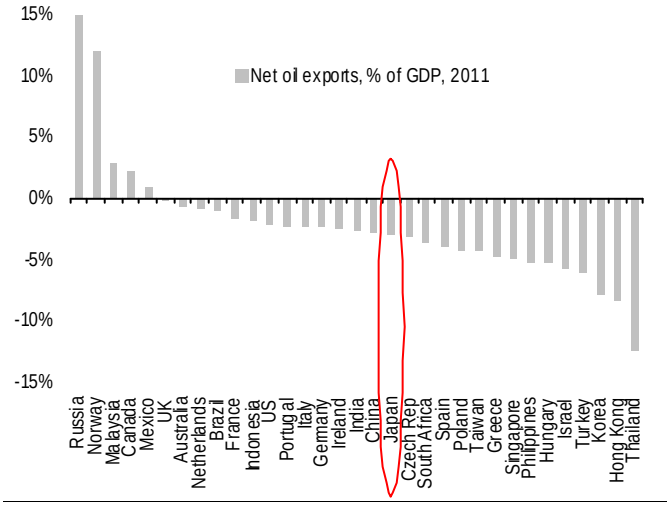
Source: IMF, Credit Suisse

A back-of-the-envelope calculation suggests that a 10% rise in the oil price takes 0.2% off US GDP (10% of 2%). Currently the oil price is 10% above its six-month MA (but up 19% from its low in mid-December). Thus (relative to a smoothed average), the increase in the oil price so far should take only about 0.2% off US GDP growth. This is roughly consistent with the output of the IMF's Multimod model.

Yet, for some countries, the terms of trade impact is very great – namely emerging markets, with Thailand, Hong Kong, South Korea and Turkey, in particular, showing large net oil imports.

Exhibit 70: Russia, Norway, and Malaysia are the likely winners from higher oil prices; Thailand, Korea, and Turkey are the likely losers

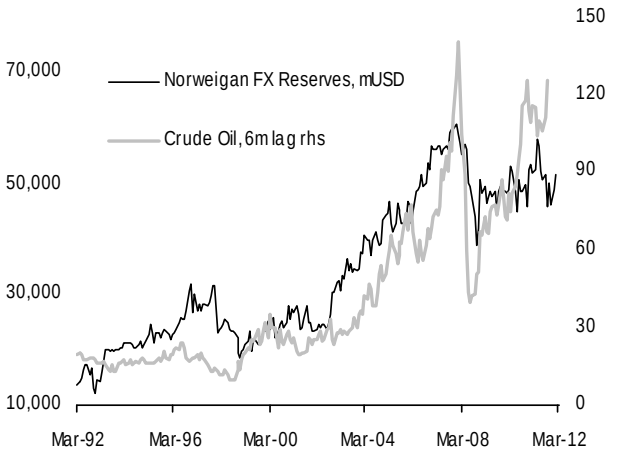
Percentage of GDP, US$/bbl



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 71: Norwegian FX reserves tend to go up as the oil price rises

Percentage change



Source: Thomson Reuters DataStream, Credit Suisse

The question is whether the oil exporters spend this windfall gain.

For every oil importer, there is an exporter – and thus if the savings ratio of the importer were the same as the exporter, then the first-round effect of a change in the oil price would not affect global GDP (rather it is the policy response to a rise in the oil price detailed below that would). However, the problem is that the oil exporters have a high savings ratio and thus tend to save a disproportionate part of their 'windfall' gains. We can see this if we look at the likes of Norway, where the change in central banks' reserves is strongly correlated with the oil price.

