Bord Gáis Energy Index

Understanding energy

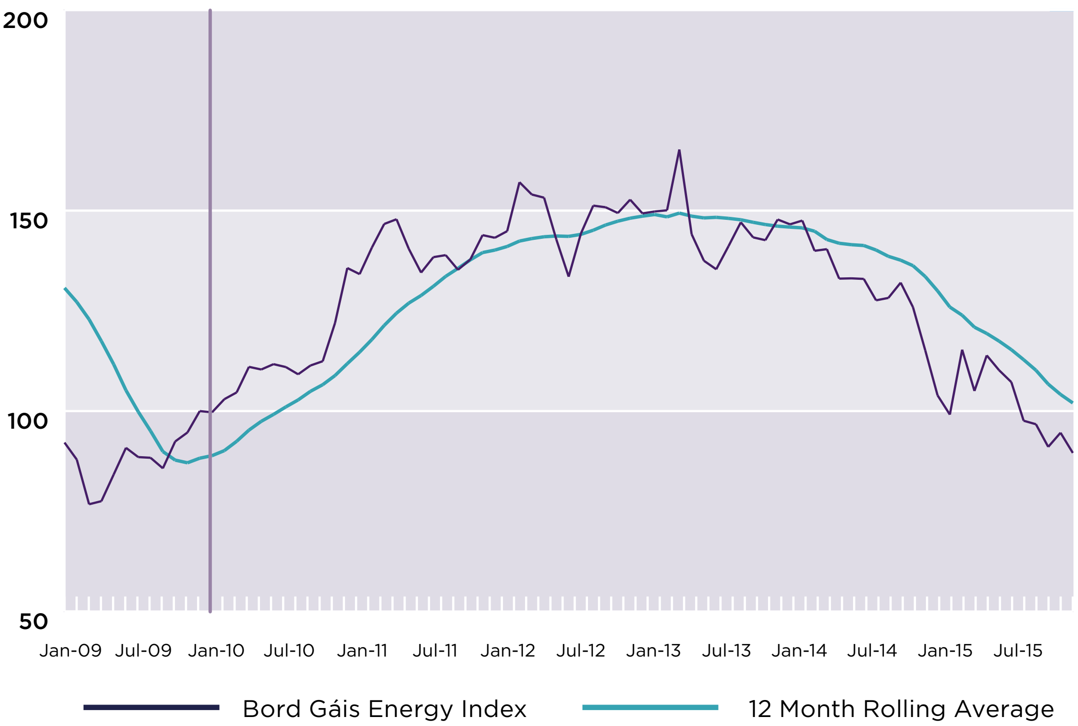
NOVEMBER 2015

BGE/EI/UE/1215

Bord Gáis Energy Index

November 2015

Bord Gáis Energy Index (Dec 31st 2009 = 100)



%	
-5	1 Mth
-7	3 Mth
-22	12 Mth

Summary

The November 2015 the Bord Gais Energy Index fell by 5% month-on-month as the wholesale prices of Brent crude oil (-6%), UK prompt wholesale gas (-8%), European coal (-1%) and Irish wholesale electricity (-4%) all recorded losses month-on-month.

In November 2015 the Index stood at 90, which is the lowest ever recorded point of the index.

HOT TOPIC

Gulf States running on empty?

The price of Brent crude oil has fallen from US$116/barrel in June 2014 to close to US$40/barrel at the start of December. US$40/barrel is considered well below what is sustainable in the Middle East region in fiscal terms. The six states of the Gulf Cooperation Council (GCC) – Saudi Arabia, Oman, Qatar, Kuwait, Bahrain and the UAE – are better prepared than most oil exporters to withstand an extended period of low prices because of their Sovereign Wealth Funds, strong reserves levels and low levels of debt, but the implications of any remedial fiscal strategies are as daunting as anywhere in the world.

Still hooked on oil

In terms of regional stability, the impact of falling oil prices on Saudi Arabia is particularly important and the country's destiny is very much dependant on oil. Despite some success in diversification, Riyadh still generates 85% of its budget revenues from oil. Much of the non-oil economic activity is made up of infrastructural projects, including construction, transport, power and water schemes that rely on government funding. While most GCC governments are trying to increase state expenditure in order to maintain economic growth and calm social tensions in a conflict-riven region, low oil prices will affect their ability to invest in their non-oil sectors. To varying degrees, all six have talked for many years about diversifying their economic bases, yet still very few GCC citizens work in the private sector.

