

Market backdrop still bearish

Oil prices have recovered some lost ground since the plunge of August and September driven by optimism that the sovereign debt crisis can be contained. Although a financial meltdown will probably be avoided, the macroeconomic outlook remains challenging in the OECD and is deteriorating in the developing world. The upshot is likely to be weaker near- to medium-term oil demand growth than is expected by the bulls and a subdued trend in prices.

Supply/demand balance: The spectre of supply surplus

The global oil demand forecasts for 2011/12 made by quasi-governmental bodies such as the IEA, EIA and OPEC have been downgraded significantly over the past few months. We now believe that forecast growth by these three of around 1mmb/d for 2011 is plausible. For the full year non-OPEC supply and OPEC natural gas liquids should come close to matching demand growth. Significantly, in Q411 demand growth is expected to be nominal while supply from non-OPEC sources, Libya and Iraq gathers momentum and sets the scene for a swing to supply surplus. Surplus conditions could well persist in 2012, given the prospect of sluggish economic growth globally, significant non-OPEC capacity expansion and further sizeable output gains in Libya and Iraq.

Crude oil prices: Weak trend in prospect

Benchmark light crude prices plunged in the second half of September and early October for the fourth time since April 2011, taking them to six- to 12-month lows. Based on the assumption of a muddling-through approach to the sovereign debt crisis, a quasi-recessionary environment in the OECD world and a sharp business slowdown in the developing world, we look for the trend in benchmark light crude prices to remain weak over the next 12 months. Our forecasts for 2011/12 are similar to those given previously. If the sovereign debt crisis leads to banking system contagion then we are probably looking at oil prices dropping through \$50/barrel. In these circumstances, OPEC would probably be powerless to stop the decline.

Brent-WTI spread: Narrowing expected in 2012

Brent has continued to trade at a hefty premium to WTI. In September this averaged \$25.3/barrel and on 14 October hit a record \$28.7/barrel. Over the rest of Q4 we would expect a Brent premium consistent with recent levels, but during 2012 we believe a narrowing is in prospect. This largely reflects our view that supplies in the eastern Atlantic basin will improve as outages are reversed and Libya comes back on-stream. Upgraded rail logistics could also result in more Bakken oil being delivered to the Gulf coast.

26 October 2011

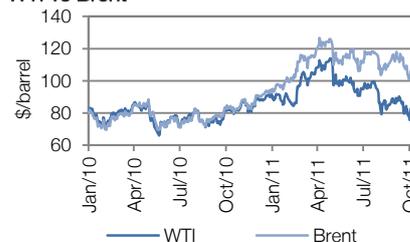
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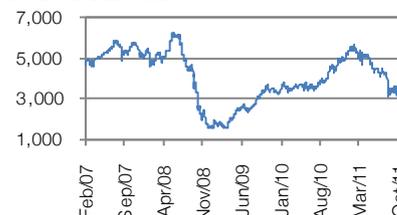
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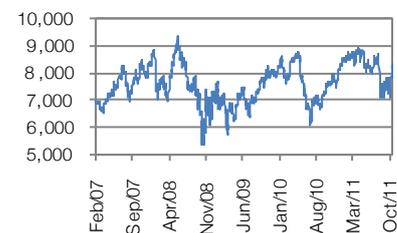
WTI vs Brent



AIM Oil & Gas Index



FTSE 350 Oil & Gas Index



Price trends

	WTI \$/barrel	Brent \$/barrel	Henry Hub \$/mmBtu
2007	72.2	72.7	6.96
2008	99.8	97.7	8.89
2009	62.0	62.0	3.94
2010	79.5	79.7	4.37
2011e	92.7	109.2	4.11
2012e	87.0	100.3	4.20

Note: Prices are yearly averages

Crude oil market dynamics

Price overview: Partial recovery from the September plunge

Benchmark light crude prices have trended flat to down over the past two months or so. After plunging in late July and early August prices rebounded through early September. The gain was about \$10/barrel. Heavy downward pressure, however, resumed in the second half of September and continued into early October. Prices broadly dropped \$15/barrel from early September levels, which left them between six- and 12-month lows, depending on grade. The September plunge was the fourth such event since the April 2011 peak in oil prices, with each trough lower than the one before. Sentiment firmed after 3 October, resulting in a recovery in benchmark prices of \$10/barrel or so by 20 October.

The key driver behind the September to early October price plunge was essentially the same as for the other three. It reflected the intensifying sovereign debt crisis in Europe and the growing fears of contagion via the banking system, not just in Europe but more widely. Clearly, another fully fledged banking crisis would have potentially disastrous implications for world economic activity and could severely depress petroleum demand.

Compounding market concerns are two other factors. First is the likely resumption of significant Libyan supplies in the coming months now the civil war is drawing to a close. Second is the continuing slew of statistical data that points to a broad-based business slowdown in both the OECD world and developing countries, including China. Evidence of waning business and consumer confidence and increasingly lacklustre economic activity has been especially pronounced in Europe of late. Against this backdrop it is not surprising that a growing band of forecasting agencies and commentators have been predicting recessionary conditions in the coming months both in Europe and the US, even in the absence of a major financial crisis. The underlying issue here is a growing deflationary bias in the world economy as countries, banks and consumers all attempt to deleverage their balance sheets simultaneously.

Not surprisingly, the decidedly unfavourable economic backdrop has resulted in significant downgrades to both economic and petroleum demand growth forecasts over the past two or three months. These have clearly weighed on market sentiment. Another important negative for oil prices during the two months to early October was the rapidly strengthening dollar. Contrary to the expectations of many at the beginning of 2011, the dollar has partially regained its safe-haven status. Between end-August and early October the dollar appreciated against the euro by about 8%. The dollar benefited from the intensifying European sovereign debt crisis and the perception that US economic activity, although considerably less than robust, was more buoyant than in Europe.

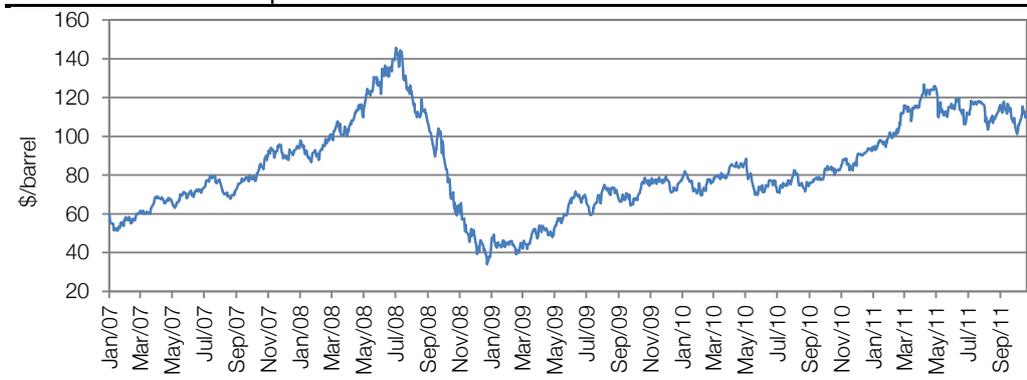
The rebound in oil prices after 3 October was driven by a combination of factors. The most important have been more buoyant than-expected US economic statistics and a burst of optimism following an apparent agreement between France and Germany on how to resolve the European sovereign debt crisis. Significantly, the Franco-German agreement led to a modest firming of the euro. Prices were given added support during early to mid-October by a rebound in stock markets,

sizeable draw downs in US crude oil inventories and an alleged plot by Iran to assassinate the Saudi ambassador to the US.

Recent trends in Brent and WTI: Brent continues to outperform WTI

Although coming under significant pressure from time to time in recent months, Brent, the key international light crude benchmark, has continued to outperform WTI. It has also remained at elevated levels historically. From a high of \$116.2/barrel on 7 September, Brent slid pretty consistently to \$104.3/barrel by the end of the month. For September as a whole, however, Brent averaged \$110.9/barrel, which was very close to the previous month's \$110.8/barrel. Heavy downward pressure persisted on Brent on 3 October with the price closing at \$101.1/barrel, a seven-and-a-half-month low and 20% below the 8 April 2011 high of \$126.7/barrel. Over the nine working days to 14 October, however, Brent recovered to \$115.5/barrel before dipping to \$110/barrel on the 20th, 33% above a year previously.

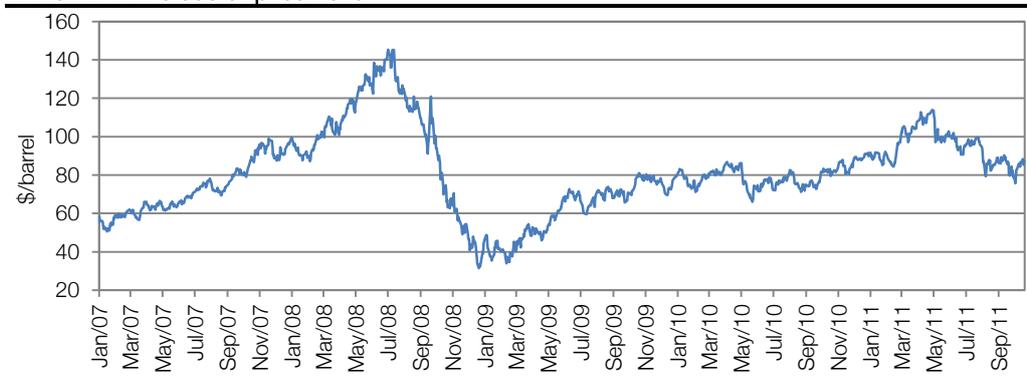
Exhibit 1: Brent crude oil price trend



Source: Bloomberg

WTI, the inland US benchmark, firmed in early September and hit a high on the 13th of \$90.2/barrel. The subsequent slide took it down to \$79.2/barrel by month end. During September WTI averaged \$85.6/barrel, down 1% on the prior month. The slide continued through the first two working days of October, resulting in WTI plumbing a 12-month low on the 4th of \$75.7/barrel. Compared with the 29 April 2011 high, this represented a decline of a hefty 34%. Between 5 and 18 October WTI rebounded to \$88.3/barrel before slipping back over the following two days to about \$85/barrel. This was up 4% on a year earlier.