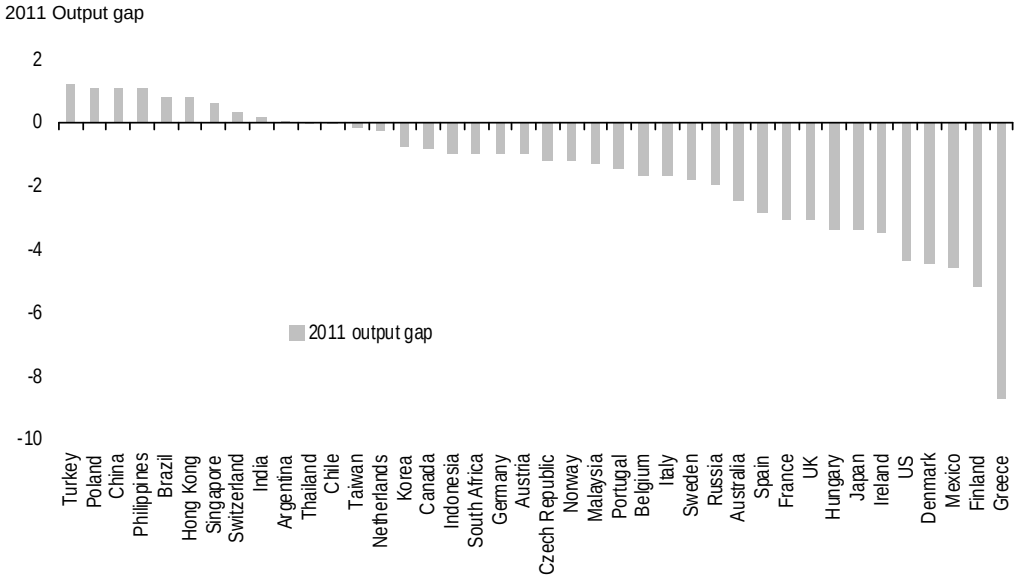
There is, however, some evidence that the OPEC nations are spending more of their windfall gains. Credit Suisse Commodities Analyst Ric Deverell believes Saudi Arabia's budget break-even will rise to $115/bbl by 2014 from a current estimate of $100/bbl, on the back of the government spending increases in the wake of the Arab Spring. Even the Russian budget break-even has risen to $125/bbl. We think that there is a high probability that a rise in the oil price will be accompanied by a continued pick-up in government spending in the oil-exporting nations to offset potential social unrest, but clearly there is a lag involved (it takes time to plan and then start to spend the windfall gain).

In some of the oil-importing countries, fuel prices are subsidized (and thus government spending more than offsets the higher cost of petrol). Credit Suisse Asia Economist Robert Prior-Wandesforde estimates a $10 rise in the oil price would lead to a deterioration in the fiscal balance of 0.2%-0.3% of GDP for India, Indonesia, and Thailand.

(3) There is unlikely to be a central bank policy response this time

Clearly, there is a major problem if central banks come to believe that higher oil prices are inflationary. We believe they are not inflationary if the economies are operating clearly below full capacity, as the rise in energy costs does not feed through to higher wage growth in this case and thus the rise in the price level is a one-off (indeed higher energy costs are a tax on growth and thus deflationary if wage growth does not respond to higher oil prices). Recall, approximately 70% of costs for corporates is accounted for by wages.

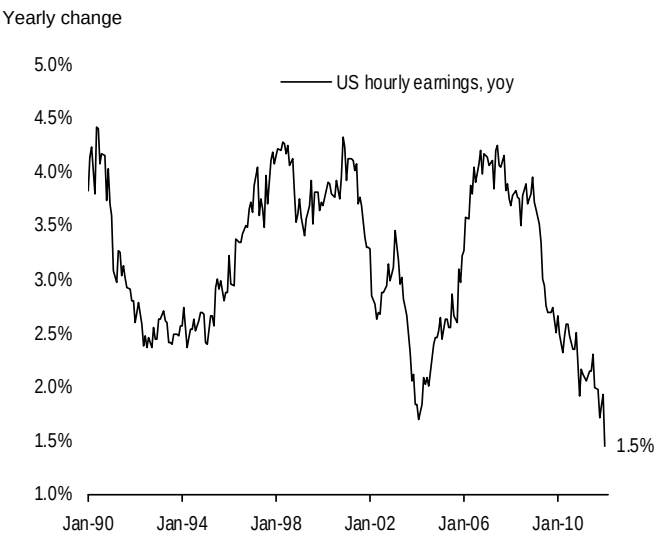
Exhibit 72: Economies that are still operating below potential are less vulnerable to the inflationary hit of higher commodity prices



