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Oxford ENERGY FORUM

A QUARTERLY JOURNAL FOR DEBATING ENERGY ISSUES AND POLICIES

Issue 66 August 2006

Before introducing the themes and articles which appear in this issue of Forum, I would like to begin by recording a warm expression of gratitude to Ian Skeet. He edited 35 issues over a long stretch of nine years; a difficult task undertaken with his very English ability to always appear unburdened. The light touch also characterises his written style, fluid, with some irony, humour and understatements. In the name of the Institute and of the faithful readers of Forum, whom I am sure would join me, I would like to say, 'Thank you, Ian'.

The themes selected for this issue relate to two important questions. Are oil and gas supplies secure in a long term that, paradoxically, is not far from where we stand today? And why are oil prices so high today?

The security of energy supplies is a vast topic which cannot be treated in all its dimensions within a few pages. We focused therefore on one aspect – the allegation that Russia is using gas as a political weapon and thus represents a threat to this highly valued security.

The causes responsible for the rises in oil prices that have been occurring since 2003–4 are manifold. They include geo-political concerns, refining constraints, shrinking surplus production capacities, increases in world demand for oil and larger inflows of funds on commodity (financial) markets. We selected one of them for particular attention in this issue, namely the geo-political concerns.

On Russia, all three authors – Jonathan Stern, Giacomo Luciani and Shamil Yenikeyeff – agree that the fear of a threat to gas supplies to Europe is, to say the least, exaggerated.

Stern argues that the Western discourse about Russia's willingness to use energy as a political weapon misses the real problems about which little is being said. These are political and commercial issues between Russia and the countries through which gas flows to Europe. They relate to the much delayed changes in relationships between former Soviet Union nations following the break-up of that huge country.

Gas supplies in the long run depend to a large extent on difficult decisions that Gazprom will have to make on investment and on purchasing gas from the Central Asian states.

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OXFORD INSTITUTE FOR ENERGY STUDIES

Luciani focuses on the fundamental difference in perspective between Russia and the European Union. The EU's objective is to create a single European energy market. For this purpose they seek liberalisation, unbundling of the ownership of gas production from pipeline assets, and competition. Russia is a hydrocarbon economy, an important characteristic that the West does not seem fully to understand. Government control over the energy sector is perceived as essential. This is better served by a monopoly structure with a very big national company than by competition between a large number of agents. Luciani argues that Gazprom will have in the end 'to come to terms with the idea that Europe wants a competitive gas market'. But what if does not? This question opens the door for an interesting debate.

But what exactly is Russia's energy strategy? Yenikeyeff describes its main characteristics. He argues that the strategy is driven by a 'determination to occupy a prominent role in global energy markets'. The instruments are Gazprom and Rosneft. The means are acquisitions of both upstream and downstream assets outside Russia, sales of shares to private investors while retaining government control, and eventually domestic price reforms. He dismisses the view that oil and gas are being used, or will be used, as a political weapon.

The second theme is about the geopolitical factors that are supporting high oil prices. Four sources of concern have been selected: Iraq, Iran, Nigeria and Latin America. Walid Khadduri investigates the causes of political instability in Iraq and the challenges faced by the country in attempts to solve the current crisis. The causes are partly due to the USA, whose policy mistakes in the first years of the occupation are baffling analysts. They are also due to big problems which lie within Iraqi society. In the end sectarian politics which the USA did not oppose, and may have even encouraged, is the central issue. The solution is in reconciliation and the emergence of a new social contract. Will we have to go through a horrible civil war before this becomes achievable?

The Iranian story is different. There is a confrontation between the USA on the one hand and Iran on the other over uranium enrichment which could lead to the production of nuclear weapons. Iran denies that this is its intention. The West insists that it knows better.

Eric Rouleau believes that a US military intervention is unlikely in the near future. What could happen in the long run cannot be guessed today. The reason for his belief is that the consequences of a bombardment of Iranian installations are too awful to contemplate, particularly an Iranian retaliation in Iraq. Furthermore, the USA has no great appetite for another adventure given what is happening in Iraq and Afghanistan.

