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Paul Horsnell thinks we are moving to a sustainable long-term price level. *Oxford Energy Forum, Issue 62.*

It used to be so much easier. There was an almost universal belief in a particular theory of the way things fitted together, and that theory seemed to fit reality well enough. Any deviation from the theory had then to be either, the product of faulty observation, a temporary aberration, or the work of dark forces. On the one hand, a close look would have revealed that the theory used its result as an assumption, and the logic behind it might look a little stretched. However, on the other hand, all the time that the theory remained dominant, questioning the ruling orthodoxy was likely to be somewhat of a career limiting choice.

We are of course talking about the flat earth theory. It fitted reality well enough to survive for a few centuries, and having the Spanish Inquisition behind it certainly helped to improve its degree of persuasiveness. The Flat Earth Society continues to the present day, although perhaps only to demonstrate that you can still, albeit perhaps somewhat quixotically, continue a debate as much as 500 years after the available empirical evidence rather crushed your side of the argument.

The idea that oil prices had to stay low in nominal terms, and erode even further in real terms, is a little too recent to have had the support of the Spanish Inquisition, and it does not rely on the idea that there is a giant turtle holding everything up. It was, however, taken to be a truth throughout the 1990s, and then well into the current decade, by Wall Street and the capital markets, by energy companies, by most but not all academic observers, and by politicians and planners in consuming countries. The view was very precise, in that the long-term oil price was generally put as being between $18 and $21 per barrel. Indeed, the market's perception of where to place the back end of the crude oil futures curve very rarely strayed outside that $18 to $21 interval over the whole period from 1986 to 2002.

The $18 to $21 range became the touchstone for views of what represented normality, and any hypothesis that suggested prices could be higher than that range was considered heretically abnormal. Governments thought in terms of that range, as did financial markets. Oil companies had to be even more conservative to keep the equity analysts on side. In the 1990s equity analysts were perhaps the closest we came to having a Spanish Inquisition in the setting of market orthodoxy. After all, it is not that long since a former head of BP found his position being significantly eroded for daring to suggest that $21 might be a reasonable assumption for an oil company to make in its planning. The dominance of the low price orthodoxy led to the development of an *ex post* rationale for it. This was based mainly along the lines that prices must be set by the marginal cost of non-OPEC supplies, a line of thought that was sometimes referred to as the 'Goldman Sachs consensus'. In short, the theory was that if longer-term prices moved too far above $20, two things would happen.

First, there would be overinvestment in non-OPEC capacity sufficient to lead to a strong supply-side response. Secondly, there would be a sharp truncation of demand growth and then an outright fall in demand. The combination of strongly rising supply and sharply falling demand would mean that prices would have to fall back towards $20.

Very few would argue today that $20 is the correct long-term price for oil. However, it should be noted how that change came about. The rejection of the orthodoxy was not the result of any debate or examination that concluded that supply and demand side responses were not as strong as had been assumed. Instead, the rejection came about simply because oil prices rose, and then kept on going. With a few bumps in the road along the way, the front of the oil price curve has now been rising for just over 6 years. More importantly, the back end of the curve started its march up. The 5-year forward price of WTI (as shown in Figure 1) has passed by a series of milestones. It reached $25 in September 2003, $30 in June 2004, $40 in October 2004, $50 in April 2005 and having reached $58 in July 2005 it is now threatening $60.