Source: OEF, Thomson Reuters DataStream, Credit Suisse

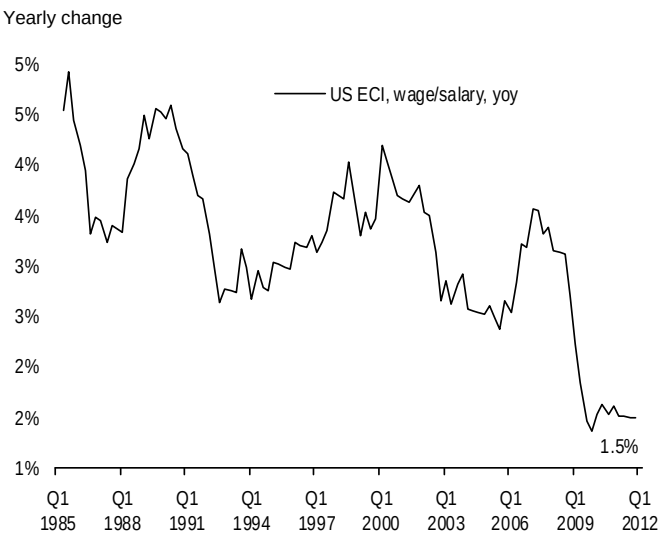
Clearly, there is currently little sign of labor being able to demand higher wages.

Exhibit 73: Hourly wage growth is just 1.5%



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 74: Wage growth is also just 1.5%



Source: Thomson Reuters DataStream, Credit Suisse

This is the critical difference between now and past periods of rising oil prices (especially the 1970s, when there was both high unionization and high wage indexation).

Furthermore, even if policy had to be tightened to control inflation, it would very likely be done via fiscal, not monetary, policy in the developed world.

There are two regions that are 'wild cards' here: emerging markets and euro areas. We will deal with emerging markets below. Regarding the ECB we would highlight that it has historically focused on headline (not core) inflation as a fair reflection of true inflationary pressures because it held commodity price inflation to be recurring. This has led to the problematic policies of raising rates both in June 2008 and in April 2011, despite the fact that on both occasions growth was already slowing sharply.

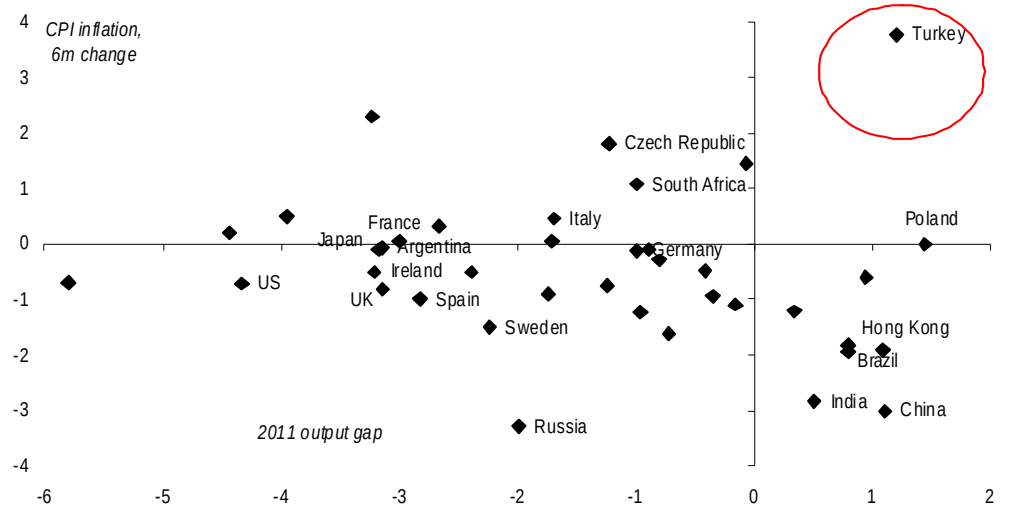
We believe the Draghi ECB is more pragmatic, because:

- There is some evidence to suggest that the core is being outvoted by the periphery. There are 23 voting members of the ECB, of which five vote with the Bundesbank. Eight are from the periphery (rising to ten if we include Malta and Cyrus). It is quite probable that a couple of the core countries will now side with the periphery following the downgrade of Austria and France. Indeed the resignation of Issing and Weber as well as the appointment of the first non-German chief economist implies that the Bundesbank line is no longer necessarily the ECB line.
- For euro-area inflation to be 2% by year-end (as opposed to our economists' forecast of 1.5%) the oil price would have to be $140/bbl.
- The ECB owns and repos nearly €900bn of peripheral European debt – and raising rates (and thus strengthening the euro) would in effect cause so much deflation in the periphery that we think it would considerably heighten the risk of a euro break-up. Recall that Spain, Portugal, and Ireland have a very high (c >75%) proportion of their debt that is variable-rate.