Exhibit 2: WTI crude oil price trend



Source: Bloomberg

Exhibit 3: WTI 2007-11 quarterly prices \$/barrel

	Q1	Q2	Q3	Q4	Average
2007	58.1	65.0	75.2	90.5	72.2
2008	97.9	123.8	118.2	59.1	99.9
2009	43.2	59.7	68.1	76.0	62.0
2010	78.8	77.9	76.1	85.2	79.5
2011	93.9	102.3	89.5	85.0e	92.7e

Source: Bloomberg and Edison Investment Research

Exhibit 4: Brent 2007-2011 quarterly prices \$/barrel

	Q1	Q2	Q3	Q4	Average
2007	58.1	68.7	74.9	88.9	72.7
2008	96.5	122.2	115.9	56.2	97.7
2009	45.1	59.4	68.4	75.0	62.0
2010	76.8	78.6	76.4	86.9	79.7
2011	104.9	116.8	109.1	106.0e	109.2e

Source: Bloomberg and Edison Investment Research

Light crude spreads

WTI-Brent: WTI discount hits a record in mid-October

WTI has continued to trade at unprecedentedly wide discounts to Brent. After averaging \$24.5/barrel in August the discount broadened to \$25.3/barrel on average in September. The high-water mark for the month on a closing-day basis was \$27.6/barrel on 6 September. By the end of the month the WTI discount had slipped to \$25.1/barrel. For the third quarter of 2011 the discount averaged \$19.6/barrel, which compared with \$11.0 and \$14.5/barrel in the first and second quarters of 2011 respectively. It is perhaps worth noting that WTI and Brent were trading at approximate parity on average in 2009 and 2010.

In early October the WTI discount narrowed slightly compared with the highs of September and averaged \$23.8/barrel through the first eight working days of the month. The spread widened markedly on 13 and 14 October, hitting a record \$28.7/barrel on the 14th. There has since been a modest narrowing to about \$25/barrel.

Tight supplies of light crudes in the eastern Atlantic basin

The widening tendency in the WTI discount in August and September was driven principally by very tight supplies of Brent and more generally of light crude on the eastern side of the Atlantic basin. Tightness stemmed from ongoing outages in the North Sea, the loss of Libyan exports and both scheduled and unscheduled outages in the Caspian region. Demand has also remained firm for light crude grades in the Far East but without the loss of production, particularly in the North Sea and Libya, the Brent premium would probably have been significantly narrower in recent months than has been the case.

As far as the North Sea is concerned, the recent key constraining influences on supplies have been scheduled and unscheduled maintenance activity at the Buzzard field facilities and an outage on the Forties pipeline. Buzzard is the largest field in the UK sector of the North Sea and is capable of producing 200,000b/d. Significantly, North Sea outages have resulted in UK production running at below 1mmb/d in recent months. Indeed, production in August is believed to have been the lowest since the 1970s. Maintenance work had been expected to be completed at Buzzard by end-August but the indications are this may be taking longer than anticipated. Norwegian output has also been hit of late by unscheduled maintenance, although not to the same extent as in the UK. Despite the lingering issues concerning maintenance activity at Buzzard in the UK and Grane in Norway, North Sea production should firm noticeably in the fourth quarter of 2011 from the depressed levels of the third quarter. A very interesting development in the Norwegian sector of the North Sea has been the discovery by Lundin/Statoil of the giant Avaldnes-Aldous field. Recent appraisal work suggests recoverable reserves of 1.7bn to 3.3bn boe (with scope for upside), one of the largest discoveries ever made in the Norwegian sector of the North Sea.

Buoyant US inland supplies

The supply situation in the inland US and more generally North America remains very buoyant, which has tended to depress WTI given the lacklustre demand backdrop. US production continues to be buoyed by rising output from the shale plays of the Mid-Continent and Texas. Importantly, North Dakota's output, which is largely derived from Bakken/Three Forks shale formations, hit a record 425,000b/d in July (up 100,000 b/d on a year earlier) while in Texas production from the Eagle Ford shale play is racing ahead. According to the energy consultants Bentek, Eagle Ford production was running at 272,000b/d in June, against only 70,000b/d in April and considerably less in 2010. Significantly, Eagle Ford output is beginning to displace light crude imports from the Middle East and the Atlantic basin.

Cushing-GC pipeline projects

Earlier in 2011 there was a build-up in inventories to record levels at the Cushing, Oklahoma, tank farm (the world's largest) and the NYMEX WTI pricing point. The inventory build-up has subsequently partially reversed but rapidly rising production in the US Mid-Continent together with the prospect of increasing supplies from Canada has attracted new pipeline projects connecting Cushing with the refining centres of the Gulf Coast. Theoretically, such pipelines could alleviate the supply build-up at Cushing and hence the downward pressure on the WTI quote. The highest profile of the pipeline projects is TransCanada's Keystone XL. Given that this also comprises a new link between Alberta and Cushing and therefore crosses an international border, it requires US state department approval. Thanks to a House of Representatives ruling, the president is committed to making a decision on the future of Keystone XL by 1 November.

As we have noted before, based on the undoubted security of supply and economic benefits, Keystone should unquestionably be given the go ahead. There are, however, strong objections from various environmental groups and some landowner interests. Among the alternative pipeline projects from Cushing to the Gulf Coast, the most promising is the Enbridge/Enterprise 800,000b/d Wrangler Pipeline. Because this does not cross an international border state department approval is not required. It should also be noted that Enbridge has an existing link into

Cushing from Alberta via its Lakeland and Spearhead pipelines. The route is, however, more circuitous than that for Keystone XL. Both the Wrangler and Keystone pipelines could be on-stream by end-2013.

Upgraded rail logistics

In addition to pipeline projects, rail logistics are being radically upgraded in the Bakken zone. Essentially this involves installing loading/storage facilities and the associated rail infrastructure that will enable oil to be shipped directly to the higher-priced markets on the Gulf and Pacific coasts. Bakken rail shipment capacity is expected to increase from less than 100,000b/d at the beginning of 2011 to 300,000b/d by end-year and to 700,000b/d and 800,000b/d by end-2012 and 2013 respectively. EOG Resources, the pioneer in rail shipments from the Bakken, will have a new 100,000 b/d offloading facility available in the first quarter of 2012 at St James, Louisiana, the pricing point for LLS crude. The aim is to ship oil to the new hub from each of its plays in the Bakken, Eagle Ford, Permian and Barnett Combo zones. It should be remembered, however, that shipping oil by rail over roughly 2,000 miles from north-western North Dakota to the Gulf coast will be a lengthy and costly process. We would expect a shipping time of about a week and a cost of at least \$10/barrel.

Which way for the WTI-Brent spread?

We believe that WTI will continue to trade at a historically wide discount to Brent during the fourth quarter of 2011 and maybe in early 2012. In the absence, however, of a dramatic development such as a sharp reduction in supplies from a major Middle Eastern producer or a descent into recession in the US, we believe a significant widening from recent peak levels to say \$40 to \$50/barrel, as has been suggested in some quarters, is unlikely in the coming months. This primarily reflects our view that the availability of light crude in the eastern Atlantic basin and the Mediterranean will improve as outages are reversed and Libyan exports are resumed. We also think that Far Eastern demand growth could slacken in the months ahead and that upgraded Bakken rail logistics may result in more oil avoiding Cushing and finding its way to higher priced markets. All told, we would look for WTI to trade at a discount to Brent of about \$21/barrel on average over the fourth quarter of 2011. This would imply \$16.5/barrel for the full year, which is little changed from our previous forecast of \$16.4/barrel.

For 2012 we would look for the WTI discount to narrow to less than \$15/barrel, assuming that this year's proliferation of outages in the North Sea and elsewhere are non-recurring and that Libyan exports rapidly gather momentum. Supplies of light crude in the US Mid-Continent and Texas are, of course, likely to continue growing rapidly in 2012, which suggests that WTI cannot be expected to rapidly return to parity with Brent. Indeed, the risks for the WTI discount maybe to the upside given that the production infrastructure in the North Sea is inevitably more fragile than that in the inland US and there is the wild card of unplanned outages always lurking in the background.

We believe the WTI discount will narrow in the medium to long term, assuming that new pipeline connections are added between Cushing and the Gulf Coast. Such, however, is the potential scale of the supply build-up from shale resources and the Alberta oil sands over the next few years that a significant WTI discount will probably remain even after the installation of new pipelines and

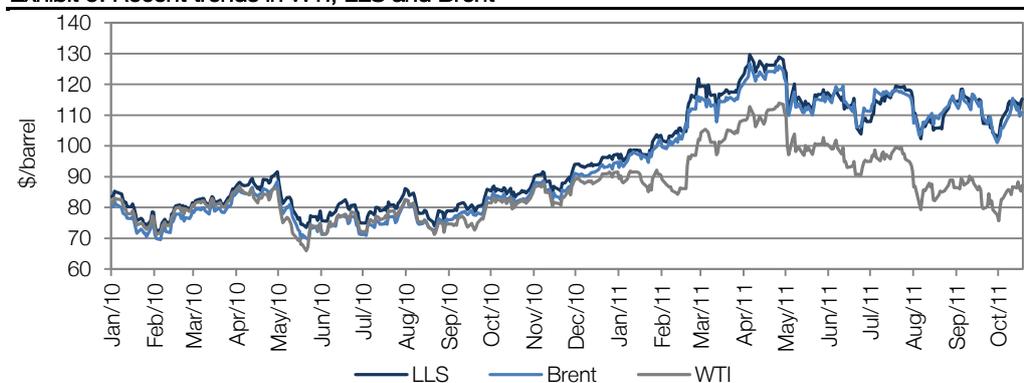
upgraded rail facilities. We believe the longer-term discount will be at least \$5/barrel and could quite possibly be \$10/barrel or more.

