

# Arab Spring, Western Winter



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## Overview

*"What has started this year will take a generation to work through."*

William Hague, quoted in The Times, 28 July 2011.

Political upheavals in the Middle East this year have been dramatic. Since the overthrow of authoritarian President Ben Ali of Tunisia on 14 January 2011, turmoil in the region has escalated with the potential outcomes in all affected countries unclear. Implications for the wider region also remain uncertain. This episode of turbulence is likely to persist for a considerable length of time. As the Economist Intelligence Unit publication, Spring Tide, stated, "...these popular uprisings.....have produced the most dramatic changes in the region since the end of the colonial era in the middle of the 20th century"

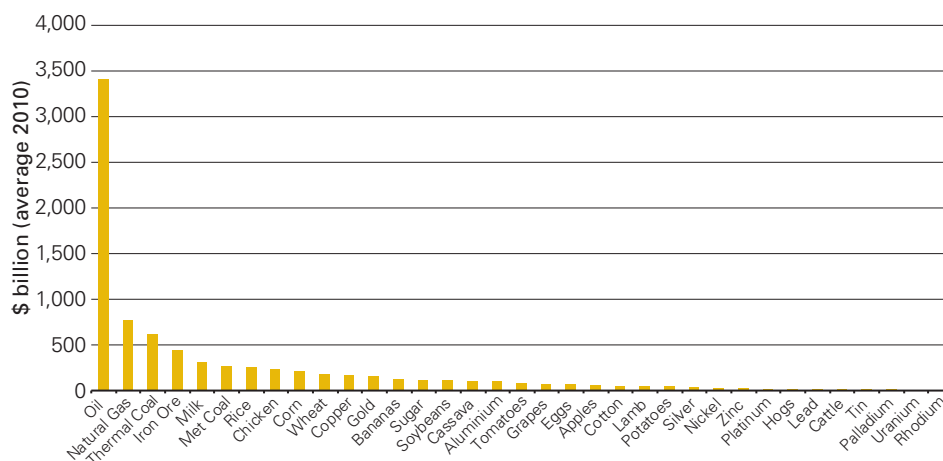
There has been much discussion on what impact recent events in the region (principally the "Arab Spring") and future developments might have on the price of oil. One thing clear since the inception of the uprisings is that political turbulence in the region would cause oil prices to rise, especially as the market was tight prior to these destabilising events. The only meaningful spare capacity is located in Middle East OPEC countries, further heightening fears of incremental supply disruptions which could bring global production levels below those of global demand.

While it is debatable whether the sharp price rise in early 2011 could be labelled a "price shock," it is certainly having a significant impact on fragile growth rates and recovery in Western economies. With little scope to absorb the impact of negative growth, Western economies will have to contend with the headwind of high energy prices for many months to come, leading to the inevitable consequence of still weaker recovery. High energy prices could even lead to economies falling back into recession. Living in a resource-constrained world will require an adjustment of perspective to meet and overcome the associated challenges, which in turn has implications for investment across asset classes including equities, fixed income and of course, commodities.

## The global economy is critically dependent on oil

Global oil production dwarfs all other commodity markets. It is also a significant component of global GDP, accounting for over 5% at the level of production of the raw commodity alone. Only a small proportion of oil is consumed in its crude form; the vast majority is refined and processed into fuel and raw materials for manufacturing.

### The value of global oil production dwarfs that of any other commodity



Source: Threadneedle, 2010.

The impact of the Arab Spring upheavals on an oil-dependent world is enormous. Higher oil prices increase the cost of production of all other commodities, whether they are agricultural, industrial or precious metals, as well as feeding through to higher costs across every industry. Considering the importance of oil to the global economy, it is not surprising that oil price shocks cause significant economic stress. Over the last 150 years the availability of inexpensive energy and, in particular, oil, given its incredibly high energy-density, has enabled western economies to devise a vast range of uses for it. The widespread utility and availability of oil has enabled the rapid growth of these economies. With advanced economies already burdened by debt and recession, the additional economic stress from any oil supply disruption resulting from the current turbulence in MENA countries could be deep and long-lasting.