Rouleau recognises that his guarded optimism is not shared by those observers who point to the existence of powerful hard-liners both in the Iranian government and the US administration. However, many surprising developments are likely to occur before the ink dries on this paper.

The Nigerian problem is an extreme form of what characterises oil rentier states. It is compounded by the untypical weakness of the Nigerian government. In rentier states with large populations the distribution of oil income bypasses very large sections of the community. In Nigeria, those who live in the Niger delta, the region where oil wealth is generated, do not receive benefits. They witness instead the degradation of their environment. They thus fight against the oil companies as these are on the ground while the government is largely invisible.

Philippe Copinschi analyses with insight the vicious circles in which foreign oil companies are caught as their efforts to provide some of the health and education services, to compensate for the government's failure, prove ineffective in the end. These services need government support, which is lacking. The paradox is that by providing these essential services, the companies perpetuate a situation characterised by the absence of the state.

Latin America includes a large number of countries and constitutes therefore a vast topic. Oil markets are concerned with the resurgence of nationalism in Venezuela and many other nations. The most recent events which caused deep upset in Brazil, Argentina and among Western oil companies, occurred in Bolivia. Anouk Honoré chose this country as a case study. She points to the

misunderstandings of the Bolivian situation – similar in essence to those that mar the EU–Russia relationship. The problem with foreign investors is expected to be resolved, even though the distribution of the gas rent between the state and the companies will have to become significantly more favourable to Bolivia in any settlement.

The broad message in most of these papers is that oil nationalism is a potent force. The West needs to understand this and to propose imaginative solutions that serve the interests of all parties in a more balanced way.

Charles Henderson contributes a separate article on the nuclear issue as addressed by the UK Energy Review. His criticism of the review's approach is the danger of giving 'wrong answers to some questions that do not need answering' and ignoring vital issues that do need an answer.

The UK government is now committed to the nuclear option. That is OK in the author's judgement because renewables, although capable of making an important contribution, cannot on their own solve the global warming issue. There are however a host of questions about the government role and the choice of reactors among many others that are all central to the nuclear option. The UK government needs to state clearly its decisions or at least its intentions on these issues, otherwise the nuclear debate will continue as a familiar and unproductive squabble between parties with opposing views.

In a very important article Christopher Allsopp provides an explanation for the question that is puzzling many observers and commentators: why haven't the very significant recent oil price increases had the expected macroeconomic impacts on the world economy? Allsopp compares the effects of the price shocks of the 1970s to those which have so far occurred in response to the $60 or $70 barrel.

Are the macroeconomic responses just being delayed? Is the nature of the shocks – the 1970s being related to supplies and the 2004–2006 to demand – the cause of differences in impacts? Some have noted that the recent oil prices occurred gradually over three years while the 1973 shock was in the form of two sudden, discrete price rises. They thus conclude that the world economy in the recent instance has had time to adjust.

None of these views explains the so far muted responses to high oil prices – no apparent impact on inflation or on the rate of growth of the world economy, and no decline in the level of world oil demand. Allsopp has a different explanation related to changes in economic behaviour, structures and policies.

There is much to be debated on the issues raised in all these articles. Readers are invited, indeed strongly encouraged, to write letters to the editor. Without these the Forum is restricted to the views of authors and the wider energy constituencies remain unheard.

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Is Russia a Threat to Energy Supplies?

Jonathan Stern looks at the security of Russian gas supply in the aftermath of the Ukraine crisis

The crisis of 1–4 January 2006 which saw Russia cut gas supplies to Ukraine, with the consequence that Ukrainian consumers diverted significant quantities of gas in transit through their country to Europe, produced a huge negative reaction from governments and commentators on both sides of the Atlantic. These events have been received both in the media and in policy making circles as 'evidence' of Russia's willingness to use energy as an instrument of foreign policy and even as a political weapon. The ensuing six months have witnessed a downward spiral in energy relationships between Russia and Europe, each accusing the other of threatening energy security. Most of this discourse made little sense in analytical terms, and was symptomatic of a deterioration of political relationships between Russia and governments in both Europe and the USA. Meanwhile the most immediate threat to security of Russian gas supplies to Europe – the situation in Ukraine – continued to be ignored by OECD media and policymakers alike. Instead, there was an increasing focus on whether Gazprom would be able to maintain its exports to Europe because of anticipated future production decline arising from lack of investment in new fields.