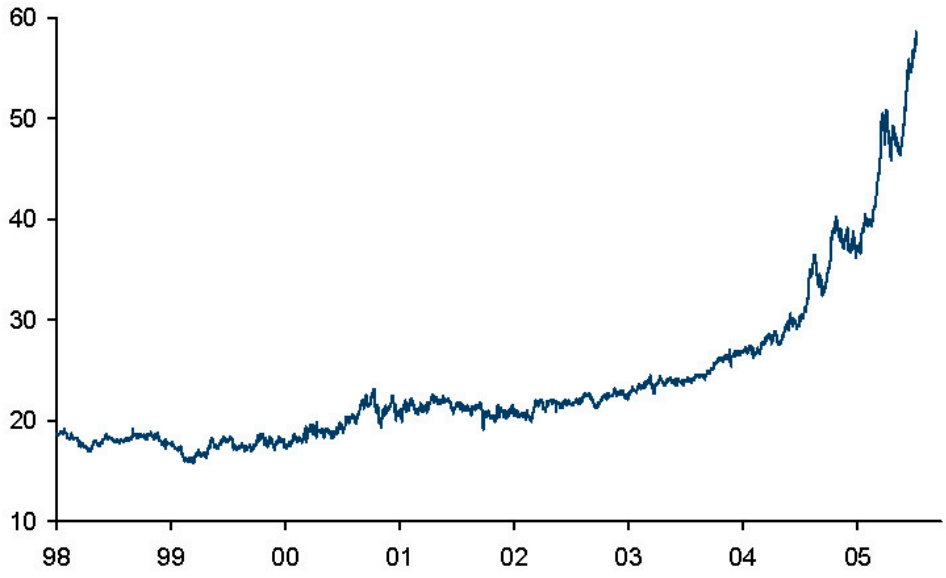

Figure 1: Five-year Forward Price of WTI, $/b.

Source: Barclays Capital

It has taken a few years, but the forces behind Figure 1 have proved to be strong enough for most not to want to be too dogmatic about a long-term low price for oil. It is significant that it was oil price behaviour rather than consensus about assumptions that has produced the change in analyst expectations. It has meant that elements of the 1990s consensus have been recycled and are still in play. There are analysts who would still argue that long-term oil prices are set by the marginal cost of non-OPEC supplies, and hence that prices have gone up because those costs have gone up. For the marginal cost of non-OPEC oil to have followed the path of Figure 1 would be

something of a stretch in our view, but that concept is still in the wild. Likewise, political discussion of the oil price still follows some very well worn grooves. Throughout the current year, various politicians have argued that higher prices are either the fault of observation, i.e. if the market had a better understanding and better data it would produce lower prices, or that the rise is temporary, or that it is simply the result of speculators or other dark forces. Even now, among many analysts and consultants there is a belief in a sharp increase in non-OPEC supply growth that will create a sustainable price collapse, i.e. they would say that old theory was perfectly correct but it is just a tad slower to operate than was first believed.

In all, market behaviour this decade has been enough to make it clear what the correct level of oil prices is not, and in particular it has shown that there was nothing magical about the environs of $20. However, that does not in itself help us to tell what the sustainable average level might prove to be. Our view is the sustainable level of long-term prices is that which creates enough investment along the entire supply chain to maintain a reasonable degree of spare capacity, while also ensuring that producing countries are able to maintain some growth in employment and in per capita incomes. That would argue for a long-term price of at least $50, with higher prices needed into the medium term to allow for some catch-up, particularly in the downstream, from the last decade of the 1990s. Prices can of course move to lower levels and indeed in some circumstances to much lower levels. However, they would not be sustainable at those levels into the medium term. Indeed, the real bull case for oil prices would be that we have a period of lower prices and compound the longer-term tightness in the fundamentals of the market.

The view of the sustainable price is of course largely a function of supply and demand responses. Compared to the 1970s, it appears to us that the price elasticities of both supply and demand are significantly lower, that the income elasticity of demand is significantly higher. In addition, the increase in the rate of decline of mature non-OPEC production has become a major force in blunting supply response. Compared to 20 years ago, there is twice as much non-OPEC output and its rate of natural decline is also twice as much. That means that there is now four times as much that needs replacing each year as before, and that is why non-OPEC production outside of Russia has been flat-lining this decade despite considerable expenditure and the development of a considerable volume of production in new projects. With Russian supply growth now also slowing sharply, it appears to us that non-OPEC production may not increase in the second half of this decade even by as much as it did in the first half of the decade.

On the demand side, the concentration of OECD demand in transportation rather than power generation or industry has limited the downwards pressure on the demand. However, the major change in the demand is that non-OECD consumers are now very much at the margin of the market, and they have far higher income elasticities of demand than OECD consumers. It is a far more general phenomenon than just China and India, but it is certainly salutary to note that those two countries combined represent 2.5 billion people consuming just 40 gallons of oil per capita per year. The average American consumes over 1000 gallons per year, and the average Briton 400 gallons per year. Should the joint Chinese and Indian average to reach just 100 gallons per capita per year, that would be 22.5 mb/d of oil demand. Two-thirds of

demand growth in 2004 came from non-OECD countries, and on Barclays Capital projections that proportion should exceed 80 per cent in both 2005 and 2006.

The move up in prices is not a shock, it is an adjustment towards a sustainable long-term price level. It has been in progress for too long, and has been too gradual to be a shock, and indeed that has been the major reason why the macroeconomic impact has been relatively benign. Had prices gone from $20 to $60 very quickly there would have been a strong impact effect. As it is, a sustained move up with relatively gentle year-on-year changes has allowed demand growth to continue fairly robustly.