## The oil market was already strained prior to the MENA uprisings

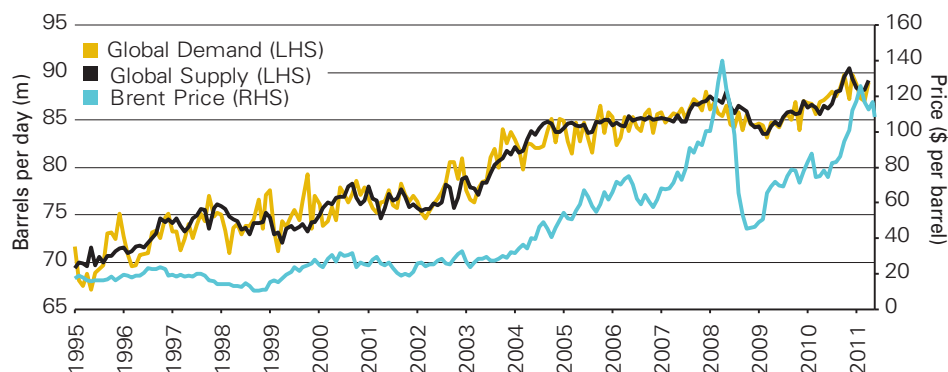
Towards the end of 2010, global crude oil demand was approaching 90 million barrels per day (bpd), having recovered from a brief and shallow drop in demand during the credit crisis in 2008. Global crude demand was widely expected to grow by between 1.5 million and 2 million bpd over the course of 2011, largely on the back of emerging market (EM) economic growth. On this trajectory, spare production capacity by the end of 2011 could have narrowed to less than two million barrels per day, representing an uncomfortably tight market not dissimilar to that of 2008 when prices spiked to over \$140 per barrel.

There are two striking features that were already causing concern ahead of this year's unrest beginning to unfold: first, how quickly falling demand reversed itself in the aftermath of the credit crisis in 2008-09, and second, how rapidly demand for oil had been rising over the ensuing months. These consumer side characteristics highlight the relative inelasticity of demand for oil. The utility of oil is unmatched by any other commodity in the world. While demand from Western economies had been steady to declining both in absolute terms and as a percentage of GDP for nearly 10 years, demand from EMs has more than made up the difference. China, for example, has been growing at an average rate of over 10% per year for the last decade and is now the second largest economy in the world, and the second largest consumer of oil. EM economies are now consuming half of global oil products.

On the supply side, investment in oil exploration and development of production had been sharply curtailed as a result of the credit crisis, which pushed back expected future production increases. Additionally, the tragedy in the Gulf of Mexico in early 2010 was a significant setback to development of some of the most potentially prolific new discoveries in the world.

As a result of all of these factors, the price of oil was already on an upward trajectory in the final quarter of 2010. This reflected strong economic growth driving demand, supply growth struggling to keep pace, and global spare capacity disappearing rapidly - hardly ideal circumstances in which to confront a major supply disruption.

## Increasing demand is approaching the limit of global production capacity



Source: Bloomberg, 12 August 2011.

## OPEC is the cornerstone of the global oil industry

The impact of OPEC acting as a cartel was first felt in the 1970s

Although OPEC had been formed in 1960 to enable the oil exporting countries to present a united front in negotiations with the oil companies, it was not until 1973 that the organisation's power really came to the fore. Increasing demand for raw materials across the Western world resulted in rising dependence on Middle Eastern oil as demand outstripped production elsewhere. In the US, domestic petroleum reserves were being exploited as rapidly as possible and production had levelled off; the country which had been self-sufficient in energy as recently as 1950 now imported 35% of its required energy and that figure was rapidly heading to over 50%. In March 1973 President Nixon imposed controls on oil imports as part of his price control programme, and later that year the US became embroiled in Israeli/Arab military conflicts.