In emerging markets, there is unlikely to be a rise in rates in response to higher oil prices. To a large extent as shown above they are no longer operating above full capacity and inflation has been falling (with the exception of Turkey) and energy is a small proportion of total costs and is, to some extent, being offset by the decline in food prices.

Exhibit 75: Only Turkey is operating above capacity with accelerating inflation and therefore there is limited risk of monetary tightening

CPI inflation, 6 month change



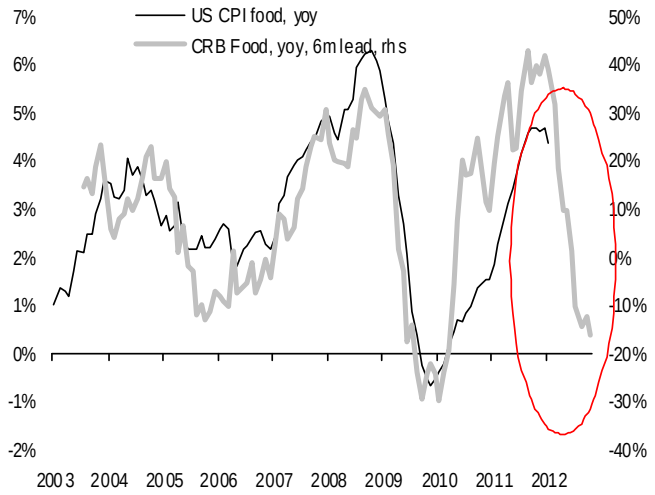
Source: OEF, Thomson Reuters DataStream, Credit Suisse

(4) Not all commodity prices are rising

Food accounts for 14% of the US CPI basket – and food price inflation lags the move in food prices by six months. The year-on-year change in food prices is currently consistent, with food price inflation falling by five percentage points. This would boost real consumption growth by 0.7%.

Exhibit 76: Food price inflation is set to slow (food is 14% of the CPI)

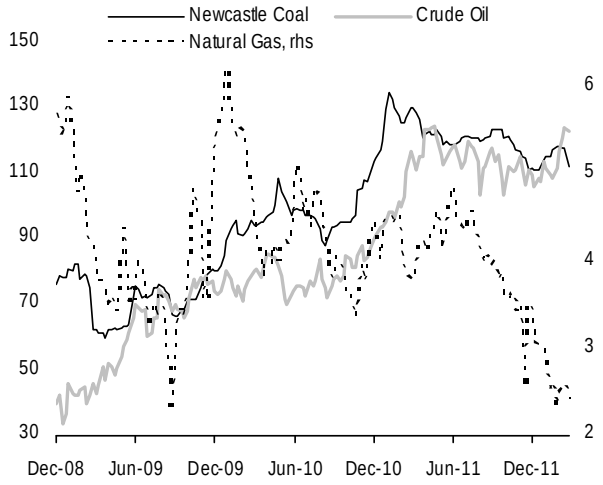
Yearly change



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 77: Natural gas and coal prices remain low

US$/ton, US$/MMbtu



Source: Thomson Reuters DataStream, Credit Suisse

Energy has a lower weighting than food in the US CPI (fuel for transport is 5.1%, fuel for heating is 4.0%) and gas prices are abnormally low. Furthermore, natural gas accounts for 20% of US electricity consumption and is down 40% in the last six months, while coal accounts for another 45%-50% of US electricity consumption and has fallen by a more modest 6% in the last six months.