A self-inflicted wound?

Saudi Arabia's struggles with low oil prices are partly of its own making. Riyadh's decision to keep prices low by maximising production is widely regarded as a strategy designed to hit US unconventional oil producers and regional nemesis Iran. Saudi Arabia is producing over 10 million b/d of crude oil, up 900,000 b/d on its 2014 average and

(Continued overleaf)

Bord Gáis Energy Index (continued)

most OPEC members states are pumping above quota levels. A year ago, despite fast-falling oil prices, Saudi Arabia persuaded OPEC not to reduce production, but to defend its market share by maintaining official output at 30 million b/d. OPEC output is currently running above 31 million b/d and Saudi Arabia itself has been pumping at record levels above 10 million b/d since March this year. The Kingdom and its close Gulf allies—Kuwait, the United Arab Emirates and Qatar—are all relatively low-cost producers of oil. They have made clear that they expect the price function of oil markets to force a reduction in high-priced oil supply and that this will eventually end the current oil glut. Saudi Arabia has made it amply clear over the past year that it will not on its own reduce supply to try to end the glut for fear that others will simply take its share of the market.

Breaking the piggy bank?

The IMF predicts that Saudi expenditure will be 20% higher than revenues this year. The net value of foreign assets held by the Saudi central bank had fallen from US$730 billion in August 2014 to US$654.5 billion just twelve months later. It has been suggested both within and outside the country that Riyadh would be prepared to borrow to maintain both its current output strategy and spending levels. A report published by PwC earlier this year agreed that gas-rich Qatar was best placed to weather low oil prices and predicted average economic growth of 6.2% over the period 2016-20. Gas prices, although markedly lower, have not fallen as far as oil prices, while government spending is still growing very rapidly. It increased by an average of 18% a year between 2008 and 2013, and will continue to grow strongly as the country prepares to host the 2022 FIFA Football World Cup by developing a range of infrastructural projects. Kuwait, the UAE and Qatar are generally considered to be in the strongest fiscal positions and it is perhaps no surprise that Bahrain is the weakest.

A bout of austerity?

The most obvious way for the Gulf states to balance the books is to cut expenditure. Since the oil boom in the region began, all governments have followed the same model of social, economic and political development. They have provided generous state support for health, education and other services – often including housing – plus low taxation rates, in return for tight controls on social and religious life. Unless oil prices double over the next five to ten years – which they show no sign of doing – then this model will become untenable. Subsidies cannot merely be trimmed (Saudi Arabia has the cheapest gasoline in the GCC at $0.15 a litre, Qatar and the UAE charge $0.26/l and $0.47/l respectively), they may have to be lifted entirely according to Platts. VAT and other taxes will probably have to be introduced, while economic diversification is becoming a necessity rather than a desirable option. If GCC members are unwilling to cut crude oil production they will need to consider cutting generous government expenditure but at the risk of rising social discontent. Only time will tell whether Saudi Arabia and its allies in OPEC emerge intact and as the winners from their decision to allow oil prices collapse.