Arab nations instituted an oil embargo against the US (and Holland) in late 1973. In addition, OPEC increased the price of oil to the US's western allies by 70%. The shock to the heavily oil-dependent, rapidly growing western economies was immediate. They had become accustomed to cheap and uninterrupted imports of oil. From 1972 to 1975 consumers were paying in the region of 90% more for heating oil and the price of all petroleum products rose, precipitating the economic recession of 1974 and 1975. The price of oil rose from \$3 per barrel in 1972 to \$12 a barrel by the end of 1974. The impact across equity and bond markets over this time is well-documented and is a reminder of the importance of energy to global markets and economic stability.

## OPEC continues to be of crucial importance to the global oil market

The matter of spare production capacity of crude oil is of immediate and prime importance. But at issue is also the fact that what little exists globally is located in the Middle East, and in countries that are members of OPEC. According to OPEC, those members with spare capacity are Saudi Arabia (2.1 million bpd), UAE (135,000 bpd), Kuwait (135,000 bpd), Iran (360,000 bpd) and Algeria (140,000 bpd).<sup>1</sup> This spare capacity of approximately 3 million bpd, as a proportion of global supply and with current demand at just under 90 million bpd, reflects an industry running above 95% of capacity.

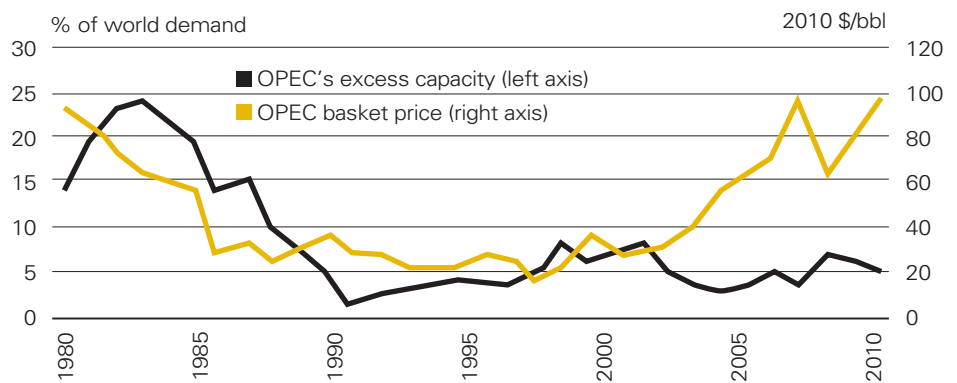
Every other producer in the world is producing at full capacity, and the industry is fighting against decline rates of between 6% and 8% annually (and in some cases reportedly higher, such as nearly 10% in Iran).<sup>2</sup> These decline rates mean that merely to maintain production at current levels an additional 5 million barrels of supply has to be added every year. There are few other industries producing at maximum capacity, with the most notable also being commodities, including copper, metallurgical coal, palladium and agriculture (grains, sugar, oilseeds and cotton).

**But the Middle East also faces constraints on its oil production**

Even in the Middle East, with all the large and easy reservoirs having been exploited over the last 100 years, adding new production is extremely difficult, expensive, and will take years to achieve. The Middle East still has among the most accessible and promising reserves in terms of increasing production in the short term. Probably the most notable example of this is Iraq, where a lack of investment, exploration and development has hindered increasing production for over 20 years. In 2010 a number of production agreements were made between the Iraqi government and major oil producers that could potentially increase production from the current level of 2.5 million bpd to 10 million bpd by 2020. In our view, this requires a stable government enforcing the rule of law and a safe operating environment - all yet to be resolved. The more likely scenario is that production growth in Iraq will develop much more slowly, and fall well short of achieving such optimistic targets.