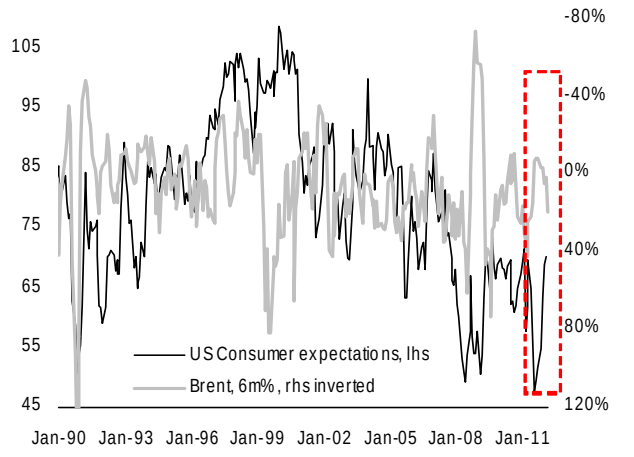
Dan Eggers, our head of US power utilities, believes that the electricity price to the consumer in 2012 will rise by less than that in 2011 (with price inflation of less than 5% in 2012) – and that this inflation will be not so much driven by higher input costs, but rather by higher transmission charges (*When oil does – and doesn't – matter*, 6 March).

(5) US consumer should be able to cope better with higher oil prices

Normally the rise in the oil price hits consumer confidence, but this time around other factors (such as stronger payroll growth) seem to be offsetting this. Another reason is that the burden of spending on non-discretionary items (food, shelter, interest, energy) is much lower as a share of disposable income than when the gasoline price was last this high in 2008.

Exhibit 78: US consumer confidence is holding up better than the rise in the oil price would have suggested

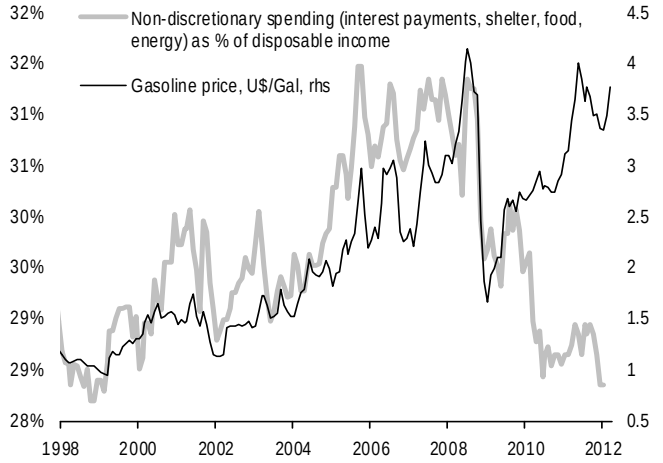
Index level, and 6month change (inverted)



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 79: The high gasoline price may not prove such a threat as the burden of non-discretionary spending is close to historical lows

Percentage of disposal income, US$/gallon



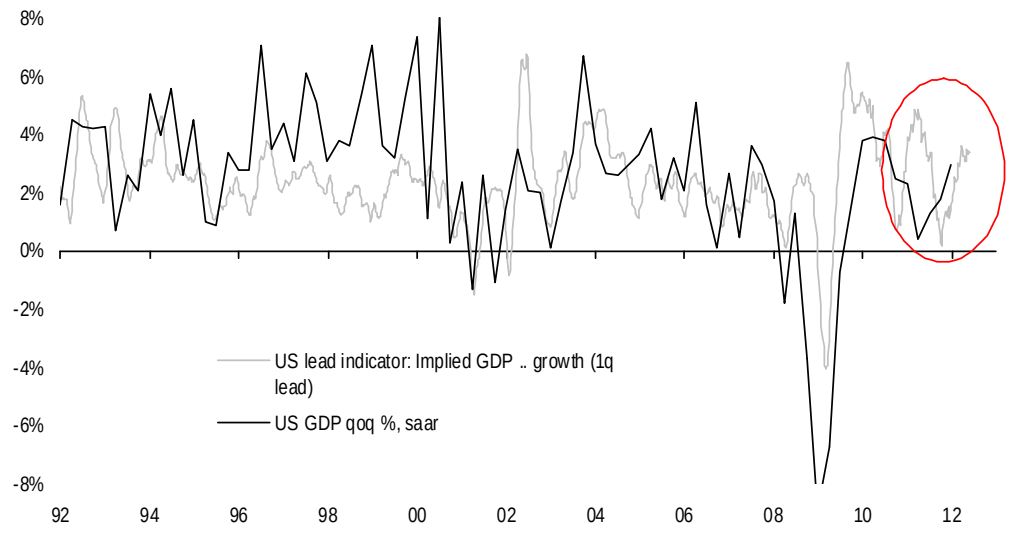
Source: Thomson Reuters DataStream, Credit Suisse

(6) Macro momentum is consistent with GDP growth of 0.8% above consensus

US macro momentum on our ten-factor model is currently consistent with close to 3% GDP growth (though like macro surprises it appears to be peaking). This is still 0.8% above the macro consensus for GDP for 2012E (2.2%) – and thus gives some room for disappointment.

