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# The Price Band and Oil Price Dynamics

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### Introduction

The proposal for a crude oil price band, revived by the Indian delegation during the Jeddah Meeting in July 2008, seems to be gathering support. The French president Nicolas Sarkozy and the UK Prime Minister Gordon Brown urged "oil producers to agree a target price range, based on a clearer understanding of the long-term fundamentals".[1] In a joint article in the Wall Street Journal, the two leaders gave an indication of what the upper and lower band should reflect, arguing that "the world's economy is still reliant on secure supplies at prices *that are not so high as to destroy the prospects of economic growth but not so low as to lead to a slump in investment*, as happened in the 1990s".[2] The proposal for establishing a band reflects earlier calls made by Nicolas Sarkozy during his official visit to the UAE in May 2009, where he declared that "the ongoing volatility in oil prices serves no one" (Traders, of course thrive on volatility but this is of no concern to governments). Then he posed the question: "Why don't producer countries and consumers agree on general price guidelines to give to the market?"[3]

The proposal for a band for oil prices has also received support from a few oil exporters. During the G8 meeting in July 2009, the Russian President Dmitry Medvedev tried to float the idea of $70-80 as the fair price claiming that a poll of oil company executives thought the price should be in that range.[4] Venezuela's oil minister, Rafael Ramirez, announced that there is a need for "an improved band

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[1] Financial Times, "Rising oil price a risk to global recovery", July 7 2009.

[2] Gordon Brown and Nicolas Sarkozy, "We Must Address Oil-Market Volatility", The Wall Street Journal, July 8, 2009

[3] Emirates Business 24|7 daily newsletter "Sarkozy calls for regulated oil prices" 27 May, 2009.

[4] Reuters, "Russia floats $70-80 oil as fair price at G8", July 8, 2009.

system with clearly established parameters, a formula that gives certainty and stability for both consumers and producers".[5]

These new calls for a price band represent an underlying change in governments' views about the process of price formation in oil markets. While in the past the dominant view was that oil prices are driven by supply and demand fundamentals, the sharp rise in oil prices in 2008 and heightened volatility have raised concerns about the role of non-fundamental factors (mainly speculative activity in the futures markets) in the determination of the oil price. They have also raised the issue of whether importing and exporting countries have a role in reducing volatility in oil markets. An underlying theme is that oil price volatility is undesirable since it increases uncertainty which hampers economic growth and undermines investment in the oil sector. Also by increasing uncertainty, volatility in oil prices could derail investment in alternative energy sources. Finally, there are fears that speculative activity can cause oil prices to overshoot and may choke off economic recovery.

**Volatility and Oil Price Cycles**

Since the main objective of a price band is to dampen volatility and prevent sharp swings in oil prices, it is important to make few general observations about the nature of volatility. This will set a framework for this discussion about the price band and clarify some of the misconceptions in the current debate.

The first one concerns the definition of volatility. Should the price band be concerned with intra-day volatility, inter-day volatility, inter-week volatility, implicit volatility or simply a sharp movement in oil prices over a specified period of time? Since there is no unique or uniform definition of the term volatility, it is important to make sure that policy makers are referring to the same thing. From the various announcements, it seems that the proposal for a price band is not concerned with volatility *per se* but rather with preventing sharp oscillations in oil prices. The two concepts are different. For instance, one could keep the oil price within a certain band but within this band, the oil price could exhibit high inter-day or intra-day volatility.

The second issue concerns the role of transparency and better dissemination of data and information. There is a perception that improvements in the quality, reliability and accessibility of the relevant information can reduce volatility. This may not be the case. In fact, one could argue the exact opposite. Higher transparency and more information may result in higher volatility as traders react to steady streams of information and news.

The third issue is whether high volatility would necessarily cause oil prices to overshoot or undershoot. The relationship between the two is far from clear. The oil price could undershoot or overshoot without any marked increase in volatility.

[5] Reuters, "Venezuela says OPEC should restore oil price bands", 17 April, 2009.

The fourth issue is about the various impacts of volatility. For instance, do oil companies give any consideration to intra-day or inter-day price volatility when making their decision on whether to invest, or not, in an oil or an alternative energy project? Do current episodes of price volatility affect OPEC's decision to invest in new capacity, or is demand uncertainty a much more relevant determinant of their investment decisions?