Another key issue concerning current spare OPEC capacity is that a significant proportion of what can be brought on line relatively quickly is in heavy, sour crude which is not best-suited to the underutilised Southern European refining capacity that has previously been used for the light, sweet Libyan crude, although it is currently largely offline due to the recent uprising. Heavy crude does not produce as much of the lighter products such as gasoline.

**Spare capacity as a percentage of global demand, 1980-2011**



Note: Current spare capacity may be in grades not necessarily best suited to spare refining capacity. Much of it is heavy sour crude.  
Source: IEA, OPEC, CGES.

With Libyan production having been curtailed since March 2011, shut-ins in Yemen, and sanctions against Iran and Syria, the net result has been a loss of nearly 2 million bpd in production. Consequently there is little spare capacity to absorb any further production setbacks. Since early 2011, recognising the challenges further disruptions would present, in our view the market has added a risk premium of between \$10 and \$30 per barrel. The primary reason for this is that any significant additional setback would cause global production to fall below demand. This is a situation that has never occurred.

During the oil embargo of 1973, the Iranian revolution of 1979, and the Iraq invasion of Kuwait in 1990, there was sufficient spare global capacity to make up the shortfall. Consequently, if there were a sudden disruption which created a supply deficit, the oil price would rise dramatically to rebalance the market by curbing demand and rationing the available supply. In light of supply being so constrained, it is hard to overstate the importance of OPEC in these circumstances and, therefore, the stability of its member countries.

### Discord within OPEC could destabilise markets

In addition to the political instability within the MENA states, there are further tensions between countries within the region. This was particularly evident in the events surrounding the June 2011 meeting of OPEC in Vienna.

At that meeting a Saudi proposal for OPEC to increase production to compensate for the shortfall from Libya (where production of 1.6 million bpd had all but ceased) was rejected. The meeting ended in such discord that Saudi Arabia and those producers allied to it, Kuwait and the UAE, subsequently announced that they would unilaterally increase output – this was seen in some quarters as partially motivated by the Saudis' desire to be seen as still calling the shots in OPEC, particularly as the organisation is headed by Iran. Iran, along with Venezuela and Nigeria, needed the prevailing high price and were adamant that increasing production was not in their best interests.

The Vienna meeting showed a growing divide between the minority of OPEC countries which have some spare capacity (Saudi Arabia, Kuwait, UAE) and those who do not. Countries with capacity headroom can afford to tolerate lower prices as they retain the option of increasing production to maintain revenue; to those without it, lower prices mean lower revenues. There is a growing need for revenue in the region. As oil producing countries have made commitments to improve conditions for their growing populations, partly to address the kind of dissatisfaction which has led to this year's uprisings, oil revenues will increasingly be spent rather than saved as previously.

### **Strained relations between the International Energy Agency and OPEC add further instability to markets**

Despite the pledge by the Saudis, the Paris-based International Energy Agency (IEA), which represents 28 oil importing nations, announced that it would be releasing 60 million barrels of strategic oil reserves (half of which would be coming from the US). This move was designed to force down the price of oil and reflected the concern of consuming countries at OPEC's inaction in the face of the continuing loss of Libyan production. Predictably, the IEA's decision antagonised the leadership of OPEC. Muhammad Ali Khatibi, OPEC governor of Iran and current president of OPEC, said the release showed that "the IEA doesn't believe in free markets".

“Good relations and close coordination between oil producers and consumers is widely seen as essential for the stability of energy markets,” noted the Wall Street Journal on 25 June. Christof Ruehl, chief economist of BP, commented that the possibility of OPEC moving to cut production in retaliation could lead to a war of attrition between OPEC and the IEA, with relations having become increasingly strained during the year. Bill Farren-Price, head of Petroleum Policy Intelligence stated, “[The stocks release] has added a whole new raft of uncertainty to the markets.” Following the release of reserves, which we believe was essential ahead of the seasonal demand surge, the IEA held talks with both OPEC factions to alleviate concerns and committed to no further releases. However, if OPEC is unwilling or unable to balance the market, we believe it is likely that the IEA will release additional reserves of both crude oil and products.