Russia–Ukraine Crisis Aftermath

The Russia–Ukraine gas agreements of January and February 2006 did not provide an adequate commercial road-map for even the second half of 2006, let alone 2007 and beyond. The price of Central Asian gas purchased by Gazprom/Gazexport, principally from Turkmenistan, for onward sale to RosUkrEnergo and Ukraine is likely to rise from $65 per thousand cubic metres (mcm) at the Turkmen border, which Ukrainian buyers have been struggling to pay, to around $100/mcm in the fourth quarter of the year. Gazprom expressed concern that insufficient gas has been injected into Ukrainian storages which could create problems for the country's domestic customers during the winter months. Such problems are usually associated with shortfalls in the volumes available for Gazprom's European customers, most recently during February and March 2006, when buyers in Poland, Hungary, Italy and Austria reported that deliveries were between 10 and 35 percent below requested volumes on a substantial number of days.

> "It thus seems reasonable to suggest that Gazprom has strong incentives to maintain supplies to European customers"

The fact that the Ukraine was without a government for three months following the March 2006 elections and that, as this article was completed, opposition politicians were preventing the opening of the first session of parliament, is not confidence-inspiring for future political stability. The announcement from the Prime Minister-elect that all of the country's gas agreements needed to be reviewed suggested equally unfavourable omens for security of gas supplies.

Strengthened perceptions of the undesirability of increasing imports of Russian gas were partly addressed by the March 2006 EU Green Paper on energy strategy, which envisaged a deepening of the existing energy partnership with Russia and argued that the G8 should intensify efforts to secure Russian ratification of the Energy Charter Treaty and its Transit Protocol. But these suggestions were not new, and the failure of the European Commission to play any significant role during or after the events of 1–4 January 2006, using the institutions of the EU–Russia Energy Dialogue and the EU–Ukraine Summits, did not inspire confidence in its role in any future crisis management.

This was followed by strongly adverse public reaction to the following two sentences in a Gazprom press release of 18 April 2006:

> ...one cannot forget that we are actively developing new markets such as North America and China…
>
> It is necessary to note that attempts to limit Gazprom's activity in the European market and politicize gas supply issues, which are in fact solely economic, will not lead to good results.

These produced front page banner headlines in the Financial Times: 'Gazprom in threat to supplies: EU told not to thwart international ambitions; Group says it may divert sales to other markets.' This was despite the fact that Gazprom has no current capability to divert European supplies to North America or Asia and – in the most optimistic of all possible scenarios – will not have such capability for a decade. The commentary almost completely ignored other passages from the Gazprom CEO in the press release which read:

> Gazprom was and is the main supplier of natural gas to Europe. We understand our responsibility and henceforth will remain the guarantor of energy security for the European consumers. All the contracts signed to supply gas will be implemented. There are no doubts at all.

The reaction to the 18 April press release was followed, in early May, by US Vice President Cheney's speech to a conference of east European leaders in Lithuania when he noted in relation to Russia:

No legitimate interest is served when oil and gas become tools of intimidation or blackmail, either by supply manipulation or attempts to monopolize transportation.