Exhibit 80: Our short-term indicator suggests US growth is running at c3%

Quarterly change, SAAR



Source: Thomson Reuters DataStream, Credit Suisse

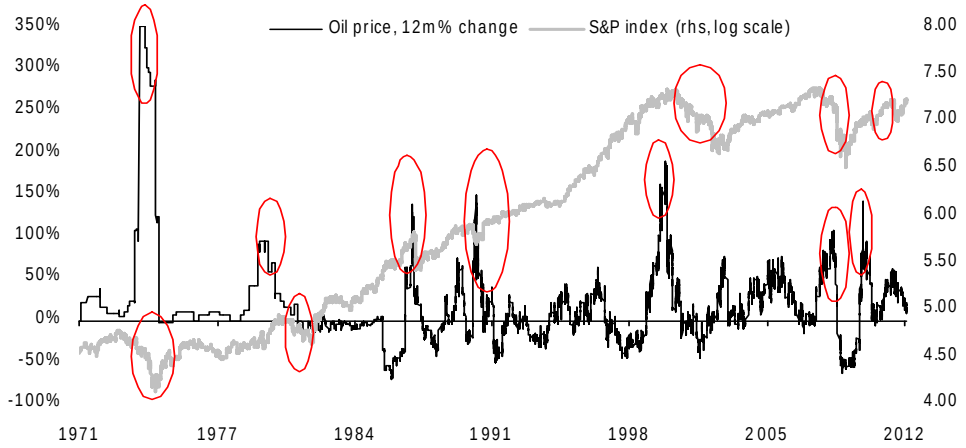
The Credit Suisse European economics research team (*Tailwinds and tail risks*, 19 January) believes a repeat of the 2011 oil shock would only reduce European GDP by 0.4%, similar to estimates published by the ECB (Working Paper 362) and European Commission (QUEST Model).

Impact on the Equity Market

Up to 2000, equities had been able to rise until oil price inflation hit c100% yoy.

Exhibit 81: Equities have tended to correct when the oil price has doubled in the previous 12 months

12-month change, Index

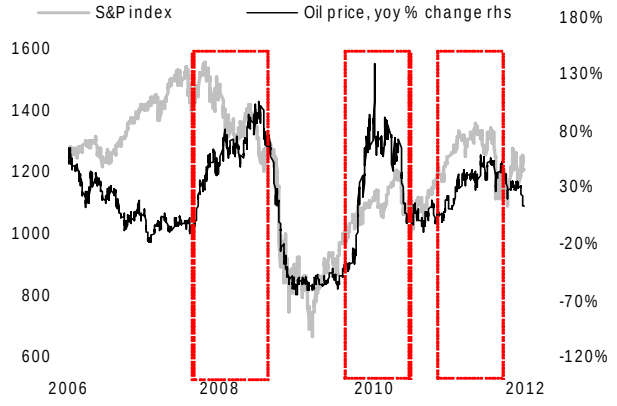


Source: Thomson Reuters DataStream, Credit Suisse

More recently, however, equity markets have peaked twice when the year-on-year oil price rise was only 40% (yet, in October 2007, the roll-over in markets was more likely due to concerns about credit markets and US housing rather than high oil prices). A 40% rise in the oil price from the low equates to a $147 North Sea Brent oil price.