Within the MENA-located OPEC states the balance of power has in recent years been determined by the size of reserves, immediate spare capacity and, most importantly, the economic resources to be able to cut production and therefore national income. It is possible that this balance could shift in coming years. If Iraq was actually able to produce 6 million bpd by 2015 following the considerable inward investment during 2010, Iraq could become an important counterweight to Saudi Arabia. Iran, no friend of Saudi Arabia and increasingly prepared to challenge the country whose king reportedly exhorted the US to “cut off the head of the snake” – ie to launch a military attack on Iran’s nuclear programme – is viewed with suspicion and mistrust by the Saudis who fear Shiite Iran’s growing influence on neighbouring Iraq.<sup>3</sup>

In the short term, in the absence of adequate supply, inventories would be drawn down, as already seen by the IEA releasing 60 million barrels of oil and products in June 2011. In our view, this period of prolonged political instability will cause oil prices to trade at elevated levels with an asymmetric risk of an explosive upside price spike. Additionally, prices of oil products such as gasoline and diesel will stay elevated. This again reflects the difficulty of matching grades of crude to refining facilities. A further issue associated with Libyan production going off line was the fact that it was a highly sought after light and low sulphur grade of crude. It is less expensive to refine and produces a higher amount of end products per barrel. Globally, there isn’t 1.5 million bpd of spare capacity of this high quality grade of crude oil.

One concern we have is that these higher prices will become locked in. The most likely influence on this is the higher prices that OPEC countries require to balance their budgets. According to the Centre for Global Energy Studies (CGES), in 2008, when the OPEC basket price averaged \$94 per barrel, Saudi Arabia’s break-even point was \$59 per barrel, which provided a significant cushion for OPEC to increase production or to allow the price to fall if demand abated. In 2011 their break-even price is \$90 per barrel and through the first 8 months of 2011, the OPEC basket price averaged \$111 per barrel (up from \$77 in 2010), for a year-on-year average increase of over 40%. OPEC could reasonably be expected to begin to defend the basket price at around \$95 per barrel, a relatively small decline from the year’s average to date and unlikely to provide much relief to struggling consuming economies.

## Tensions between Shia and Sunni Muslims in the MENA region add further risk

Some 80-90% of the world's Muslims are Sunni; the remainder being Shia. Although the majority of worshippers in most Muslim countries are Sunni, in Iran, Iraq, Kuwait and Bahrain the majority of the population are Shiite.

Bahrain is headed by Sunni leadership and much of the Shiite majority is relatively poor. Bahrain, which has been linked to Saudi Arabia by the 16 mile long King Fahd causeway since 1986, has considerable industrial and financial links with its much larger neighbour, and earlier this year Saudi Arabia sent 1,000 troops into the small island state to aid in the suppression of protesters.

The numerically significant size of the Shia population in Bahrain brings a sectarian element to the protests there, unlike the uprisings against despotic governments in Tunisia, Egypt and Libya. In addition, the opposition in Bahrain has in part been calling for a constitutional monarchy. If the neighbouring kingdom of Bahrain were to be forced to surrender a degree of control this could prove awkward for Saudi Arabia. Saudi Arabia is a Sunni majority state with a 10-15% Shia population. While this is still very much a minority, Shias predominate in Saudi Arabia's oil rich eastern province, and in common with Bahraini Shias, they complain of discrimination.