Gazprom Investment in Production and Pipelines

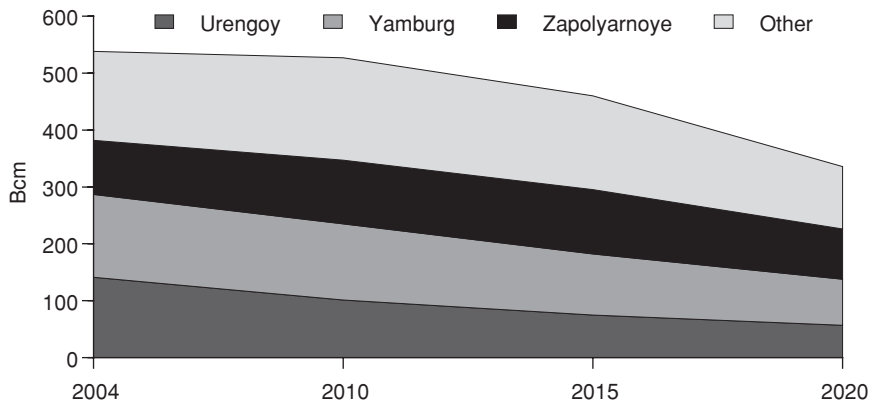
More substantive than these (largely political) outbursts have been issues raised by, among others, the International Energy Agency, relating to the adequacy of Gazprom's investment in production and network infrastructure; and the lack of liberalisation and access for independent producers to Gazprom's network. The expected decline of roughly 200 Bcm/year at Gazprom's fields in production and under development over the next 15 years (Figure 1) would be extremely alarming were it not for the availability of gas from independent producers and Central Asia in the short term, and Yamal Peninsula gas in the longer term. Aside from the exact decline profile of the fields, the main issue which it raises is Gazprom's ability to develop supplies from elsewhere, and the cost and reliability of those supplies.

Many have jumped to the conclusion that declining production will jeopardise Gazprom's ability to fulfil its contractual commitments to Europe. However, Gazprom's domestic market is twice the size of its European export market. Mid-2006 prices in Gazprom's European long-term (15–20 year) export contracts are around $240/mcm as a result of which the company will earn around $37 billion dollars this year, which may equate to as much as 20 percent of Russia's foreign currency earnings. These contracts are enforceable under international arbitration with liquidated damages for non-performance. Contrast this with Gazprom's (mostly one-year) contracts with its non-residential customers at regulated 2006 prices of up to $43/mcm (residential prices are lower), with some uncertainty as to whether all of its customers will pay in cash and on time. It thus seems reasonable to suggest that Gazprom has strong incentives to maintain supplies to European customers.

What might happen in the event that Gazprom should be unable to meet all the demands from domestic and international markets can only be guessed, but rationing gas to the domestic market would be both the logical and the historically expected response. Rationing would not mean leaving the population to freeze in the winter; it would involve restricting the amount of gas that industrial customers are allowed to purchase at regulated prices based on a number of criteria related to cost of service and ability to pay. This would provide a much-needed wake-up call to the Russian government that domestic prices are still nowhere near what will be required for viable investments in the next generation of fields on the Yamal Peninsula. But the main point is that Gazprom's major problem is not how to meet its contractual requirements in Europe, it is how to control growth of the domestic market where gas continues to be massively under-priced for political reasons.

Partly for these reasons, Gazprom's current investment programme is heavily weighted towards transportation infrastructure and there was much western speculation that the condition of the pipeline network was so bad that supply security would be compromised. During the two months immediately following the January 2006 Ukraine crisis, Russia and many parts of Europe experienced exceptionally cold temperatures well below minus 30 degrees Celsius for some ten days. Anecdotally, the winter is believed to have been the coldest since 1941 – some believe it was even colder. This raised gas demand in Russia and much of central/eastern Europe to extremely high levels, placing a huge strain on Russian gas and power networks which proved equal to the task. Much gas infrastructure and storage in Europe proved to be less robust and less well-prepared. In fact it would be hard to think of a European country where the utility industries would have coped as well as Gazprom and the Unified Energy System (UES) with the coldest winter in 65 years.

Figure 1: Anticipated Decline in Gazprom's Production 2004–2020 (Bcm)



Source: Jonathan P. Stern, *The Future of Russian Gas and Gazprom*, OUP: 2005, Table 1.10, p. 32.