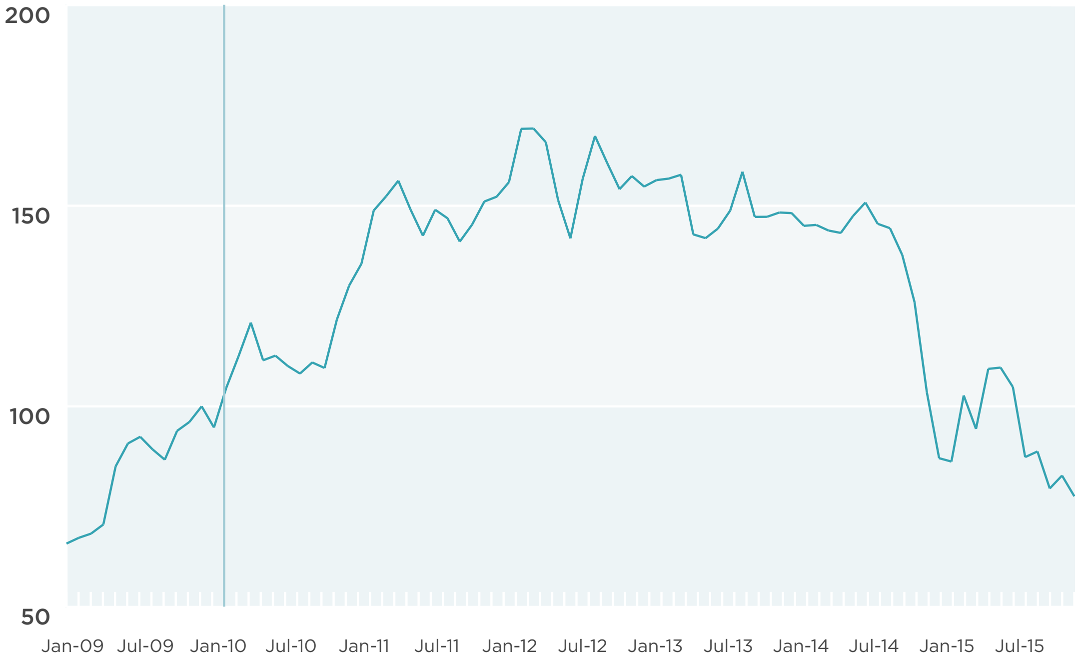
Harmony in OPEC?

States such as Venezuela and Iran will hope against hope that falling prices will so alarm the Gulf monarchies that they will move on their own to stabilise markets by reducing output at a time when Iran, for instance, is poised to raise its production if and when sanctions are lifted. Of OPEC's five founder members, two each are on opposite sides of the political divide in the Middle East—Saudi Arabia and Kuwait on one side and Iran and Iraq on the other. Venezuela, the fifth founder member, is from the Americas, and its economic interest aligns with that of Iran and others campaigning for supply cuts by OPEC to help boost prices.

Bord Gáis Energy Index

November 2015

Oil Index



%	
-6	1 Mth
-13	3 Mth
-25	12 Mth

*Index adjusted for currency movements.

Data Source: ICE

Oil

Month-on-month the front month Brent crude oil price fell US$4.95 to close November at US$44.61 following October's close of US$49.56. Prices continued to soften in early December following the latest OPEC meeting that ended without any sign of curbs on production. This sent the main international benchmark, Brent, below US$41 a barrel and American WTI under $38, their lowest for nearly seven years. According to many analysts, more gloom looms with an extra 1 million b/d of Iranian oil expected to flow onto the world market next year, while American shalemen continue to cut costs and innovate. The OPEC communiqué humbly urged "energy dialogue" with countries like Russia: a possible olive branch after a year-long stand-off. But for now pain abounds: the IMF reckons that low oil prices cost Middle Eastern countries US$360 billion this year (see this month's Hot Topic). Daniel Yergin, the industry's sage, says OPEC is no longer a cartel but just a fractious trade association.

OPEC failed to clinch a new deal on an output target at a meeting in Vienna on December 4, leaving the group in a state of output policy limbo. An output target of 30 million b/d was first set in December 2011 and has been renewed every six months since then, with the last rollover in June 2015. The failure underlines the continuing lack of consensus in OPEC on whether and much less how to successfully manage oil supply. Saudi Arabia has been explicit in repeatedly stating that it is willing to cooperate with other OPEC and non-OPEC producers if there is a collective will to stabilize oil markets. But major oil producers such as Russia and Mexico have demurred, citing various reasons why they cannot reduce their output to support prices. OPEC will next meet in Vienna on June 2, 2016. Saudi Arabia is adamant that oil should be regulated by market forces and the inherent discipline of prices, at least for now, and not by OPEC's unilateral management of supply. Significantly, the meeting ended up without a specified target ceiling. Of course, there have been no country quotas since 2011, so OPEC members can essentially produce what they will. Prices subsequently collapsed.

With OPEC's November output registering just under 32 million b/d and Iran yet to re-enter, the stage is set for further stock builds. Already-brimming storage tanks worldwide mean that OPEC's decision creates a real risk of storage constraints in the first half of 2016, one which would likely translate into faltering absolute prices.