Iran, an overwhelmingly Shia state, holds itself to be a champion of Shia rights, and has ambitions to exert more control in the region. The situation in Bahrain holds interest for both Saudi Arabia and Iran; dissatisfaction amongst Saudi Shias observing events in Bahrain represents a potential opportunity for Iran to exert more influence. In Iraq, the overthrow of Saddam Hussein's minority Sunni government and the subsequent dominance of the Shia majority have given Iran the opportunity for renewed influence in the neighbouring state, predictably viewed with alarm by the US and its allies. "One of the risks in the Arab Spring is the unleashing of sectarian divisions."<sup>4</sup>

## A prolonged period of disruption in the Middle East could impact enormously on the economies of oil-importing countries

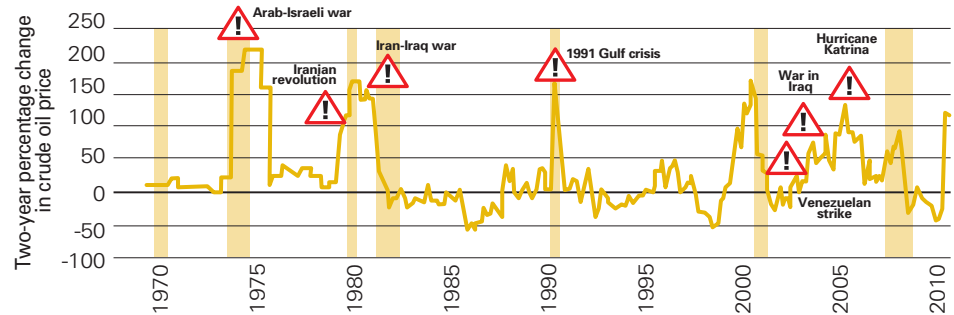
Conditions suggest a greater risk of disruption in oil supply

According to OPEC, approximately 80% of the world’s proven oil reserves are found in OPEC member states. Of that amount, approximately 65% is reportedly in the Middle East, with the most significant holdings being in Saudi Arabia (265 billion barrels), Iran (150 billion barrels) and Iraq (143 billion barrels).<sup>5</sup> While many analysts have long viewed OPEC’s figures with scepticism, and also being aware that reserves do not necessarily correlate to production (eg production may depend on the grade of spare capacity oil or the degree of difficulty getting oil out of the ground), it is clear that any prolonged period of instability in the Middle East has the potential to have an enormous effect on the growth of oil production and subsequently on the economies of oil importing nations.

As the US Energy Information Administration (EIA) notes: “While events that cause oil disruptions may be transitory, their impact on oil production levels can persist for an extended period. Past experience suggests that the absences of internal discord and external conflicts or sanctions are important conditions for a recovery in production.” During 2011 we have seen a significant escalation of domestic disturbances in the region, which have drawn in external forces as well as attracting sanctions against important producers. Prevailing conditions in the region are moving further away from the prerequisites for Middle Eastern production growth being in place toward an increasing risk of disruption which may occur without notice, at any time, and persist for months if not years. This current instability has significant parallels with the past.

### Past instabilities can illuminate the current situation

#### Oil price spikes and recessions



Note: Bars indicate US recessions.  
Source: Thomson Reuters Datastream.

### Iranian revolution, 1978-79

The Iranian revolution began in 1978. By January 1979 Iran's oil production rate stood at just 10% of previous levels. The revolution resulted in an average drop of 3.9 million barrels per day in Iran's crude oil production during the years 1978-81. Furthermore, Iraq invaded Iran in September 1980 and by November the combined production of both countries was only one million barrels per day, 6.5 million barrels per day less than a year previously. This loss of production was partially made up by other OPEC members but, nonetheless, worldwide oil production in late 1980 was 10% lower than it was in 1979, exacerbating the US recession and causing demand to drop. Thirty years later, in 2010, Iran's production rate was still lower than its 1977 average, by some 1.5 million barrels per day, reinforcing the point that supply disruptions can take many years to recover.

### Iraqi invasion of Kuwait, 1990

When Iraq invaded Kuwait in 1990, oil supplies from both countries were severely disrupted, leading to a spike in the price of crude. Production lost from these two countries amounted to approximately 4.3 million barrels per day. Four days after the invasion, as part of a near-total financial and trade embargo on Iraq, the United Nations prohibited the trade of all crude oil and products from both countries, as production was under the control of Iraq. With the initiation of force against Iraq, prices began to fall, and market fears of similar shortfalls to those experienced in 1979 were allayed by increased production from non-OPEC countries, where spare capacity was abundant.