The fifth issue is whether the focus should be on price volatility at the near end of the futures curve or volatility of prices at the back end of the curve (i.e. further in the future). This distinction is important as argued below. It raises in turn a number of issues about the existence of transmission mechanisms of volatility between the front end and the back of the forward curve and whether the underlying causes of volatility are different in various points of the forward curve.

The final issues relate to the causes of oil price volatility. One should distinguish between the causes of volatility and the causes of sharp swings in oil prices. Fundamental factors which cannot fully explain short-term volatility played a leading role in the price swings of 1998-9. Then the Asian crisis which reduced world oil demand and an OPEC decision to increase output at that very time caused prices to fall. A reinforcing contango and a rapid accumulation of inventories added to the downward pressures on prices. [6] The difficulty, however, is in disentangling the impact of the various factors, and drawing cause-effect relationships between volatility and the explanatory variables.

The preceding discussion highlights some of the complexities involved in defining and analysing oil price volatility. It also indicates that governments' main concern is not volatility *per se* but the sharp swings in oil prices over a specified period of time. These cycles define episodes of large movements in oil prices during which the behaviour of key market players is affected. Peak and trough prices attained during these cycles matter because of their possible impact on growth, demand and long term investment plans. Finally, they highlight the importance of distinguishing between short and long term stability in oil prices. This distinction is essential for the discussion of the oil price band.

**The Context**

One of the major features that characterised the oil market during the 1980s and the 1990s was the stability of the long-term price for oil. While prices at the front part of the price curve exhibited, in some instances, high volatility reflecting deteriorating geo-political conditions (the Iraq-Kuwait War) and sharp downward swings (Saudi

[6] Contango refers to a situation where future prices are above spot prices. For more details on the reinforcing contango, see Fattouh, B. "Contango Lessons", *Middle East Economic Survey,* VOL. XLIX, No 48, 27-Nov-2006.

Arabia's decision to increase output despite decline in demand due to the Asian crisis), price volatility was rarely transmitted to the back end of the futures curve. The oil price futures curve was anchored at around the $20-$22 range. Oil importers, exporters, and participants in financial markets all thought in terms of that range.

As oil prices rose sharply during the boom years, uncertainty about the existence of and the timing of, feedbacks from prices to oil supply and demand markedly increased. The market was doubtful whether rises in the oil price would induce meaningful changes in supply, in demand, in players' behaviour or in government responses that would bring a stop to the rise in the oil price. This affected the way in which expectations were formed - with important implications for oil price determination. In effect, the market entered into a phase of indeterminacy of beliefs, where market participants (including oil companies and oil producers), did not know where to anchor the anticipated oil price that would balance supply and demand in the long run. In effect, prices in the short and long run became jointly determined. The whole futures curve became subject to a series of roughly parallel shifts.

This changed with the current financial crisis which created a strong feedback in the oil market, especially on the demand side. Whether the decline in global oil demand and the rise in spare capacity will help to re-establish powerful feedbacks into the oil market and stabilise the anticipated longer-term oil price is yet to be seen. But as argued below, for now at least, it may have helped the market to converge to a focal point for the futures price – at around the level of $70 - $80.

**The Implicit Price Band**

The idea of a band is, in one sense, trying to reinvent the 'normal' functioning of the oil market. In effect, the current oil market operates within an *implicit* band. The upper and lower bounds are determined by different sets of beliefs which themselves are based on *expected* fundamentals of the oil market. These beliefs "are logically coherent, consistent with known features of the economy and borne out by subsequent events".[7] When oil prices rise above a certain 'normal' level, the view that high oil prices would impact on demand and/or induce a slowdown in growth and/or encourage substitution at the margin dominates the market. The rise in price would lead to an expectation that prices would fall in the future. On the other hand, when prices fall below a certain level, the view that such low oil prices will induce an OPEC response and/or slowdown in non-OPEC supply will dominate. Again, this is stabilising and will lead to the anticipation of future price rises.

Within the implicit band, price changes are influenced by a very wide variety of public signals about fundamentals or expectations of fundamentals. But this may not always be true in an environment of high uncertainty. In a market characterised by indeterminacy of beliefs, market participants tend to form their expectations of futures

[7] See Morris, S. and H.S. Shin (2001), "Rethinking Multiple Equilibria in Macroeconomics," NBER Macroeconomics Annual 2000.

prices on the basis of anticipations of other players' expectations. My expectations will not primarily be driven by the underlying market fundamentals, but by my expectations of how other players will behave. In other words, it will depend on "higher order beliefs," i.e., players' beliefs about other players' beliefs: players' beliefs about other players' beliefs about other players' beliefs, and so on. This captures some of the intuition provided by Keynes's beauty contest metaphor where traders are motivated to guess other traders' guesses to benefit from short-term movements in oil prices.[8]