Exhibit 82: Since 2008, the equity market typically peaked when oil prices were up by about 40% year on year

Index level, yearly change



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 83: The S&P has peaked when oil price inflation has been 40%

Yearly change

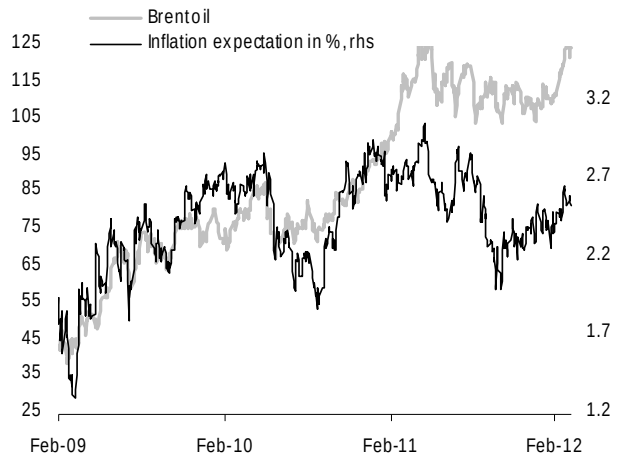
Peak in S&P Date	Yoy change in Oil price	Max YoY change in Oil price
Oct-07	37	101
Apr-10	74	123
May-11	40	67
Current	10	10
Average	50	97
Median	40	101

Source: Thomson Reuters DataStream, Credit Suisse

We think a good litmus test on whether the rise in the oil price is a problem for markets is whether inflation expectations continue to rise as oil rises. When inflation expectations start falling, we think the market is in effect saying that the rise in the oil price starts to be deflationary. This was a key warning signal in 2008 – and we believe this requires careful monitoring.

Exhibit 84: 5y/5y inflation expectations tend to rise in line with oil prices ...

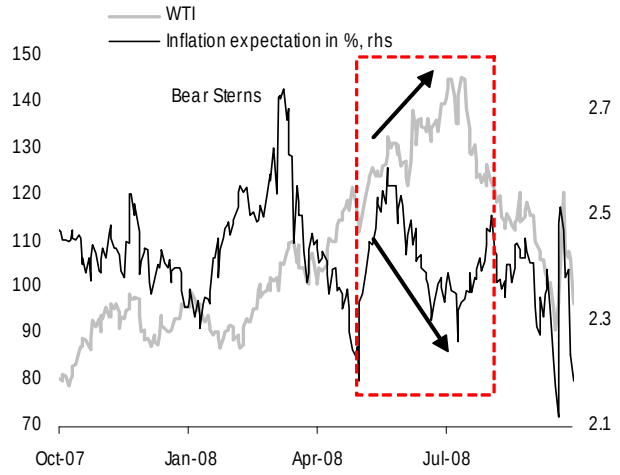
US$/bbl and percentage



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 85: The warning signal in 2008 was when inflation expectations started falling against the backdrop of a rising oil price

US$/bbl and percentage



Source: Thomson Reuters DataStream, Credit Suisse

Clearly, the potential impact on the equity market depends on what happens to EPS and what happens to the multiple.

- On the basis of estimates provided by our sector analysts, we estimate that a 10% rise in the oil price takes about 2% off profits in Europe and 1% in the US. Sub 2% GDP growth is typically required for profits to fall.

Exhibit 86: We estimate that a 10% rise in the oil price leads to a c2% fall in earnings for the European market

US$/bbl and percentage

European sector	2011 net income (€, bn)	10% rise in oil: Energy, % of costs	10% rise in oil: Net income (€, bn)	10% rise in oil: % impact
Consumer Discretionary	58	5%	56	-3%
Consumer Staples	57	6%	54	-4%
Energy	79	na	88	11%
Health Care	57	1%	56	-1%
Industrials	51	5%	48	-5%
Tech	12	2%	12	-2%
Materials	73	30%	64	-13%
Telecoms	43	3%	43	-2%
Utilities	33	65%	34	4%
Market	463		455	-1.7%