LLS-WTI: Continuing hefty LLS premium

Light Louisiana Sweet (LLS) is a Gulf of Mexico sourced light crude with a specification similar to WTI and Brent. It competes with waterborne imported grades at Gulf Coast refineries and has traditionally traded at a dollar or so premium to WTI and perhaps \$2-3/barrel to Brent. This year LLS has tracked Brent rather than WTI, so a very wide premium has opened up to WTI. In September the LLS premium averaged \$27.2/barrel, well up on the \$23.0/barrel of August. Since end September the LLS premium has continued to widen and towards end October was \$28.0/barrel. Gulf refineries using LLS feedstock are therefore at a major competitive disadvantage to inland refineries using WTI. Clearly, the emergence of a large new source of low-cost light feedstock, in the form of the Eagle Ford fields, close to the Gulf Coast, is highly opportune, particularly for unsophisticated coastal refineries.

Unusually, LLS traded at a significant discount to Brent on numerous occasions during the third quarter of 2011. The discount averaged \$0.7/barrel in July and \$1.5/barrel in August but in September reversed to a more normal premium of \$1.9/barrel. The July and August discounts reflected in part tight fundamentals for Brent and in part the backwash of the release of sweet crude from the US strategic reserve. At the end of September LLS was trading at approximate parity with Brent but subsequently a premium of about \$4/barrel has emerged. This possibly points to buoyant feedstock demand by unsophisticated Gulf Coast refineries as well as an easing of Brent supply tightness.

Exhibit 5: Recent trends in WTI, LLS and Brent



Source: Bloomberg

Other key international light benchmarks: Wide Dubai discount to Brent

The sweet-sour spreads for international benchmark grades widened significantly in the early months of 2011 driven in particular by tight Brent supplies and the stopping of Libyan exports. The key Brent-Dubai (Dubai is a Gulf-sourced light but relatively sour crude popular with Far Eastern refineries) spread hit \$9.1/barrel in early June. Historically a more typical Brent premium to Dubai has been \$2-\$3/barrel. During the third quarter the spread narrowed but remained high from a historical perspective averaging \$6.5, \$5.4 and \$4.9/barrel in July, August and September respectively. The narrowing spread we believe was driven by a combination of the IEA's decision in June to release sweet crude from the strategic reserve and rising supplies in the eastern Atlantic basin as production increased in Angola and Nigeria. The evidence in early October pointed to a

widening of the Brent-Dubai spread to about \$7/barrel, but towards the end of the month this had returned to around \$5/barrel.

The spread between the ultra-premium specification, Malaysian-sourced Tapis and Dubai grade crude has shown a similar development to Brent-Dubai in October. After averaging \$14.0/barrel in September the Tapis premium hit \$17.0/barrel in early October but has since eased back to about \$13/barrel. Historically Tapis has traded at a premium of \$6-7/barrel to Dubai Fateh. The widening Tapis premium early in October reflected continuing buoyant demand for premium grade feedstock in the Far East and the ready availability of Gulf light crude grades.

The Brent discount to Bonny Light, the Nigerian ultra-low sulphur grade, widened markedly between August and September from \$2.1/barrel to \$3.7/barrel, possibly driven by renewed production disruptions in Nigeria. Through the first half of October, however, the Brent discount narrowed to around a fairly normal \$2.5/barrel and towards the end of the month was around \$3/barrel. We would expect the Brent-Bonny spread to remain within the normal historical range of roughly \$1.5 to \$2.5/barrel in the coming months given the underlying improvement in production capability in Nigeria, and the anticipated greater availability of high grade refinery feedstock on the eastern side of the Atlantic basin.

Exhibit 6: Recent benchmark light crude prices

All prices are average for the period shown other than where indicated.

\$/barrel	2010				2011							
	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct-21
WTI	84.2	89.2	84.4	89.5	102.9	110.0	101.3	96.3	97.3	86.3	85.6	87.2
Brent	85.7	91.8	96.3	104.0	114.4	123.4	114.5	113.8	116.5	110.8	110.9	111.3
Dubai	83.7	89.1	92.4	100.3	108.6	115.7	108.5	107.5	110.0	105.1	106.0	106.5
Bonny	87.5	93.4	98.5	105.9	117.8	126.2	117.1	116.0	118.6	112.9	114.6	113.2
Tapis	91.6	95.2	101.2	107.7	118.7	129.2	121.9	122.3	124.2	118.6	120.0	119.4
LLS	88.2	94.4	97.9	106.3	117.6	126.0	116.5	113.2	115.8	109.3	112.8	115.2
Spreads												
WTI-Brent	-1.5	-2.6	-6.9	-14.5	-11.5	-13.4	-13.2	-17.5	-19.2	-24.5	-25.3	-24.1
Brent-Dubai	2.0	2.7	3.9	3.7	5.8	7.7	6.0	6.3	6.5	5.4	4.9	4.8
Brent-Bonny	-1.8	-1.6	-2.2	-1.9	-3.4	-2.8	-2.6	-2.2	-2.1	-2.1	-3.7	-1.9
Tapis-Dubai	7.9	6.1	8.8	7.4	10.1	13.5	13.4	14.8	14.2	13.5	14.0	12.9
LLS-WTI	4.0	5.2	13.5	16.8	14.7	16.0	15.2	16.9	18.5	23.0	27.2	28.0
LLS-Brent	2.5	2.6	1.6	2.3	3.2	2.6	2.0	-0.6	-0.7	-1.5	1.9	3.9

Source: Bloomberg

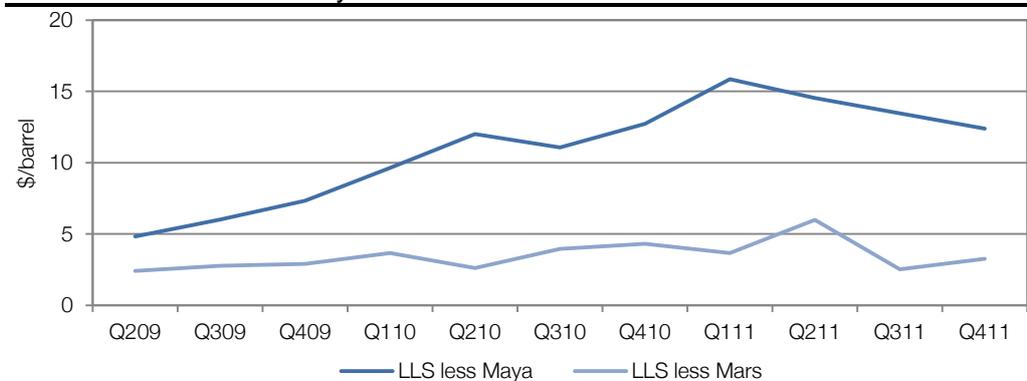
US heavy crude spreads: Narrower than normal heavy discounts

US heavy crude discounts, based on waterborne sourced supplies, widened significantly in early 2011 to historically high levels reflecting tightening supplies of light grades in the Atlantic basin. Since the second quarter heavy discounts have narrowed noticeably. Taking Mars, a medium sour grade sourced from the Gulf of Mexico, the discount to LLS declined from an average of \$6.8/barrel in May to \$1.6/barrel in August. Similarly, the discount of Maya, a Mexican heavy sour grade, to LLS fell from a high of \$17.3/barrel in April to a little over \$12/barrel in June and remained at about this level through July and August. Since August the Mars discount has widened somewhat and in early October was \$3/barrel. The Maya discount, by contrast, has continued to trend down and in early October was \$11.6/barrel. Both the Mars and Maya discounts to LLS are currently below the longer-term averages of \$6/barrel and \$13/barrel respectively.

Narrowing heavy discounts in recent months, we believe, have been driven principally by the decision in June to release high-grade crude from the Strategic Petroleum Reserve. The growing

availability on the Gulf Coast of low-cost light crude from the Eagle Ford fields may also be depressing demand for light waterborne grades. WTI, after all, is selling at a discount of \$25/barrel or more to the much lower-quality Mars.

Exhibit 7: US medium and heavy discounts

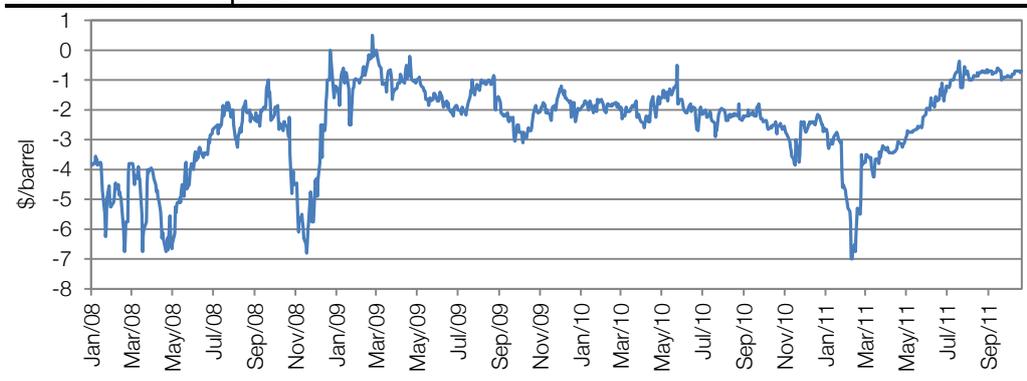


Source: Valero Energy

WTS-WTI discount: Wafer-thin WTS discount

WTS (West Texas Sour) is a US inland medium sour grade with a specification similar to Mars and a delivery point of Midland, West Texas. After surging early in 2011 to about \$7/barrel the WTS discount to WTI has subsequently narrowed sharply. In early September the discount fell to a mere \$0.7/barrel and in early October was running at \$0.9/barrel. The longer-term average for the WTS discount is \$3.5 to \$4.0/barrel. From a specification perspective, the WTS discount would appear unduly narrow currently. The wafer-thin discount is another manifestation of the build-up of supplies of high grade crude in the Mid-Continent.