Rather than guessing the beliefs of other players, agents can decide to mimic the action of others. In fact, in the presence of uncertainty, copying the decision of others may be rational at the individual level. This behaviour is referred to in the literature as 'herding' behaviour. Similarly, one of the main insights of coordination games literature is that economic agents may be forced to take a particular action because of their belief that others are taking such actions. If the shifts in demand for assets are correlated among traders and do not cancel each other out then noise trading is capable of influencing market prices. Furthermore, the potential for herding behaviour implies that arbitrage is not without risk and hence it is not necessarily the case that arbitrageurs will always be able to arbitrage away the noise trade. In fact, the arbitrageurs may not have the incentive to counter shifts in demand by noise traders and may instead decide to ride the wave in the hope that they can dispose of the assets near the top before the noise traders.[9] Herding undermines the role of price discovery and prices become more volatile than when investors act independently from each other. [10]

The above framework offers useful insights that could help us explain the short term behaviour of oil prices in 2008. One such insight is the importance that public information or publicly observed signals acquire in the context of herding behaviour or 'beauty contests'. Since public signals can affect my guess about other players' guesses, they could have a disproportionate impact on the oil price. In fact, this feature also holds in global games theories where there is an element of coordination between the players. [11] In a market characterised by indeterminacy of beliefs, participants watch closely public signals and other market participants' reaction to these signals. What will matter in forming investors' expectations is what other investors think and how other investors are likely to respond to public signals and

[8] This idea has been recently formalised by Allen, F., S. Morris, and H.S. Shin (2006), Beauty Contests and Iterated Expectations in Asset Markets, Review of Financial Studies 19, 719.
[9] See Abreu, D., and M. K. Brunnermeier (2003) "Bubbles and Crashes," *Econometrica*, 71(1), 173-204.
[10] See for instance Bikhchandani, S., D. Hirshleifer, and I. Welch (1998), "Learning from the Behavior of Others: Conformity, Fads and Informational Cascades," *Journal of Economic Perspectives*, Vol. 12, pp. 151–70.
[11] Morris, S. and H.S Shin (2003), "Global Games: Theory and Applications," in *Advances in Economics and Econometrics (Proceedings of the Eighth World Congress of the Econometric Society)*, edited by M. Dewatripont, L. Hansen and S. Turnovsky. Cambridge, England: Cambridge University Press.

information. For instance, if I think that other investors will respond to public news about a weak US dollar, then it is profitable that I also react to such news. This is rational even if I think that news about the weak dollar is not relevant for understanding oil market fundamentals. Building on these insights, one can show that the impact of public signals (such as data on inventories, weak dollar, and peak oil) on oil prices will be amplified even if these public signals do not necessarily reflect large changes in underlying fundamentals or provide new information to the market.

The events of the last few years have highlighted three features about the *implicit* bands and behaviour of traders within the bands. First, the band has become very wide as a result of lifting the upper bound. The sharp rise in oil prices between 2002-mid 2008 exposed the imperfections in the oil market and raised serious doubts about the importance of oil market feedbacks when oil prices continued to rise. This has led market participants to revise their expectations about long term fundamentals and critically re-assess their beliefs about key relationships that previously dominated their views about the functioning of the oil markets. Second, financial players are not shy in testing the upper and lower bounds which may result in overshooting or undershooting of prices. The sharp rise in the oil price in first half of 2008 could be viewed as an attempt by the market to test the upper bound of the range and elicit some sort of supply, demand or policy response. The fall in the oil price in 2009 to less than $40 can be viewed as an attempt by the market to test for the lower bound of the range. Third, short term and long term price expectations can operate in parallel as reflected in the recent divorce between the front end and the back end of the forward curve causing some steep movements in the time spreads. In such cases, price movements will be determined by the process of adjustment between short term and long term price anticipations - with potentially destabilising consequences. [12]

**Feedbacks and Expectations of Feedbacks**

So the next question is: How could policymakers improve on the already existing implicit band? There are two potential ways. The first is to bring short term expectations in line with long term expectations to avoid steep time spreads and their destabilising consequences. The second is to narrow the band within which price oscillates. This requires governments bring back into the oil market an expectation of the feedbacks if prices move outside the band. For instance, if the market strongly expects that oil prices above $90 will hurt the world economy and lower demand for oil then this will be built into expectations and oil prices would not persist above that level. On the other hand, if the market expects that oil prices below $40 will induce an OPEC response, and undermine investment in the oil sector, then prices would not persist below $40.