Bord Gáis Energy Index

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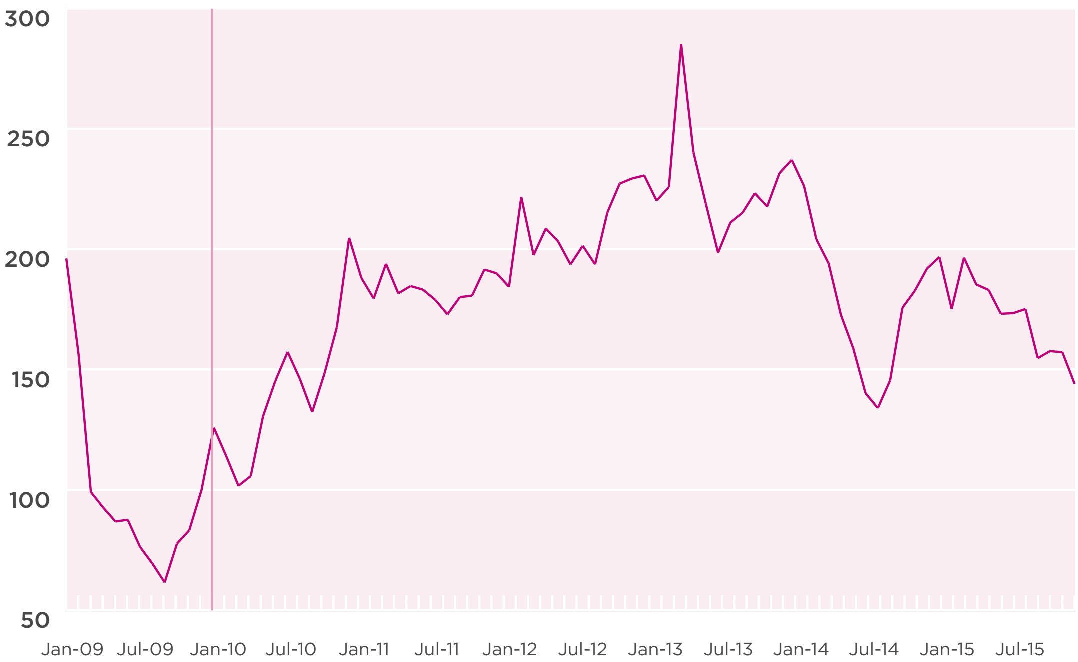
Natural Gas Index



%	
-8	1 Mth
-7	3 Mth
-25	12 Mth

*Index adjusted for currency movements.

Data Source: Spectron Group

Natural Gas

In sterling terms,the UK's NBP day-ahead natural gas contract posted a hefty 33.9% loss year-on-year in November, and shrugged off seasonal trends to drop 9.9% month-on-month. NBP spot prices averaged 35.56 pence/therm in November, over one-third lower than the November 2014 average of 53.79 p/th, as increases in indigenous production from the UK Continental Shelf, strong imports from Norway, and higher volumes of Qatari LNG arriving weighed on the NBP spot. Export demand from continental Europe for UK gas was much higher year-on-year, with the UK exporting a net total of 741 million cu m last month through the UK-Belgium Interconnector in comparison to the net 36 million cu m exported through the same pipeline in November 2014. Gas-for-power demand was also weaker on the year due to the favourable weather conditions, down 8% year-on-year to 1.246 Bcm in November.

On the supply side, "beach" supplies—Norway and the UK combined—increased, with high sendout from the South Hook LNG terminal contributing to the lower spot prices year-on-year. More Qatari LNG volume arrivals at the terminal so far in the final quarter of the year has led to South Hook sendout being at record highs for the months of both October and November, allowing for a weaker reliance on storage withdrawals to balance the system.

The outlook for December remains mild according to forecasts, expected to keep LDZ demand muted in comparison to previous years, however this may be offset by a potential fall in LNG supply with South Hook reducing sendout at the beginning of December, a potential sign of a thinner delivery schedule on the month against November.