Exhibit 8: WTS-WTI spread



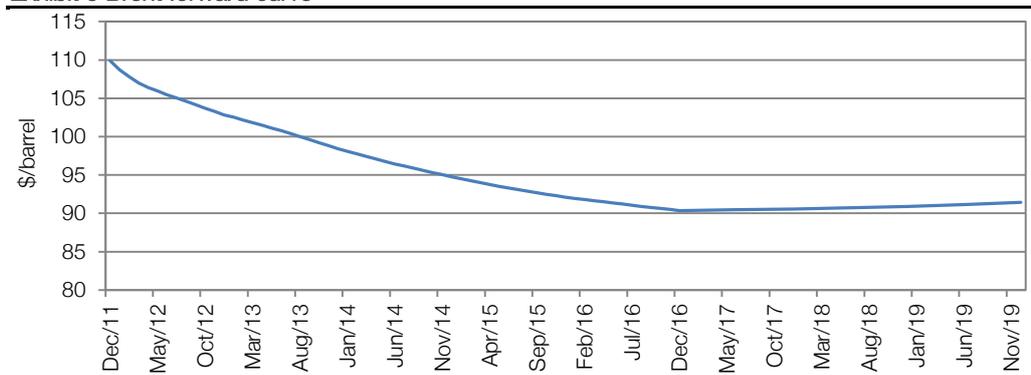
Source: Bloomberg

Forward curves: Brent in steep backwardation

The Brent forward curve is in steep backwardation for all dates through December 2016 reflecting tight near-term supplies. Compared with our previous report in August the curve has steepened considerably. From a spot price of around \$111/barrel on 21 October the curve declines to \$103/barrel by end 2012 and \$90/barrel by end 2016. The curve then moves into very slight contango over the next three years rising to \$91.4/barrel in December 2019. As the light crude supply situation improves in the eastern Atlantic basin, following planned and unplanned maintenance programmes in the North Sea and as Libyan exports gather pace, we would expect to see the Brent forward curve flattening considerably in the coming months.

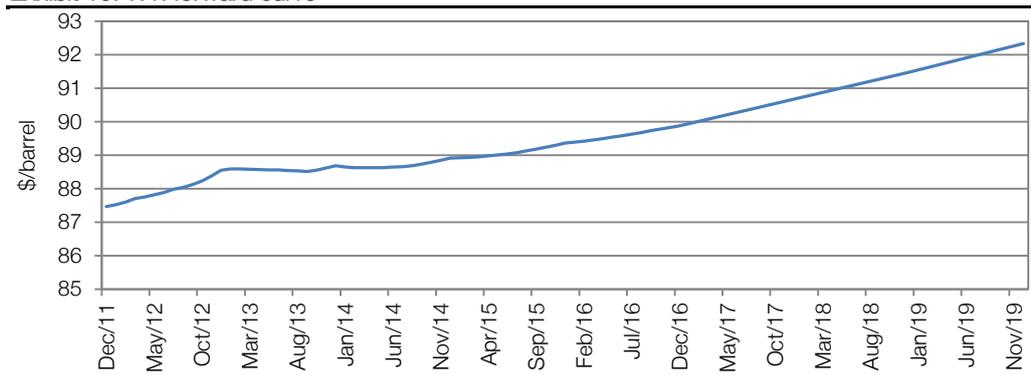
The WTI forward curve is the diametrical opposite to that of Brent. For almost all dates through 2019 it is in steep contango, indicating uncertainties about supply in the out years and the potential for tightening markets. The WTI curve rises from a spot price of around \$87 to \$89/barrel by end-2012 and \$92.5/barrel by end-2019. The WTI and Brent curves cross in 2017. Since mid-August the WTI contango has widened considerably after 2016 reflecting growing perceptions of supply uncertainties.

Exhibit 9 Brent forward curve



Source: Bloomberg

Exhibit 10: WTI forward curve



Source: Bloomberg

Supply/demand balance

Recent developments: Demand growth slowing

The world oil supply/demand balance has tended to be tighter in recent months than might have been expected based on the slowdown in economic growth. The explanation to this apparent paradox centres largely on a spate of production outages due to strikes, civil strife and technical issues in the non-OPEC world plus, of course, the stopping of Libyan exports. Compared with the heady pace of over 3% in 2010, world demand growth has clearly decelerated in 2011. According to the IEA, world oil demand grew year-on-year by about 2.5% (2.2mmb/d) in the first quarter, 0.7% (0.7mmb/d) in the second quarter and an estimated 0.9% (0.8mmb/d) in the third quarter.

The IEA anticipates that growth in the fourth quarter of 2011 will be less than 1%. For 2011 as a whole, the IEA is now looking for growth of 1mmb/d, or 1.2%, which would imply demand of 89.3mmb/d. Broadly speaking, growth reflects a gain of 1.4mmb/d in the non-OECD world partly offset by a decline of 0.4mmb/d in the OECD. OPEC has a slightly more bearish world demand growth forecast of 0.9mmb/d while the EIA is more bullish on 1.3mmb/d. All three have significantly

reduced their demand forecasts for both 2011 and 2012 in recent months. In the case of the IEA the scaling back for 2011 has been about 260,000b/d over the past two months reflecting a downgrading of economic growth assumptions.

After the weak performance of the first quarter and early part of the second, global oil production has gathered momentum over the past few months. Based on IEA data, supply rose between July and August by 1.0mmb/d to 89.1mmb/d, with non-OPEC sources providing the bulk of the gain. Behind the gain was the completion of maintenance work, particularly in Alaska and Kazakhstan and new capacity additions in Brazil and Colombia. Compared with a year earlier, production was up by 1.2mmb/d with roughly 0.4mmb/d accounted for by OPEC crude, 0.3mmb/d by non-OPEC sources and 0.5mmb/d by OPEC natural gas liquids (NGLs), which are not subject to quotas. The IEA's initial indications for September suggest a drop in global supply from August of about 0.3mmb/d due to non-OPEC outages, stemming in part from storms in the Gulf of Mexico.

OPEC production appears to have been broadly flat over the past three months at just over 30mmb/d. Despite trending flat, it should be noted that recent OPEC production levels are the highest since 2008. In September production slipped in Saudi Arabia and Nigeria but this was more or less offset by gains elsewhere. Interestingly, there have been reports that Iraqi output in September was running at a post-Saddam record of 2.9mmb/d (2010 2.4mmb/d) following completion of development work on three giant southern fields. The Iraqi Oil Ministry is aiming to hit 3mmb/d by end 2011 and to raise production by a further 0.5-1mmb/d during 2012. This depends on completing planned upgrades to the southern field storage capacity, pipelines and export loading facilities.

Production constraints earlier in 2011 have resulted in a modest supply deficit and a draw on OECD inventories this year. At the end of July total commercial inventories of petroleum products stood at 2,687m barrels, which was 82m or 3% below a year earlier and slightly under the five-year average. Significantly, however, OECD inventories remain well within the historical range for the time of year, while the forward demand cover of 58.4 days still looks pretty comfortable.

Outlook: Modest deficit in 2011, spectre of surplus in 2012

Following the downgrades of recent months, we now believe the global oil demand growth forecasts for 2011 made by the IEA, EIA and OPEC are plausible at around 1mmb/d, in the absence of any extreme developments in the world economy. Based on current trends, a combination of non-OPEC supply plus OPEC natural gas liquids (NGLs) should come fairly close to matching the forecast increase in global oil demand in 2011. Out of the three key bodies mentioned above, OPEC is forecasting the smallest supply deficit, before allowing for changes in OPEC crude production, at 0.12mmb/d. By comparison, the IEA is looking for a slightly larger deficit of 0.20mmb/d, while the EIA is the most pessimistic of the three with a deficit of 0.38mmb/d.

Significantly, non-OPEC production should regain momentum in the fourth quarter of 2011 after completing maintenance programmes in various parts of the world, plus new capacity coming on-stream in Brazil, Canada and the US. OPEC production could also increase significantly during the period as Libya comes back on-stream and Iraq pursues its objective of producing 3mmb/d by end year. This would set the scene for a swing to supply surplus bearing in mind rapidly slowing

demand growth. The IEA has indicated that Libyan production was about 0.35mmb/d in early October and expects about 0.6mmb/d by 2011 year end. Not all of this, however, will be available for export given domestic demand of perhaps 0.2mmb/d. Overall, it would appear that Libyan production is coming back on-stream quicker than many expected a few months ago.

Despite revisions over the past few months, we believe that consensus global oil demand forecasts for 2012 remain unduly bullish. The IEA is forecasting a gain of 1.30mmb/d while OPEC and the EIA are looking for growth of 1.23mmb/d and 1.30mmb/d respectively. Note all three forecast are significantly higher than in 2011. Given the decidedly unfavourable world economic backdrop, we fail to see that economic conditions are likely to be robust enough to propel oil demand at a higher rate in 2012 than in the previous year. Furthermore, there are structural factors in the western world tending to reduce oil demand per unit of output. Key among these is the improving fuel efficiency of the new vehicle fleet. Overall we would argue that global oil demand in 2012 is unlikely to increase by more than 1mmb/d or about 1%, assuming world economic growth of perhaps 3.5% and a muddling through scenario in terms of the sovereign debt crisis in Europe. In the event of the sovereign debt crisis triggering a broader banking debacle a significant decline in world oil demand of 2mmb/d or more should be expected in 2012.

We would argue that even if the European sovereign debt crisis is resolved and a banking debacle prevented, the world economy is not out of the woods. This reflects the fact that balance sheet deleveraging in terms of the public, personal and banking sectors is likely to be a feature of the OECD world for the foreseeable future. Inevitably economic growth and hence oil demand will be impacted not only in the OECD but also in the developing world. A looming risk for oil demand in 2012/13 is the possibility of a pronounced slowdown in the Chinese economy stemming from an unravelling of the great investment boom of recent years. The triggers could be the emergence of considerable surplus capacity in the industrial and real estate sectors, indebted local government and bank lending constraints. Specifically in the case of China, it should also be mentioned that the government is very keen on promoting fuel efficiency and the substitution of CNG (compressed natural gas) for diesel and gasoline in vehicle applications.