[12] For details, see Fattouh, B. (2009), Reinforcing Feedbacks, Time Spreads And Oil Prices, *Middle East Economic Survey*, VOL. LII, No 17, 27-Apr-2009

Thus to enforce a band, there is a need to establish certain mechanisms that induce expectations about feedbacks in the market. If such feedbacks are built into the expectations of market participants, then the price could be contained within the band without any adjustment in actual levels of output. For instance, if prices rise above a given ceiling, then expectations that oil demand would fall or supply would rise would bring the price down. Similarly, if the oil price falls below the floor, then expectations that supply would fall or demand would rise will push the price back to within the band. Of course, there is always the possibility that the market from time to time would like to test whether these mechanisms are operating in a smooth manner. For instance, in a falling market, players may doubt whether OPEC will be able to implement output cuts and may demand to see actual cuts before they alter their expectations. In such cases, the adjustment would not be instantaneous and it will take time for the oil price to revert to the price band. On such occasions, the oil price could exhibit high volatility when it is wandering outside the band.[13]

In theory, there may be a role for government to play in stabilising long term expectations. However, it is important to move away from focusing solely on the role of speculation and transparency issues towards a more general framework that also takes into account the way the market functions and the expectation of feedbacks.

**The Limitations of Existing Mechanisms**

It is clear from the above discussion that the first step in analysing a price band is to address the following question: what types of responses should market players expect if prices wander off outside the band?

Given current oil market conditions and the divergent interests of the various players, it is not clear where the response would come from if the price were to increase above the upper bound. One potential response would be for OPEC to increase production to bring the price back within the band. However, the response from OPEC in a rising market is not straightforward.[14] First, the objective function of OPEC is not to impose a ceiling on oil prices. The objective of OPEC is to ensure that the market is well supplied – i.e. that supply disruptions are avoided. This does not mean that OPEC prefers to keep oil prices below some upper bound. Unlike a central bank that can increase interest rates to bring inflation down, OPEC does not have a mechanism or an agreed set of tools to lower oil prices. For instance, OPEC does not offer discounts on its crude oil or auction its spare capacity in an attempt to bring prices down when it thinks that oil prices are dangerously high. This is especially the case if OPEC thinks that the market is well supplied (at a given price) and there is no additional demand for its oil. Moreover, there is an OPEC concern that increasing production without

[13] See Fattouh, B. (2008) "To Cut or not to Cut: The Dilemma Facing OPEC", Oxford Energy Comment, October.

[14] For details of OPEC behaviour over the cycle, see Fattouh, B. (2008), "OPEC's Dance With The Market", Middle East Economic Survey, VOL. LI, No 50, 15-Dec-2008

any coordination with consuming governments could result in an uncontrollable decline in oil prices. Finally, any attempt by OPEC to bring prices down would be confronted with popular discontent in the home country.

In fact, Saudi Arabia's position on this issue is unambiguous. When asked about whether it is possible for OPEC to contain price spirals, the Saudi Oil Minister Ali Naimi's response was clear - stating that this "is the biggest challenge" and then reinforced his position by stating that "it's very difficult. There are too many players in the market. It's impossible with so many players." [15] This in itself is a clear signal to the market that, if there is a quick recovery in oil demand and prices start on their upward march, then Saudi Arabia will simply follow the market rather than lead it. After all, one major lesson that we should have learnt from the previous boom-bust episode is that OPEC matters most when oil market fundamentals are weak. In a rising market, OPEC is just another market player, with some potential influence on the market, but no desire or willingness to play an active role. In a rising market, OPEC can be expected to play an active role only in the case of physical disruptions as was the case when hurricanes caused much destruction in the US Gulf region, or in 1990 when Iraq invaded Kuwait.

What about oil importers? One of the very interesting features of the last oil boom was the lack of response from oil consuming governments to rising oil prices. Other than playing the 'blame game' and criticising OPEC and speculators, the response by consuming countries was extraordinarily subdued. In part, this can be explained by geological and policy constraints. On the supply side, some governments can encourage the exploration and development of their oil reserves, but such a policy proved to be ineffective in producing a fast (expectational) feedback on the supply side given the limited size of reserves and the time lags involved in bringing production to the market. This was perceived by the market. On the demand side, the impact of high prices remains muted given that oil demand in the short run is highly inelastic. In fact in the last boom, many of the fastest growing economies in Asia and the Middle East maintained fuel subsidies thus limiting the potential impact of higher oil prices on demand. Of course, high oil prices would eventually have their impact on demand, but the feedback is perceived to be too slow and gradual to fundamentally alter short-term market expectations. Policy announcement of the introduction of efficiency measures can have only a long term impact but are unlikely to play an important role in forming market players' short term expectations. In short, oil importing countries are market followers *par excellence*.