The most significant market development in November was the decision by the Netherlands' top administrative court to temporarily limit production at the giant Groningen gas field to 27 Bcm for the 2015/16 gas year in November. The news however failed to support European markets, weighed down by unseasonably mild weather and bearish crude oil sentiment. This interim quota will apply until the end of January which is six weeks after Economic Affairs Minister Henk Kamp has made a new 2015/16 Groningen quota decision. In making its ruling, the court set aside Kamp's January decision approving extraction of 39.4 Bcm in 2015, a reduction from 42.5 Bcm in 2014. It also set aside his June amendment that a maximum of 33 Bcm could be extracted in the 2015/16 gas year, which comprised 30 Bcm from the Groningen field itself and a one-off option to withdraw 3 Bcm from the Norg storage facility.

Russia's energy minister, Alexander Novak said on November 24 that Russia would halt supplies of natural gas to Ukraine after Kiev stopped pre-payments for future deliveries. However, the move will have limited impact on Ukraine as Kiev said on November 23 that it would not import any more Russian gas for the remainder of 2015. Imports fell

(Continued overleaf)

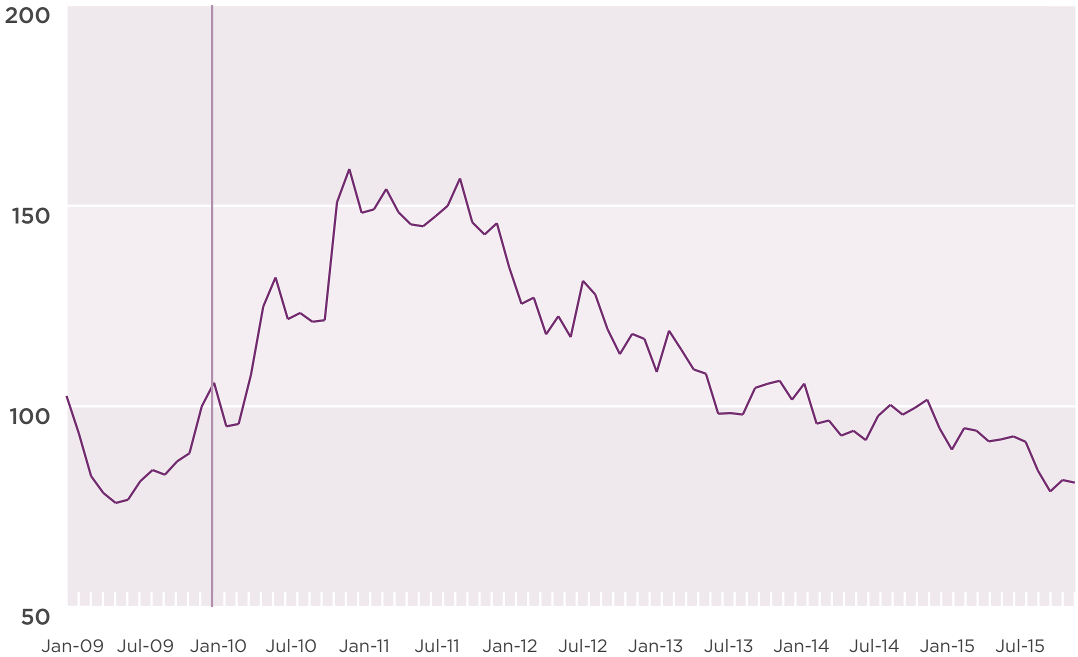
Natural Gas (continued)

to minimal levels in November as Ukrainian gas storage has reached a comfortable level ahead of winter. Ukraine imported about 2.35 Bcm of Russian gas between October 12 and November 21, mostly addressing concerns over the need to replenish underground gas storage facilities ahead of winter. Weaker domestic demand for gas, caused by shutdowns of many manufacturers in its Donetsk and Luhansk regions due to the pro-Russia separatist uprising, led to greater than expected gas stocks.

Bord Gáis Energy Index

November 2015

Coal Index



%	
-1	1 Mth
-4	3 Mth
-20	12 Mth

*Index adjusted for currency movements.

Data Source: ICE

Coal

With little price volatility for most of November, the ICE Rotterdam Monthly Coal Futures Contract fell US$3.90 on November 30 alone, to close the month at US$49.95 having close at US$52.45/mt on October 30. This represents a US$2.50/mt wholesale price drop month-on-month. Price weakness was put down simply to elusive spot demand. Softness in wholesale European coal prices is also reflective of weaker oil, gas and other commodity prices.