Currently, 2012 is expected to be a reasonably buoyant year for non-OPEC petroleum industry capacity expansion. New projects are scheduled to come on-stream that according to the IEA and OPEC could boost oil production by about 0.9mmb/d. This, together with another 0.4mmb/d or so for OPEC NGLs, would be more than enough to cover any conceivable growth in demand in 2012. Bearing in mind that Libyan production could be heading towards 1mmb/d and Iraq might be able to boost output by perhaps 0.5mmb/d, the spectre of a supply surplus indeed looms. In all likelihood, however, increasing output in Libya and Iraq would partially offset by Saudi cutbacks and doubtless 2012 will not be without its share of outages.

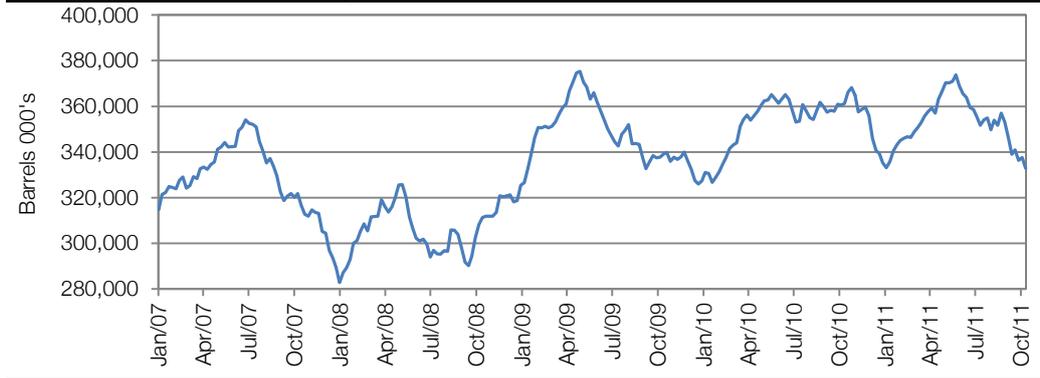
US inventories

Crude oil: Very comfortable

US crude oil inventories are at very comfortable levels both absolutely and relative to supply despite the declining trend in recent months. According to EIA data, inventories in the week ending 7 October were 337.6m barrels. This was up 1.3m barrels on the previous week but down 22.9m barrels or 6% on a year earlier and 36.2m barrels on the May high. Inventories in the most recent

period were, however, close to the top end of the range for the time of year. In viewing the declining trend in recent months, it needs to be remembered that in early 2011 crude oil inventories had been built up to historically very high levels. The subsequent modest decline is therefore not disconcerting. Supply crude oil inventories for the week ending 7 October were equivalent to 22.5 days. This was slightly up on the previous week's 22.2 days but down on the 25 days of a year earlier. However, the days' supply in the latest period was in line with the 22 to 23 days average for the period since 2000.

Exhibit 11: US crude oil inventory

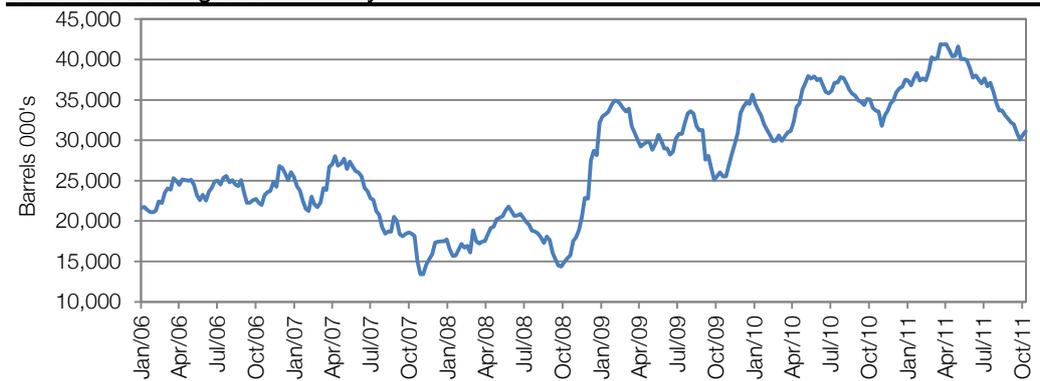


Source: Bloomberg

Cushing: Continuing to trend down in recent weeks

Inventories at the Cushing tank farm, the world's largest, have continued to trend down in recent weeks. In the week ending 7 October, Cushing's inventories stood at 30.6m barrels, up 0.30m barrels on the previous week but down 11.3m barrels on the 25 March 2011 record and 4.5m barrels on a year earlier. The declining trend in inventories is largely seasonal but may have been given added impetus by action to ship oil to the more-lucrative markets of the Gulf Coast by barge and rail. Although there is some anecdotal evidence to support this, the actual amounts involved have probably been small given the logistical difficulties and costs involved.

Exhibit 12: Cushing crude inventory



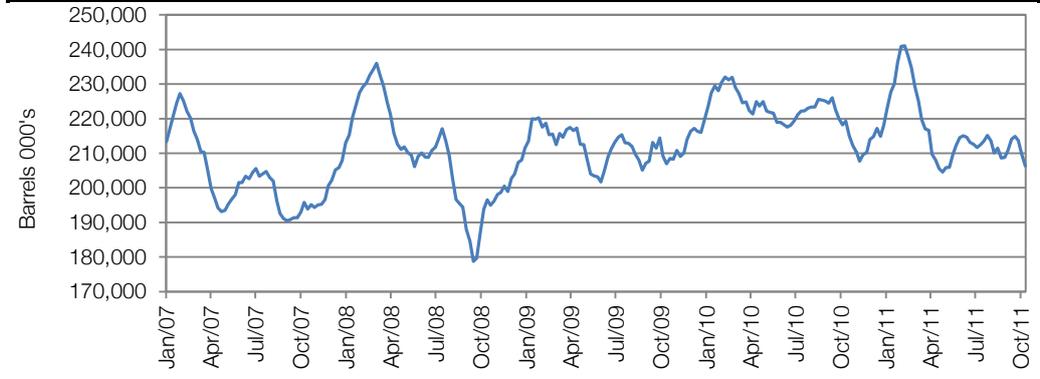
Source: Bloomberg

Gasoline: Comfortable levels

US gasoline inventories have trended broadly flat over the past two months and remain at comfortable levels. For the week ending 7 October inventories, based on EIA data, were 209.6m barrels, down 4.1 m barrels on the prior week and 8.6m barrels on a year earlier. Significantly, gasoline inventories were at the upper end of the range for the time of year. In terms of days'

supply, inventories were the equivalent of 23.4 days. Although slightly down from the 24.2 days of a year ago, the days supply is well within the range since 2000 of 20 to 28 days.

Exhibit 13: US gasoline inventory

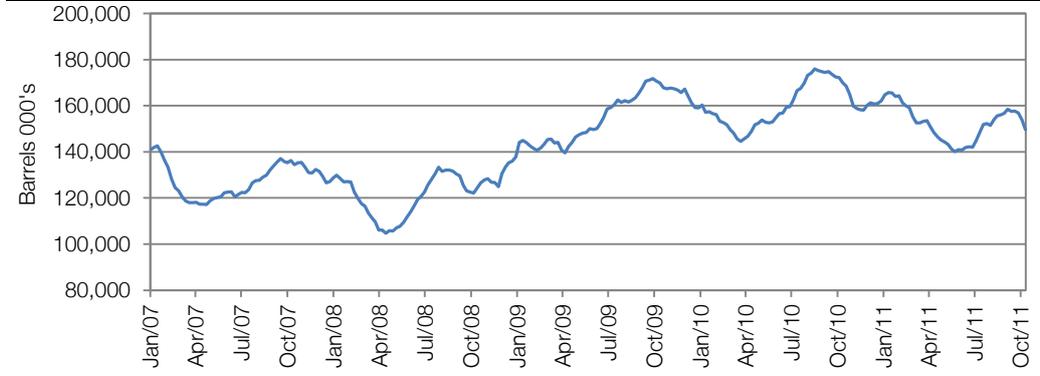


Source: Bloomberg

Distillates: Little change over past two months

US distillate inventories in recent weeks have edged down from the recent highs of late August and early September but overall there has been little change over the past two months. For the week ending 7 October inventories came in at 154.0m barrels, down 18.2m barrels, or 11%, from a year earlier. They were towards the middle of the historical range for the time year. Distillate inventories currently equivalent to 38.8 days are seven days down from a year before but remain slightly above the longer-term average of 35 days.

Exhibit 14: US distillates



Source: Bloomberg

All product commercial inventories: Trending largely flat since late 2010

In assessing the adequacy of petroleum inventories, the acid test is ultimately the level and trend for all products including both crude and refined products. US inventories on this basis have been trending largely flat at a historically high level since late 2010. Total commercial inventories on 7 October 2011 stood at 1.073bn barrels, which was about 6% below the near-record levels of late 2011. Meanwhile refinery utilisation in early October was running at a seasonally normal rate of 84%. It should be noted that this is a shoulder period for US refineries as the production mix is re-oriented from gasoline to distillates.

Refinery crack spreads: Continuing historically high US inland spreads

US refinery crack spreads based on inland feedstock have remained at historically very high levels in recent weeks. Based on Bloomberg data, the Gulf Coast/WTI 321 crack spread (the margin before refining costs on converting three barrels of WTI into two barrels of gasoline and one of diesel) reached a recent high on 25 August 2011 of \$36.5/barrel. The spread narrowed to about \$26/barrel in mid-September but by 17 October had widened again to \$31.4/barrel. A year ago the Gulf/WTI 321 spread was running at about \$7/barrel. Reflecting higher wholesale prices for gasoline and distillates, the Mid-Continent/321 crack spread is currently running \$3.8/barrel above that for Gulf Coast refineries.

Recent Gulf/WTI 321 crack spreads have been in line with the refined product boom induced spikes of Q207 and Q308 and have only been exceeded in more than 15 years in the unusual circumstances after Hurricane Katrina in September 2005. Significantly, this time around historically high inland crack spreads are being maintained over an extended period, which is leading to a transformation in the profitability of inland refinery groups such as CVR Energy, Holly Frontier and Western Refining. In the year to mid-October 2011, the Gulf/WTI crack spread, based on Bloomberg data, has averaged \$24.1/barrel against \$7.3/barrel in 2010. Crack spreads for inland US refineries continue to be buoyed by the sharp reduction in feedstock costs since April 2011 and the lagged response of refined product prices. Since end-April, for example, WTI has fallen by 24% while Gulf Coast gasoline and diesel prices are off by a considerably more modest 19% and 7% respectively.