Interestingly, there is one card that consuming countries could use to generate a feedback from high oil prices to the market, but which was not used in the last boom: the release of oil from strategic petroleum reserves. In the past, US governments have

[15] Reuters, "OPEC set to hold output steady, hopes for price rise", May 27 2009.

been reluctant to use this card, but this might change under the new US administration. In their presidential campaign, President Obama and his Vice President Joe Biden stated that "…the doubling of oil prices in the past year is a crisis for millions of Americans and the transfer of wealth to oil producing countries, many of them hostile to our interests, is a threat to our national security. With the goal of bringing down prices at the pump, they support releasing light oil from the SPR now and replacing it later with heavier crude..." [16] If this 'oil weapon' is ever used, this would constitute a major shift in US energy policy from security concerns towards more active management of the market. This could generate a strong feedback in the market that could, in theory, place a ceiling on oil prices, at least in the short run.

Using the SPR or more generally establishing a global oil fund to police the upper bound is fraught with risks. The release of oil from the SPR may not work or even backfire if the market interprets such an action as reflecting a sense of emergency and/or deteriorating market fundamentals. Furthermore, as the experience of the foreign exchange market has shown, speculators can attack the 'band' causing the SPR to deplete and lead to a collapse of the price band.

What about protecting the price floor? Here the response from OPEC is straightforward. The Organization would implement output cuts to prevent prices from falling below the floor. If OPEC is able to generate the expectations of such a response, then it may not even need to implement the cut. However, the market may wish to see whether appropriate cuts could be implemented in practice - in which case it will take the Organization a long time to bring the price within the bound.

The largest uncertainty, however, concerns importing governments' response if prices fall below the floor. In theory, there might be some options available for importing governments. For instance, non-OPEC suppliers could support OPEC policy by announcing output cuts. Western leaders could send clear signals that low oil prices are damaging and provide public support for OPEC moves. Alternatively, importing countries may show willingness to support the price by creating artificial demand - for instance through building up the SPR. It is clear that these and other similar options require far reaching changes in policy which no importing government seems, so far, willing or even capable of implementing.

Thus, a fundamental weakness of policing such an oil price band is that it has to be managed by parties with very divergent interests. In a rising market, OPEC loses the interest in policing the upper bound and, when prices fall, importing governments lose interest in policing the lower bound. In other words, the attempt to create any oil price band in the current situation would not be credible.

**The Credit Crunch and the Long Awaited Feedback**

[16] www.barackobama.com/pdf/factsheet_energy_speech_080308.pdf

The latest oil price cycle indicated that in booms the demand, the supply and policy feedbacks needed to put a cap on rising prices are rather muted. The sharp rises in oil prices in 2007 and 2008 caused a reduction in oil demand especially in OECD countries. However, the impact was limited and slow to change investors' expectations.
It was the impact of credit crunch on global growth and on global oil demand that generated a powerful feedback into the market. The unexpectedly rapid and sharp deterioration in near-term global economic growth prospects undermined prospects for future oil demand. Some observers doubted that economic growth in emerging and developing economies would return to the very high rates seen during 2003-07. Thus, while in the first half of 2008, the market's focus was on the potential impact of high oil prices on economic growth, the global financial crisis shifted the focus towards the potential impact of the global economic downturn on oil markets and oil prices. Equally important the deep recession altered expectations about the short- to medium-term prospects for the oil market. The financial crisis induced a shift in oil market sentiment from concerns about shortages of supply and peak oil towards fears about the future of long term oil demand. The sharp fall in demand also diverted attention towards the size of existing spare capacity in OPEC countries.

In short, the long awaited feedback into the oil market finally arrived in the third quarter of 2008. Three features characterised the nature of this feedback: (i) its impact was felt on the demand side; (ii) it mainly originated from outside the oil market; (iii) it has little to do with government policy. For a price band, this type of response is far from ideal.