Source: Company data, Credit Suisse

Exhibit 87: ... and a c1% fall in earnings for the US market

US$/bbl and percentage

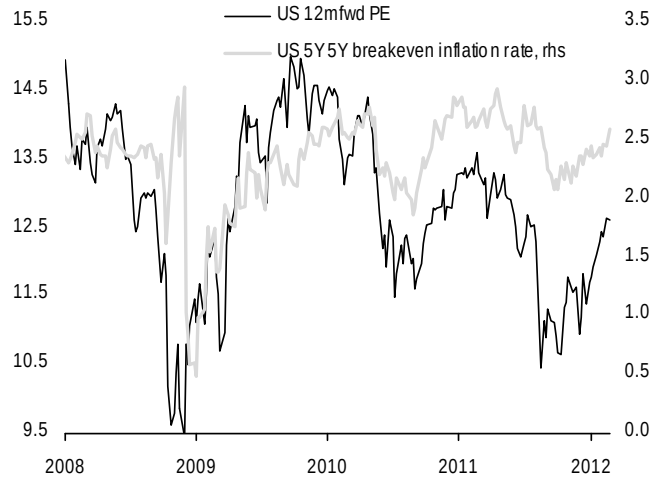
US sector	2011 net income (US$, bn)	10% rise in oil: Energy, % of costs	10% rise in oil: Net income (US$, bn)	10% rise in oil: % impact
Consumer Discretionary	105	5%	99	-6%
Consumer Staples	97	6%	92	-5%
Energy	135	na	149	11%
Health Care	114	1%	112	-1%
Industrials	99	5%	95	-4%
Tech	192	2%	190	-1%
Materials	37	30%	32	-14%
Telecoms	19	3%	19	-2%
Utilities	31	65%	33	4%
Market	828		821	-0.8%

Source: Company data, Credit Suisse

- What about multiples? Ironically, if oil leads to a rise in inflation expectations, it could even lead to a re-rating of equities: the more investors worry about inflation, the more they seek inflation hedges. Equities are typically much more of an inflation hedge than bonds (in fact, equities do not tend to de-rate significantly until inflation rises above 4% – and we are a long way from that now).

Exhibit 88: Equity valuations have been moving in line with inflation expectations

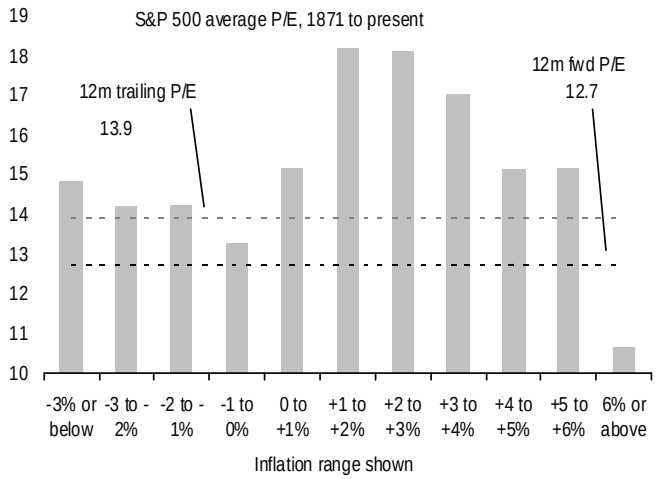
Ratio and percentage (RHS)



Source: Thomson Reuters DataStream, Credit Suisse

Exhibit 89: Equities don't tend to de-rate significantly until inflation rises above 4%

S&P 500 average P/E against inflation ranges



Source: Thomson Reuters DataStream, Credit Suisse

What would be the crunch point for equities?

We would likely become cautious on equities if any of the following were to happen:

- Headline inflation in Europe remains above 2% by year-end (our economists are targeting 1.5%). This is a level where the ECB might feel uncomfortable doing yet more monetary easing. This would require an oil price of $140/bbl, on our estimates.
- A 40% rise in oil prices (this would imply Brent crude at $147/bbl).
- US headline inflation being above 4%. This is the point at which equities tend to de-rate. According to Credit Suisse Chief Economist, Neal Soss, this would require an oil price of $150-$160pb, with each $10/bbl pushing up inflation by 0.3% to 0.4%.

US GDP starts to be revised down. This would probably require an oil price of $150pb, as currently macro momentum in the US is consistent with 3% GDP, compared to a consensus forecast of 2.2% for this year, according to Blue Chip. Thus, there would need to be a 0.8% hit to GDP to start to get economic downgrades and this would occur if the oil price were to rise c.40% from its recent low.

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Disclosure Appendix

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[i] While supply disruptions have been the predominant short-term cause of food prices spikes in recent years, it is possible that over time increased demand from emerging markets could slow or even halt the long-term downward trend in food prices evident for at least the past 100 years. In addition, government policies can have an impact. For example, the introduction of ethanol mandates in the United States has directly contributed to the doubling of global corn consumption growth, from 0.8% per year in the period 1975 to 2003, to 1.6% per year since then. This policy is likely to lead to higher food prices over coming years (other things equal).