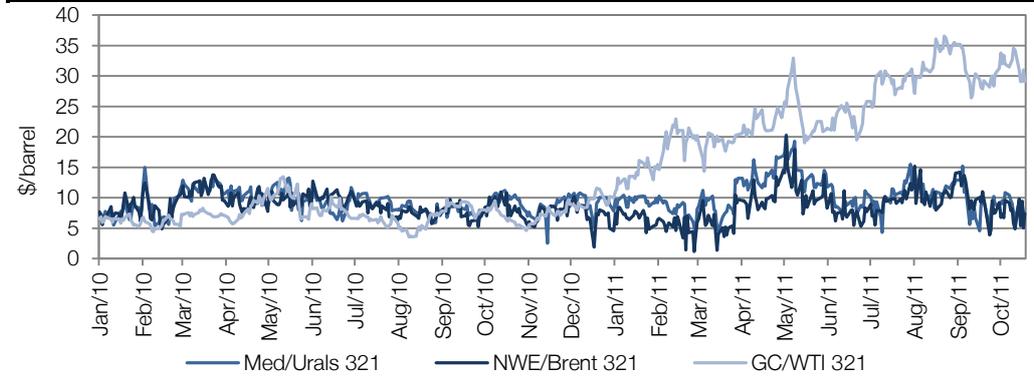
The key question now is how long refinery crack spreads using inland feedstock can be maintained at current historically high levels. It might have been thought that with such lucrative spreads available, that Midwest refineries would have stepped up production. There is, however, no evidence that this has occurred to any great extent reflecting in part that Midwest refineries are already operating at high levels of utilisation. According to EIA data, Midwest refineries operated at a utilisation rate of 92% on average during August, September and early October. This is not far off full capacity working after allowing for planned and unplanned outages. As long as inland feedstock costs remain at wide discounts to waterborne crudes along the Gulf Coast, crack spreads look like remaining historically high at Midwest refineries in the absence of a recession.

Crack spreads remain considerably lower in Europe than the US. The NWE/Brent 321 spread showed signs of firming in August and early September reaching highs of \$14 to \$15/barrel over the period against lows of about \$5.5/barrel in June and July. During the second half of September, however, the NWE/Brent spread narrowed and ended the month at \$7.5/barrel. As Brent rebounded in price in the first half of October, the spread narrowed further and on the 14th was \$5/barrel. A relapse in the price of Brent on the 17th resulted in the NWE/Brent spread widening to about \$9/barrel. The Mediterranean/Urals 321 spread has developed in a similar fashion to that of NWE/Brent of late. Through the first 11 working days of October it averaged \$7.7/barrel against \$9.1/barrel for NWE/Brent 321.

Reflecting low margins, several European refiners such as ENI, Hellenic Petroleum and Ineos are reported to have cut or halted production in recent weeks. This has apparently resulted in a rapidly

tightening market for distillates in the region and could support refining spreads in the weeks ahead. As always at this time of year, much will depend on weather conditions.

Exhibit 15: Recent trends in crack spreads

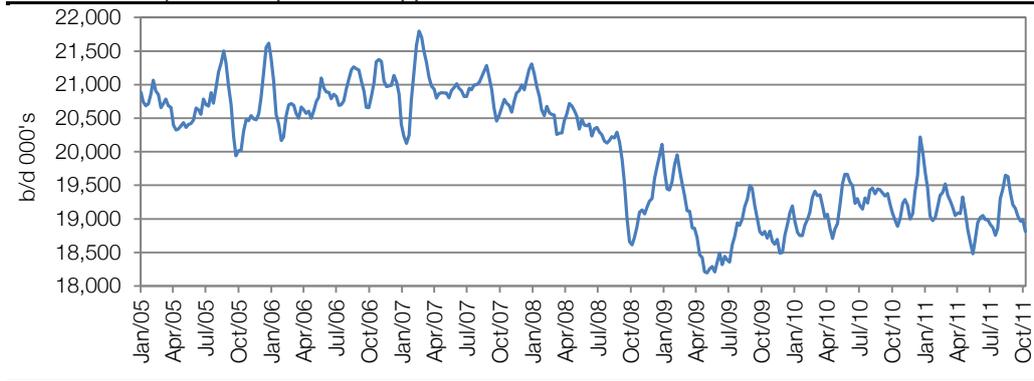


Source: Bloomberg

US refined product demand: Demand remains soft

US petroleum product demand has remained lacklustre in recent weeks. Based on EIA data for products supplied (a proxy for demand) during the four weeks ending 7 October, demand overall was down on a year earlier by 0.5% to 18.99mmb/d. Compared with the four weeks to 30 September supply was up by a marginal 20,000b/d. Gasoline, the largest product group, showed a year-on-year decline in the latest four-week period of 0.7% to 8.95mmb/d. Kerosene and propane were also down 1.9% and 3.0% respectively but distillates recorded a gain of 5.6% and residual fuel oil was up 16.9%. The large derived miscellaneous-items group was down 7.6% year-on-year in the latest four-week period. Cumulatively in 2011 US petroleum product supplied has fallen 0.6% from a year previously. This constitutes a slight narrowing compared with the cumulative decline through July. In terms of product categories, the cumulative year-on-year movements in 2011 to early October have been gasoline -1.0%, kerosene, +1.9%, distillates +1.1%, residual fuel oil +2.4%, propane -3.4% and miscellaneous -2.0%.

Exhibit 16: US petroleum products supplied



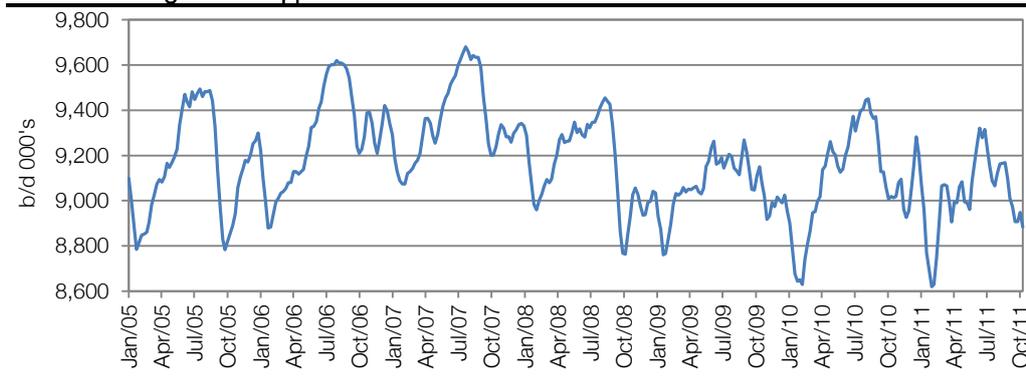
Source: EIA

Lacklustre petroleum demand remains consistent with a sluggish US economy. In addition, as we have noted before, structural factors are also tending to depress demand. Chief among these is the improving fuel efficiency of the vehicle fleet driven by mix changes and technological advances. Given the availability of low-cost natural gas, petroleum demand may be coming under pressure in

industrial applications. Medium- to long-term diesel use could become vulnerable to competition from natural gas in light and heavy trucks.

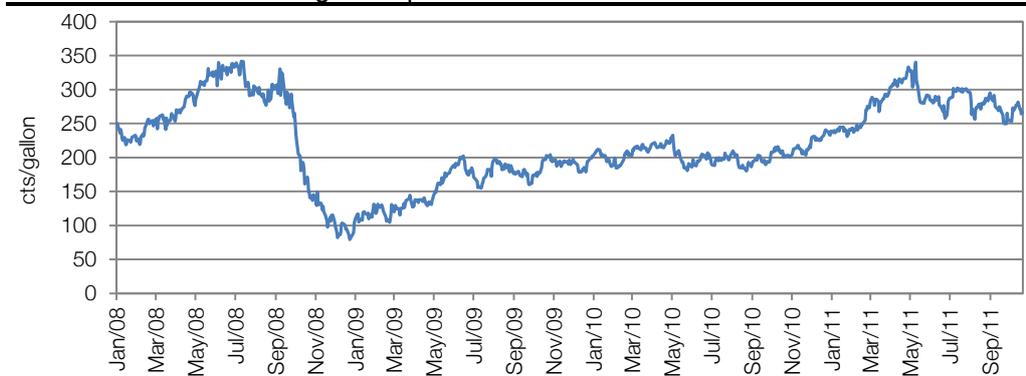
Clearly, the reduction in gasoline and, to a lesser extent, diesel prices over the past six months or so should help support petroleum demand. Earlier in 2011 there was evidence of a modest fall in miles driven, which probably reflected both a weak economy and the surge in gasoline prices in late 2010 and early 2011. As of 17 October, average US retail prices for gasoline and diesel were \$3.53/gallon and \$4.12/gallon respectively. Compared with the highs of April/May gasoline was down 12% and diesel 8%. Year-on-year, however, gasoline is still showing a gain of 24% while diesel is up 22%.