In November the UK announced that it would phase out all coal plants by 2025, although Energy Minister Amber Rudd did emphasize that this would only occur if sufficient gas fired plant was built to replace them. According to Platts "the announcement is nonetheless radical because it is a clear statement that the intention of UK energy policy is now zero coal".

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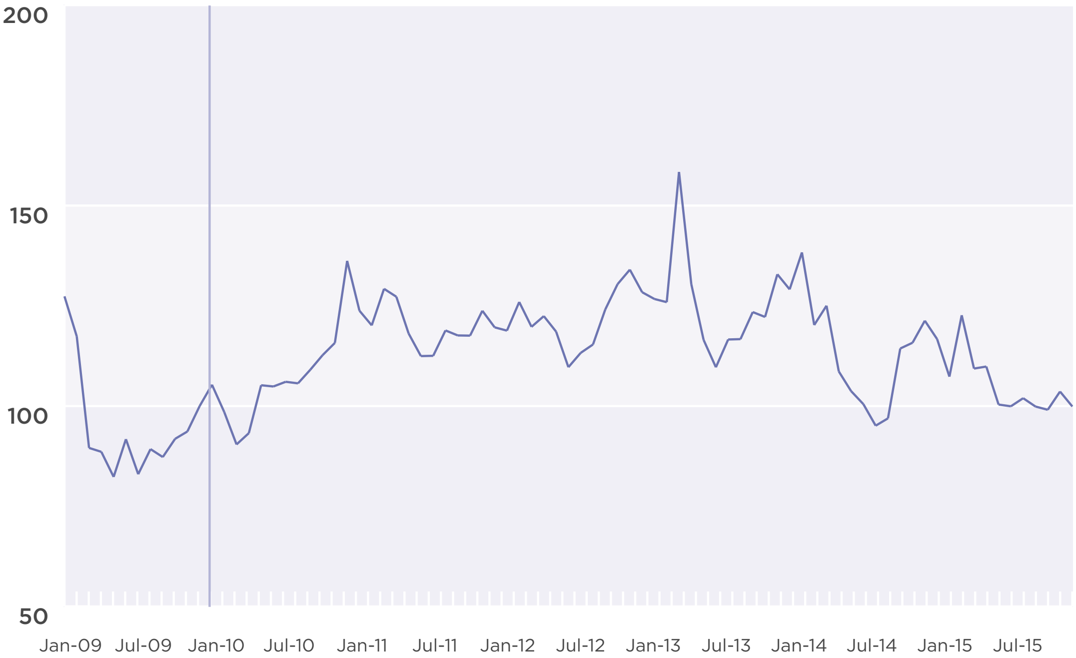
Electricity Index



%	
-4	1 Mth
0	3 Mth
-18	12 Mth

Data Source: SEMO

Electricity

In line with falling UK prompt gas prices, Irish wholesale prices dropped markedly month-on-month with demand remaining strong but aggregate wind levels were seen to double.

Month-on-month the average wholesale price of electricity fell by nearly 8% in November. Excluding supplier capacity payments the average wholesale price for November was €45.87 compared to €49.72 in October, a fall of €3.85/MWh on the average monthly wholesale price.

In general the wholesale price of electricity can be assessed by examining three components:

- the UK wholesale cost of gas
- the European-wide price of emitting one tonne of carbon
- the clean spark (which is what in general terms a gas powered generator receives in energy payments from the market once the cost of producing a unit of electricity is deducted)

The wholesale cost of imported gas from the UK decreased month-on-month by nearly 10% in sterling terms. Irish wholesale power prices typically tend to fall with the cost of imported gas as it is the most significant cost in the production of electricity.

A monthly clean spark of approximately €7.57/MWh was recorded in the month, which down from the €9.15/MWh observed in October (a fall of 17%). The average spark year-to-date is approximately €7.29/MWh. The falling spark can be partially attributed to the surging wind levels observed during November. Demand levels were up only 1% on October levels but month-on-month wind levels doubled in November compared to October. In November 26.8% of the island of Ireland's demand was met by wind (up over 13% month-on-month). All this extra wind on the system and its consistency has significantly reduced CCGT running and suppressed spark levels.