Despite its oil infrastructure having suffered extensive damage from the retreating Iraqi military, Kuwaiti oil production returned to pre-invasion levels in less than three years. This relatively rapid recovery is attributed to Kuwait's post-war environment being free of both internal discord and external interference, allowing the country to return to a state of stability sooner than would otherwise have been the case. By contrast, Iraq's history over the intervening 20 years has been turbulent. Its production dropped from 3.2 million bpd before the invasion to 500,000 bpd and stayed at that level through to 1996 as a result of sanctions. The Oil for Food programme enabled production to rebuild to over 2 million bpd. In 2010 Iraq's production averaged 2.4 million barrels per day and it has yet to recover the peak levels of 1990.

### Venezuelan strike, 2002-03

The Venezuelan strike was a result of attempts by the opposition to force a Presidential election on incumbent Hugo Chavez. It effectively reduced oil production from 3 million barrels per day to 1 million in its initial stages but by the end of 2003, 85% of production had been restored. However, Venezuela's current production is estimated by the EIA to stand at around 2.1 million barrels per day – significantly below pre-strike levels.

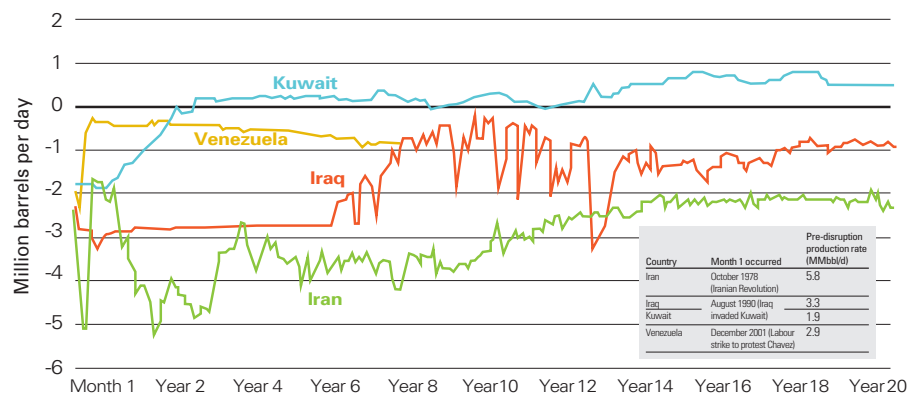
## Libya and the wider current disruption

As turmoil in Libya has continued there have been increasing concerns about a power vacuum following the fall of the Gadaafi regime. The EIA issued a statement with particular reference to Libya, but the comment could equally apply to the wider disruption affecting the region:

*“Past events may not be an indication of how long it will take to restore Libya’s production, currently estimated to be at a near-complete shut in... Much will depend on the political outcome and the acceptance of the government in power by both the Libyan people and the international community following the end of hostilities. Sanctions would need to be lifted... any [damaged] infrastructure... will have to be repaired and the knowledge base will have to return to the country before production can begin to ramp up. In light of these considerations, it is not surprising that the world crude market still reflects large uncertainties.”*

Our best estimate is that Libyan production is unlikely to return to full capacity until the end of 2012 or beginning of 2013 at the earliest.

## Restoration of production capacity faces severe challenges after supply disruption



Note: The chart illustrates the challenges of restoring production capacity after an unexpected supply disruption. Source: EIA, 30 March 2011.

## Oil and the global economy

To reflect on the current situation, oil prices in 2011 are averaging close to a level some 40% higher than in 2010. There is little doubt that high oil prices in 2011 have been impeding the progress of an OECD economic recovery following the credit crisis. Sustained high prices will continue to put pressure on oil importing economies.