Exhibit 17: US gasoline supplied



Source: EIA

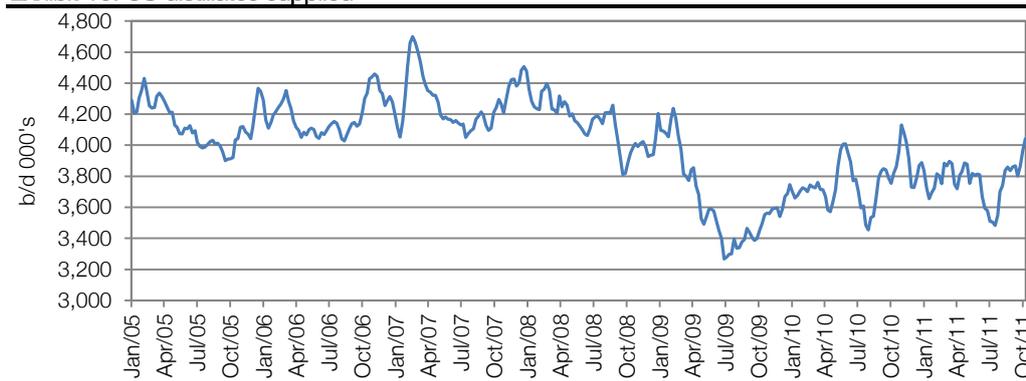
Exhibit 18: US GC wholesale gasoline price



Source: EIA

The EIA has recently cut its forecast for US petroleum consumption in 2011 and 2012 for the seventh consecutive month. The latest forecast for 2011 calls for a decline in overall demand of 1.2% while gasoline is expected to drop 2%. These forecasts imply a weak fourth quarter given the year-to-date performance. Forecast gasoline demand in 2011 of 8.81mmb/d would be the lowest since the early 2000s. The EIA's demand forecast for 2012 of 19.05mmb/d implies growth of 0.5% year-on-year. We believe this is plausible assuming a merely sluggish rather than a recessionary business environment. Recessionary conditions in the early part of the year could easily leave demand down 3-4% in 2012.

Exhibit 19: US distillates supplied



Source: EIA

Exhibit 20 US petroleum product demand trend

Mmb/d	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
Gasoline	9.11	9.16	9.25	9.29	8.99	9.00	8.99	8.81	8.85
Other	11.62	11.64	11.44	11.39	10.51	9.77	10.19	10.14	10.20
Total	20.73	20.80	20.69	20.68	19.50	18.77	19.18	18.95	19.05

Source: EIA

Crude oil price outlook: Weak economy imposed price constraint

Our crude oil market scenario for the rest of 2011 and 2012 is broadly unchanged from the previous commentary. We expect the supply-demand balance to loosen significantly between the third and fourth quarters of 2011 and to continue doing so in early 2012. This is expected to be driven by a combination of rapidly slowing world economic growth and increasing supplies from both OPEC and non-OPEC sources. The loosening process could be particularly apparent in the eastern Atlantic basin if, as seems entirely possible, Libyan exports increase significantly in the coming months, production recovers in the North Sea, and Europe’s economic difficulties intensify. A swing to supply surplus is very likely in our view in the coming months. During the second half of 2012, we think the market could stabilise reflecting likely OPEC production cutbacks and just possibly the first glimmers of a recovery in the OECD economy. This essentially assumes a quasi-recession scenario, rather than a full-blown one, in much of the OECD world over the next 18 months, together with a significant business slowdown in the developing world.

Based on the above outlook, we look for Brent to average \$106/barrel in the fourth quarter of 2011 which is somewhat below the mid-October level of about \$115/barrel. This is in line with our previous forecast and would imply \$109.2/barrel for 2011 as a whole. For WTI the fourth quarter is forecast at \$85/barrel which is well within the recent range of \$75 to \$90/barrel. The average for 2011 is \$92.7/barrel, marginally lower than the earlier forecast of \$92.8/barrel. We believe the first quarter of 2012 could be the low point (quarterly) for benchmark oil prices based on the above scenario for the market backdrop. During this period Brent is forecast to drop to about \$98/barrel while WTI falls to around \$80/barrel with spot levels quite possibly significantly lower. Our quarterly forecasts for 2012 are: Brent Q1 \$98.0, Q2 \$98.0, Q3 \$102.0, Q4 \$103.0; and WTI Q1 \$82.0, Q2 \$86.0, Q3 \$90.0, Q4 \$90.0. The 2012 averages for Brent and WTI of \$100.3 and \$87.0/barrel are \$2/barrel lower than forecast previously reflecting the weakening economic backdrop.

As far as 2013 is concerned we do not see a great deal of scope for upside in benchmark light crude prices from forecast fourth quarter 2012 levels. Provisionally we look for Brent and WTI averaging \$92 and \$104/barrel in 2013. We see demand and hence price development over the next few years being heavily constrained by an extended period of weakness in the world economy. Specifically we think that economic growth is unlikely to be robust enough to drive demand by more than 1mmb/d per year on average possibly through 2015, remembering the structural negatives. We believe this level can be comfortably covered by new capacity additions. If for any reason demand growth is sustained much above 1mmb/d, prices would quickly react to the upside, in all probability triggering a recession. The upshot would then be the proverbial death spiral in prices.

We believe the above is far from an extreme oil price scenario based, as it is, on the assumption of a muddling-through approach to the European sovereign debt crisis and avoiding widespread banking system contagion. If this proves not to be the case, then we are probably looking at a major recession in Europe and quite possibly elsewhere in the OECD, along with a severe business slowdown in the developing world. The upshot would probably be benchmark light oil prices dropping through \$50/barrel in 2012. We doubt in such circumstances that OPEC would be able to hold the line, which would leave prices free to fall to cash production costs for the larger producers. The ensuing considerably lower product prices would, of course, provide a huge economic stimulus to oil importers.

Exhibit 21: WTI and Brent price trends

Note: All prices are yearly averages.

\$/b	2003	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
WTI	31.1	41.5	56.6	66.1	72.2	99.8	62.0	79.5	92.7	87.0
Brent	28.9	38.3	54.5	65.4	72.7	97.7	62.0	79.7	109.2	100.3

Source: Bloomberg and Edison Investment Research

US natural gas market

Production/consumption: Production remains surprisingly buoyant

US natural gas production remains on a strong uptrend. In July, the most recent period for which data is available, production was 2.04tcf, up 7.9% on a year previously. Cumulatively production in the first seven months of 2011 was 6.7% higher than in 2010. Production continues to be driven by large-scale shale development activity in the lower 48 states. By contrast, Gulf of Mexico production has actually fallen sharply this year. Reflecting buoyant production, net imports have continued to contract and through the first seven months of 2011 were 1.21tcf against 1.62tcf in 2010. Pipeline imports from Canada and Mexico have declined while exports in the opposite direction have increased. Imports of LNG have slowed to a trickle.

Natural gas consumption continues to lag production by a wide margin. Data for July showed a year-on-year gain of 2.3% while in the year-to-date consumption was 2.2% higher than in 2010. Industrial and power generation markets have remained the key areas of strength with cumulative year-on-year gains of 2.8% and 3.2% respectively through July. By contrast, in the year-to-date residential consumption has slipped 0.4% while commercial markets have shown an increase of

1.6%. Consumption by power utilities was given a boost in the second and third quarters of 2011 by heavy air conditioner use. In recent weeks temperatures across the US have generally been mild which has tended to constrain natural gas consumption. However, considerably colder conditions are expected in the coming days in the Midwest and along the eastern seaboard, the two largest gas-consuming regions.

The EIA is looking for the trend in natural gas production to remain buoyant over the rest of 2011. For the year as whole production is expected to increase by 6.7% to 66.0bcf/d or 24.1tcf. This is significantly higher than the forecasts made at the beginning of the year and would comfortably exceed the 1973 record of 22.7tcf. For 2012 the EIA is forecasting a gain in production of 2.1% to 24.6tcf. Significantly, it has pointed to upside risks if drilling activity is maintained at current rates. Consumption growth is forecast by the EIA of 1.8% in 2011 and 0.7% in 2012, so a considerable gap is opening up for production.

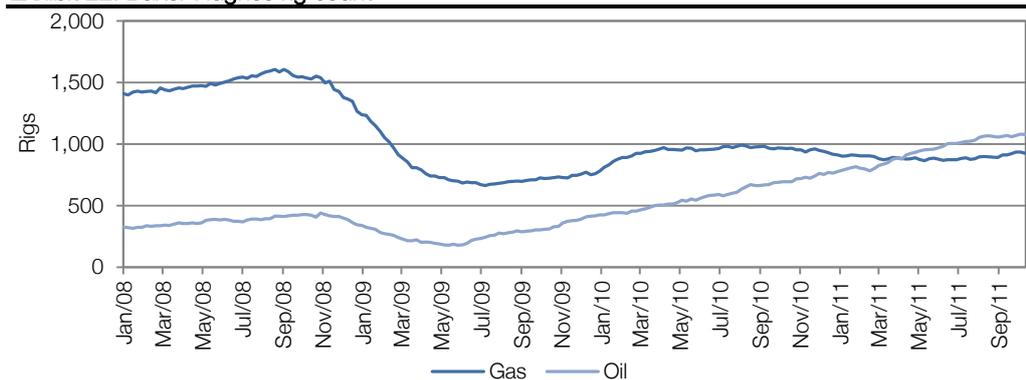
Drilling activity: Surprisingly the rig count has firmed in recent months

In the light of apparently unattractive industry economics, US natural gas drilling activity has arguably been remarkably buoyant in recent months. After falling between August 2010 and May 2011, activity has since firmed noticeably. Based on Baker Hughes data, the US natural gas rig count for the week ending 14 October was 936, up 70 or 8% on the recent 20 May low. It is now only 6% below the August 2010 high of 992, although still well down on the high of recent years of 1,606 in late August 2008. One theory behind the increase in drilling activity in recent months is the need to satisfy lease commitments.

Oil-based drilling activity in the US continues to surge driven by the intense interest in shale plays in the Great Plains states. The Baker Hughes oil rig count stood at 1,080 on 14 October. This was 55% above a year ago and more than 5x the rigs in operation at the recent low in mid-2009.

Currently the US oil rig count is the highest in at least 25 years.

Exhibit 22: Baker Hughes rig count



Source: Bloomberg

Inventories: Very comfortable

US natural gas inventories, not surprisingly in view of the trends in production and consumption, remain at very comfortable levels for the time of year. According to the EIA, inventories on 7 October 2011 were 3,521bcf, down by only 56bcf on the exceptionally high level of 2010. Compared with the five-year average, inventories on the 11th were, in fact, 68bcf higher. Reflecting strong production growth and subdued consumption, injections into storage have been running at

historically high levels of late. Given the high starting point and buoyant production, inventories look like being more than adequate for even the most severe winter.