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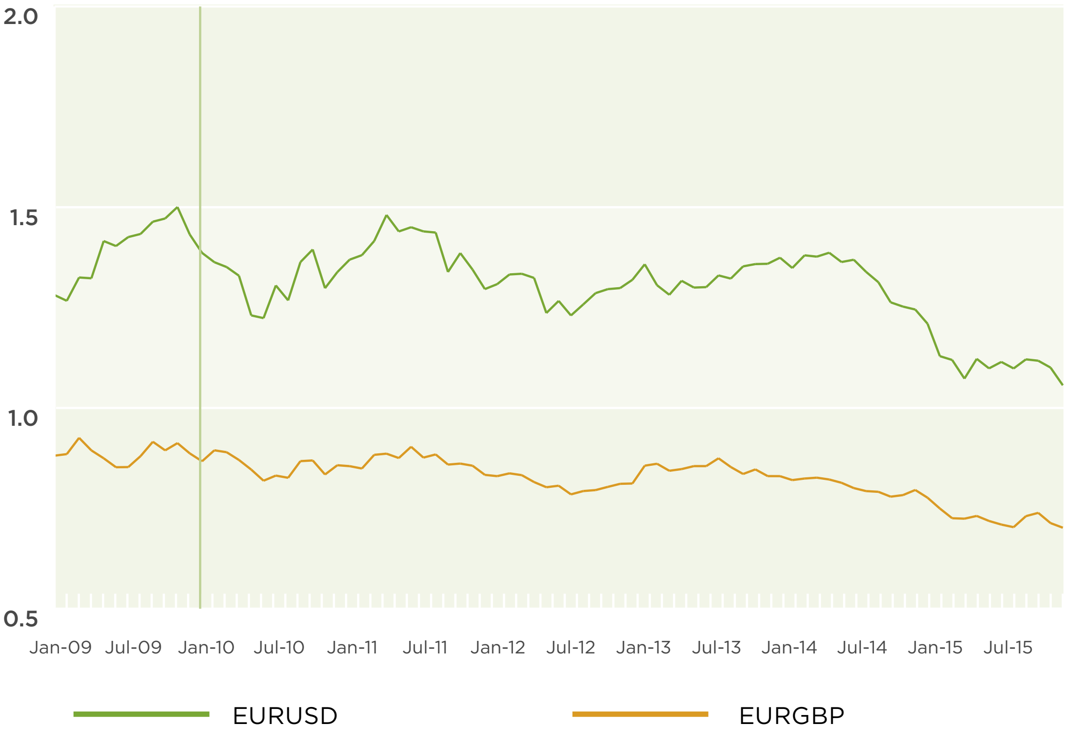
November 2015

FX Rates



EURUSD %

-4	1 Mth
-6	3 Mth
-15	12 Mth

EURGBP %

-2	1 Mth
-4	3 Mth
-12	12 Mth

FX Rates

In November the euro weakened against both the US dollar and British pound.

During the month Janet Yellen, the Fed's head, "put a rocket under the dollar" according to the Economist when she hinted that she thought the conditions for a rise had been met. How much inflationary pressure there really is depends crucially on how much excess capacity remains in the labour market but according to the Economist, Ms Yellen's mind is all but made up. Ms Yellen, may want to lift rates before the economy overheats, to avoid a steeper climb later. Markets will now look to the US Federal Reserve meetings on December 15 and 16 for confirmation. News that December's employment report showed that in November there were job gains at a healthy 211,000 plus job increases in October and September following revisions supported the assumption that the Fed are ready to act and the first great divergence in monetary policy since the financial crisis of 2008 could begin.

The euro suffered with the news that headline inflation stayed at 0.1% in November, far below the ECB's goal of nearly 2%. The core measure (excluding energy, food, alcohol and tobacco) fell to 0.9% from 1.1% in October. GDP growth has faded from 0.5% in the first quarter to 0.3% in the third. Following this, the markets expected that the ECB would certainly cut its already negative deposit rate from -0.2%, extend its programme of quantitative easing (creating money to purchase mainly public debt), which started in March, beyond next autumn to the following spring, and perhaps increase its bond-buying above €60 billion ($64 billion) a month. Despite these expectations, in early December the euro actually regained some lost ground after the ECB loosened monetary policy by less than expected. The ECB did indeed cut its already negative deposit rate from -0.2% to -0.3% but markets had priced in a bigger change. Mario Draghi, the bank's president, said it would continue its programme of buying bonds, originally intended to last until next September, until at least March 2017.