The first impact of higher oil prices is on transportation fuel (which accounts for nearly half of all crude oil produced) where the price transfer mechanism is almost immediate; transportation fuel prices at the pump follow the spot price closely. For an economy which is highly geared to consumption (for example the US, where currently more than 70% of GDP is driven by consumption), a sharp increase in the price of oil impacts on inflation quickly and also has the effect of hitting consumer confidence.

A secondary effect of increased oil prices occurs as oil is a key input cost in the production of many other commodities, manufactured goods and foodstuffs. This takes considerably longer to percolate through the economy and, combined with the immediate impact on transport costs, drains capital and liquidity and creates a significant drag on growth. The share price of large integrated oil companies is one place to measure the impact of this effect. Initially their share prices follow the price of oil higher, but as cost pressures drive margins lower and capex is increased to offset decline rates, share prices suffer. Equity prices reflect rising prices up to a point, but where higher prices are generated by supply constraints stressing the global economy, share prices of cyclical companies are unlikely to follow the move of the underlying. Indeed if the price rise of the underlying is rapid, as in the case of a significant supply disruption, share prices will move in the opposite direction. This has been the experience through the first half of 2011 in energy, gold producers and mining companies in general.

Another factor which serves to lock in current high prices is the fact that high levels of inflation translate into significant increases in labour costs, especially in EM countries. Inflation has been running at between 5% and 10% in EM economies on official figures, which may well be understated. These economies are also growing rapidly and that growth is resource intensive. Consequently they are locking in those higher prices with double digit wage increases. Their currencies are strong and, as they are riding the wave of rapid economic growth, they can take the higher energy prices in their stride and consumption continues its long climb towards Western per capita levels.

Tumultuous political change in the MENA countries, combined with the voracious energy demands of a rapidly growing EM world will be the two primary drivers that will keep oil prices high for the foreseeable future. It is our view that oil prices, from the perspective of Western economies, will edge close to the level that, at any given time, impedes and holds back economic growth. It is possible that in such a resource constrained world, both developed and emerging economies cannot grow robustly at the same time.

Given the fact that EM countries have the advantage of better balance sheets, demographics, and prevailing robust growth rates, they are in a strong position to maintain growth. By contrast, Western governments are more highly leveraged and are struggling to find ways to prevent their economies from sliding back into recession. Looking forward, the next few years are likely to be challenging for Western economies as they battle against deleveraging and compete against formidable developing economic giants for resources and economic growth on a global basis.

Following the sharp rise in oil prices in early 2011, and the primary and secondary economic impact of those price rises affecting the global economy, there is little surprise that economic growth has been knocked back over the balance of 2011. This should precipitate a significant pull back in some commodity prices, with oil and agriculture being the most resilient. This follows the old adage that the best cure for high commodity prices is high commodity prices. With consumer, industrial, and investor sentiment all pared back, a reasonable period of consolidation or even a meaningful correction should ensue. This will in turn set up the next leg of the bull market in resources, as any drop in prices will inevitably increase demand and moreover lead to the scaling of back future resource development. This is particularly true for oil where the lead time to new production is increasing with the difficulty and complexity of deeper and more remote resources.

## More Threadneedle thinks to follow

Threadneedle will continue to evaluate the impact of rising oil prices on global economic growth and assess any ensuing knock back in commodity prices. Watch out for updates as well as our regular 'Threadneedle Thinks' market commentaries over the next 12 months.

## References

<sup>1</sup> Bloomberg. August 2011.

<sup>2</sup> MEES. 29 August 2011.

<sup>3</sup> Ian Black and Simon Tisdall. Saudi Arabia urges US attack on Iran to stop nuclear programme. The Guardian. 28 November 2010.

<sup>4</sup> William Hague, quoted in TheTimes. 28 July 2011.

<sup>5</sup> OPEC Statistical Bulletin 2010, quoted by Reuters. 19 July 2011.



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