**Stabilizing Future Expectations**

Rather than aiming at stabilising spot prices within a band, the main objective of both oil importing and exporting governments should be to stabilise market participants' long term expectations. One of the main features of the latest oil price cycle was the unlocking of the back end of the forward curve. Since 2004 and until most of 2008, changes in the prices at the front end of the curve were normally associated with very similar changes in prices at the back end of the forward curve. This indicated that market participants virtually had no expectations that the oil price will revert towards equilibrium within the relevant horizon. In effect, long term expectations had a neutral effect on short term expectations.

This is in complete contrast with pre-2004 market when the back end of the forward curve was locked around a price that was perceived to reflect the long term fundamentals of the oil market. In that world, changes in spot prices had very little effect on the longer term price expectations. This in turn affected short term expectations. Specifically, as oil prices drifted far from the long term price, the idea that prices would eventually revert towards that long term oil was built into participants' expectations

In theory, an oil price band could help stabilise long term expectations. But given the limitations discussed above, the market can instead opt for a reference long term oil

price. Unlike the band, this does not require physical intervention in the oil market. The main aim is to discourage actions that may result in movements very far from this reference price. The main criticism of this proposal is that it involves such a weak commitment that it would not change anything in practice. But this is not necessarily true. Coordination games provide some useful insights into this issue. In coordination games, players have a common interest in reaching certain outcomes but in order to reach these outcomes they need to coordinate their actions and all move in the same direction. It has been long recognised that when individuals are confronted with large uncertainty, focal points may in some instances play an important role in providing a point of convergence for individual expectations. [17] Some focal points may be *a priori* more reasonable or more prominent and noticeable than others. In the context of the oil market, the impact of the focal point would be stronger when governments of different countries agree and communicate their preference about the focal point.

In a rare precedent, King Abdullah of Saudi Arabia said in a newspaper interview that he considers $75 to be a "fair" price for a barrel of crude oil. The Saudi Oil Minister, Ali Naimi, justified the target price as the "price that marginal producers need to maintain investments sufficient to provide adequate supplies for future oil consumption needs." [18] The announcement of output cuts in October and in December, 2008 did not help anchor market expectations around OPEC's preferred price. Saudi Arabia's signal about its preferred oil price was being washed out by news about the depth of the recession. However, as oil price movements started hovering above $60, Saudi Arabia's preferred price seemed to gain more influence. Coming from a key oil exporter with a strong capability to influence oil prices, the $75 may create a focal point in the market towards which investors' expectations converge.

However, the market should not be under any illusion that the new price target constitutes a stable equilibrium. While there is the possibility that the new price target set by Saudi Arabia may help in bringing about a convergence of expectations, the market may move to the $75 oil target but only to discover that this focal point itself is 'unstable'. This will occur if the expected feedbacks at the $75 oil price are slow or are perceived not to be forthcoming either on the demand side, the supply side, or both.

Thus, in line with the idea of focal points, it is important to strengthen some of the feedbacks in the market. In this respect, the likely increase in spare capacity can play a central role in coming years as it will increase the ability of the market to respond to supply shocks. Unfortunately, poor performance of non-OPEC supply and expectations that the current environment has reduced investment in the oil sector are undermining the potential role of spare capacity in altering long term expectations.

[17] Schelling,T (1963), *The Strategy of Conflict*. Oxford University Press, New York, 1963.
[18] Reuters, "Low oil prices mean less future supply – Saudi", December 19, 2008.

Thus, policies to remove the bottlenecks on the supply side either at the country or the firm level could go a long way towards stabilising expectations about a supply response. On the demand side, re-establishing the key link between high oil prices and demand by removing subsidies and imposing taxes could strengthen the feedback from demand. Re-incorporating in market participants' expectations that high oil prices could induce a negative effect on disposable income, with permanent effects on oil demand, could also help stabilise long term expectations.

**Conclusion**

It is clear that a necessary (but not a sufficient) condition for an oil price band to operate is an overarching political agreement between exporters and importers. Since oil creates rents, this in effect means that there must be a fundamental agreement on the distribution of these rents between oil exporters and importers. Given the divergent interests of significant parties, market participants (including financial players) are very sceptical about producer and consumer governments reaching an agreement about the distribution of oil rents which would be both credible and durable. The most that the market could ask for is a focal point towards which long term expectations can converge. The impact of the focal point would be stronger when governments of different countries agree and communicate their preferences about the focal point, which would create a role for 'oil diplomacy'. But even this requires some sort of basic international coordination which is still not forthcoming. Until then, it is business as usual for the oil market.