Market Outlook

Given the startling and consistent falls in Brent crude prices in recent months it is difficult to see a substantial recovery in the short term. Indeed, in early December Goldman Sachs said the price could fall to US$20. Amid the growing consensus that oil prices will remain low or fall further, IHS Energy issued a note of caution in a recent publication in which it stated that the world's spare oil production capacity, the cushion against oil demand and supply jolts, has declined to 2 million b/d or less, or just 2% of demand. Worryingly, almost all of this spare capacity is in Saudi Arabia and any production increases by the Kingdom will further erode this capacity unless Saudi Arabia also increases its output capacity. In the meantime, another Libya-sized supply interruption anywhere would effectively use up all spare capacity. Therefore, despite an oversupplied market amid an oil glut, the risk of price spikes has become greater as OPEC and Saudi spare capacity has dwindled to very little. US tight oil production's relatively quick response time to price signals could provide some reassurance and relief when extra supplies are needed, but the extent to which this can work effectively has not been adequately tested yet. Of course, the supply glut has resulted in a build-up of inventories worldwide beyond their historical norms.

IHS Energy point out that the last time Saudi Arabia and OPEC produced near maximum, or with nothing much in spare, was in 2005 after startlingly robust demand growth for oil in China. Prices soared after that to a peak of over US$140/bbl in 2008 but of course China and most Western economies were experiencing robust growth during this period. Then demand dropped sharply because of the financial crisis that year even as Saudi Arabia completed a crash programme to increase its capacity from 11 million b/d to 12.5 million b/d. Now the Kingdom has begun to dip into that spare capacity.

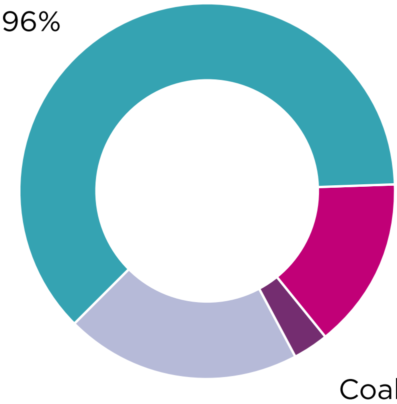
Interestingly, IHS Energy questions whether this signals the end of an era, just like in the early 1970s. Back then, the US ran out of spare capacity and the baton of oil power passed to OPEC who held spare reserves. Now, they are eroding that power given that OPEC is now unable or unwilling to hold spare capacity to prop up prices. To the extent that the resurgence of US oil production, particularly from tight oil, has made it something of an inadvertent swing supplier, pricing power in a much modified form has also migrated back to America. The question now is how, and also whether oil and financial markets and the United States in the role of swing producer can provide a stable foundation for the world of oil.

Bord Gáis Energy Index

November 2015

Re-weighting of Bord Gáis Energy Index

Following the SEAI's 2011 review of energy consumption in Ireland, there was a 6.4% drop in overall energy consumption. Oil continues to be the dominant energy source with most of the oil used in transport and the remainder being used for thermal energy. For the purposes of the Bord Gáis Energy Index, the total final energy consumption in Ireland fell 1,089 ktoe (toe: a tonne of oil equivalent is a unit of energy, roughly equivalent to the energy content of one tonne of crude oil) between 2009 and 2011. This fall was made up of a 1,022 ktoe drop in oil consumption (down 13.5%), a 20 ktoe drop in natural gas (down 12.6%), a 7 ktoe drop in electricity (down 0.3%) and a 40 ktoe drop in coal (down 10.98%). The Bord Gáis Energy Index has been re-weighted in January 2013 to reflect the latest consumption data. The impact has been minimal and has resulted in slight reductions in the share of oil and gas and a slight increase in the weighting of electricity in the overall Index.



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