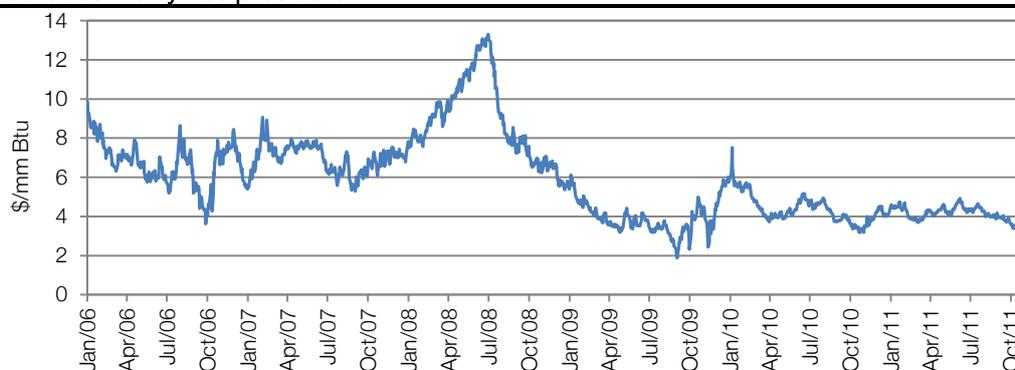
Price trend and outlook: Weak price trend

US natural gas prices have been under heavy pressure in recent months, although this in part reflects seasonal influences. Taking the key Henry Hub, Louisiana benchmark there was a fall of 31% between the 9 June high of \$4.92/mmBtu and the recent low on 7 October of \$3.40/mmBtu. Subsequently the price has firmed to about \$3.60/mmBtu. On 18 October the lowest priced US hub was Blanco New Mexico at \$3.37/mmBtu and the highest was New York at \$3.82/mmBtu. The drop in prices in recent months reflects a combination of seasonally high inventories, quasi-recessionary influences and generally mild weather. On an international comparison, US natural gas prices are ultra low. Currently, the Henry Hub price is less than 40% of the UK NBP level of about \$9.5/mmBtu and is around 30% of international LNG rates.

At a price of around \$3.6/mmBtu we believe the economics of natural gas production are distinctly marginal on a fully-accounted cost basis for the average US producer. On a variable basis, however, significant headroom probably remains for the bulk of producers remembering that incremental costs per mcf are modest once development has taken place. Based on a study by Southwestern Energy, one of the leading gas-focused independents, lifting costs for 17 US producers ranged between about \$1/mcfe and \$1.8/mcfe. The increment for total operating costs might be another \$0.3 to \$0.4/mcfe. Finding and development costs for SWN's sample ranged between around \$1 and \$3.9/mcfe. We would therefore suggest that while current depressed natural gas prices could discourage drilling, they may not yet lead to a broadly-based round of well shut-ins.

We are lowering our Henry Hub price forecasts for both 2011 and 2012. The forecast for the former comes down from \$4.28/mmBtu to \$4.11/mmBtu to reflect the weaker-than-expected price trend during the third quarter and in the early part of the fourth quarter plus the sizeable inventory position. For 2012 we are reducing our Henry Hub forecast from \$4.60/mmBtu to \$4.20/mmBtu in the light of the less-than-inspiring economic outlook and the lagged impact of higher-than-expected drilling activity in 2010.

Exhibit 23: Henry Hub price trend



Source: Bloomberg

Exhibit 24: Henry Hub quarterly price scenario

\$/mmBtu	Q1	Q2	Q3	Q4	Average
2007	7.19	7.38	6.18	7.10	6.96
2008	8.66	11.37	9.06	6.45	8.89
2009	4.54	3.70	3.17	4.37	3.94
2010	5.15	4.15	4.32	3.86	4.37
2011	4.18	4.37	4.12	3.75e	4.11e

Source: Bloomberg and Edison Investment Research

Exhibit 25: Henry Hub natural gas price trend

Note: All prices are yearly averages.

\$/mm Btu	2003	2004	2005	2006	2007	2008	2009	2010	2011e	2012e
	5.63	5.85	8.79	6.72	6.96	8.89	3.94	4.37	4.11	4.20

Source: Bloomberg and Edison Investment Research

Share price performance**UK indices: Partial recovery in the AIM juniors in October**

The AIM Oil & Gas Index of junior E&P stocks slumped 50% between the 7 February 2011 high and the recent low on 10 October. This left it at its lowest level in around 25 months but still comfortably above the lows plumbed in late 2008 and early 2009. Since 10 October, the AIM Oil & Gas Index has recovered some lost ground and on 19th was up 15% from the recent low, while the shortfall from the February high has been cut to 43%. For comparison, the AIM All Share Index has fallen about 26% since the February high while the FTSE 100 is down about 10%. The slump in the E&P juniors in 2011 essentially reflects the flight from high-risk assets amid growing investor fears concerning the potential ramifications of the sovereign debt crisis for the integrity of the broader financial system, economic activity and commodity prices. Junior E&P stocks are, of course, particularly sensitive to risk aversion given their lack of cash flow and heavy ongoing financing needs for exploration and development.

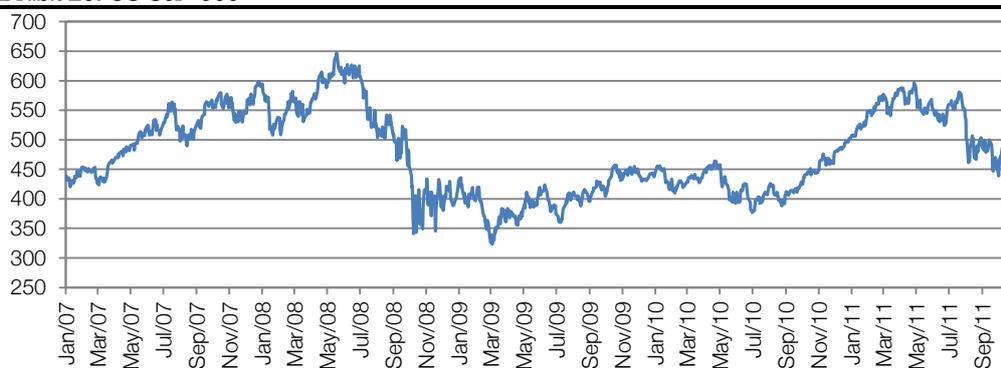
The rebound in the juniors in mid-October stemmed from growing optimism that a solution will be found near term to the European sovereign debt crisis and that a meltdown of the financial system will be avoided. This speculation may well indeed prove correct but it is not the end of the story. Deleveraging is likely to be a feature of the European economies for the foreseeable future with negative consequences for economic growth and probably commodity prices.

Predictably the FTSE 350 Oil & Gas Index, which is dominated by BP, Shell and BG, has shown a considerably more robust performance than the AIM Oil & Gas Index in recent months. The former admittedly came under heavy pressure in early August as sovereign debt and commodity market fears intensified, but much of the lost ground has since been made good. As of 20 October the FTSE 350 Oil & Gas Index was down 7% on the April high.

US indices: Partial recovery here too

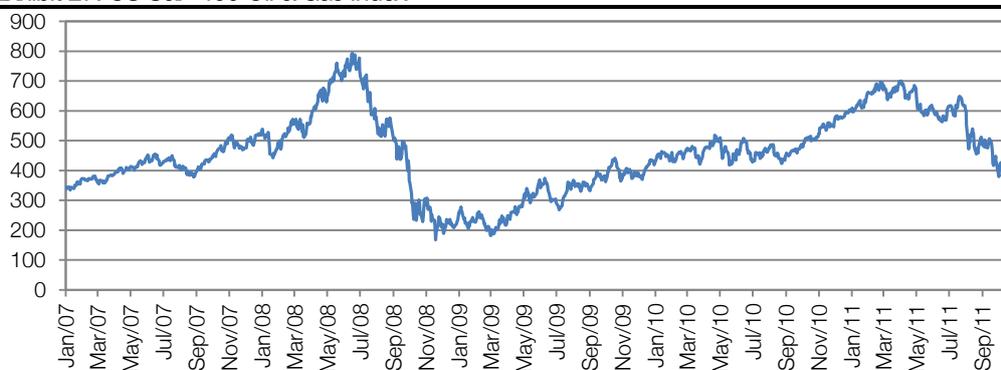
Large capitalisation US oil and gas stocks came under heavy pressure in late July and early August. Over this period the S&P 500 Oil & Gas Index dropped about 20%. Between early August and early October the Index continued to trend down resulting in a drop of around 26% from the 34-month high on April 29. In common with the FTSE 350 Oil & Gas Index, the S&P 500 Oil & Gas Index recovered some lost ground in mid October but it remains 15% below the April high. Greater downward pressure on the S&P 500 Oil & Gas Index than the FTSE 350 Oil & Gas Index in recent months possibly reflects the former's exposure to the depressed economics of the US natural gas industry. Interestingly, the natural gas orientated S&P 400 Oil & Gas Index of mid-tier plays has fallen about 33% from the 4 May high.

Exhibit 26: US S&P 500



Source: Bloomberg

Exhibit 27: US S&P 400 Oil & Gas Index



Source: Bloomberg

Shale plays: Statoil bids for Brigham Exploration

Driven by outstandingly successful development activity in the Bakken/Three Forks formation of North Dakota and the Eagle Ford formation of Texas, one of the key US oil and gas investment themes of late has been shale oil plays. After several major deals earlier in the year, including BHP's \$12.1bn acquisition of Petrohawk Energy (Eagle Ford, Haynesville and Permian plays), Statoil has recently announced the \$4.5bn acquisition of the Bakken play, Brigham Exploration. The terms translate into around \$11/barrel of recoverable reserves and an unprecedented \$12,000/acre. Further deals involving mid-tier shale plays would appear likely given the undoubted potential in terms of reserves and production and the attractive economics of the Bakken and Eagle Ford at anything like current oil prices. Interest in the newer shale zones such as the Niobrara formation of

the Denver and Powder River basins (Colorado and Wyoming) and the Wolfcamp formation of the Permian basin (West Texas) is also likely to grow. Exposure to a cross section of the key US shale plays can be obtained through the iShares ETF, US Oil & Gas Exploration & Production Fund (IEO).

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