Supplies from Independent Producers and Central Asia

The need for Gazprom to more actively engage and encourage independent producers has been a constant refrain of OECD commentary. While there are those in Gazprom who are not opposed to this course of action, internal disagreements and clashes of personality have slowed things down. But 2006 may be a defining year for this process, albeit not in quite the way that was envisaged. In the past few months, Gazprom has acquired

majority ownership of Northgas, a near-20 percent stake in Novatek and a controlling interest in Itera's Beregovoy field. These actions – all of which have different histories and rationales – have a common thread: Gazprom involvement in independent production. Since Lukoil's strategic partnership with Gazprom will apparently sell all of the company's gas (including that produced from Caspian joint ventures) to Gazprom, this leaves only three significant independent players: TNK-BP, Surgutneftegaz and Rosneft. The first is fixated on exports to Asian markets from the Kovykta field in Eastern Siberia, but could also have significant production in western Siberia from its Rospan subsidiary. The second appears to have little gas interest beyond that associated with its oil production. Rosneft, despite having rejected a merger with Gazprom, is discussing a long-term sales agreement with the latter for its west Siberian gas. Independents produced 93 Bcm of gas in 2005 and have reserves and investment availability which could see their production more than double by 2015. It will be increasingly in Gazprom's interest to ensure that the commercial environment is conducive to these developments.

"There are commercial and political problems between Russia and the transit countries through which its gas flows to Europe"

Central Asian gas supplies have also become very significant. In the past, deliveries of Turkmen gas to CIS countries (especially Ukraine) were a matter of logistical convenience; they are now essential to Gazprom's overall balance. In 2005, more than 54 Bcm of Central Asian gas was delivered to Ukraine and other CIS countries. Much higher volumes have been agreed by Gazprom – up to 90 Bcm/year from Turkmenistan alone – but the post-2003 period has seen significant demands for price increases from these countries, most recently reports that Gazprom has agreed to pay Kazakhstan $140/mcm for gas delivered in the second half of 2006. In terms of resource availability, exports from Turkmenistan, Kazakhstan and Uzbekistan could be as much as 150 Bcm/year by 2015 but for two outstanding problems: affordability and security. Comparing the prices that Central Asian countries want to charge for their gas with what CIS countries can afford, its attractiveness remains limited. Meanwhile President Niyazov of Turkmenistan has again threatened to cut off gas exports in October 2006 if he does not get the price he wants – just as he did at the end of 2004 (to both Ukraine and Russia) in the middle of winter at two weeks notice. Despite these problems, the option remains for Gazprom to use Central Asian countries as 'swing producers', regulating any shortfalls in its overall gas balance.

Conclusions

Despite a great deal of huffing and puffing in the media and political speeches about security of Russian gas supplies to Europe, the Russia–Ukraine crisis and its aftermath has told us two things that we should already have known:

- There are commercial and political problems between Russia and the transit countries through which its gas flows to Europe. These problems are part of the long-delayed break-up of Soviet political and commercial relationships.
- Gazprom has some difficult decisions to make about future supplies as between: investing in new fields, encouraging independent production and purchasing Central Asian supplies.

The first is an arena where European politicians can and should participate, but not simply by blaming the Russian government and Gazprom for everything that goes wrong and ignoring the actions of the transit countries. The second issue is not an immediate problem and will not become one unless relations with independent producers and Central Asian suppliers break down. Even in that event, the ensuing problems are much more likely to impact on Russian domestic users of gas than on Gazprom's European customers.

Giacomo Luciani asks whether Russia will remain a preferred gas supplier to Europe

The G8 Summit in St. Petersburg will be the first to take place under the chairmanship of the Russian Federation – and also the first one for which the host country has chosen energy security as a key item on the agenda. This is quite paradoxical: only in January 2006, Russia cut off gas supplies to the Ukraine, and extended shortfalls of supplies to countries in Central and Western Europe downstream of Ukraine did occur for a while. For the first time in thirty years, an acute feeling of insecurity has been created among Gazprom's European customers.

The US Vice President, Dick Cheney, has accused Moscow of making political use of 'the gas weapon', and encouraged the Central Asian republics to develop new pipelines bypassing Russia. Condoleeza Rice has echoed along the same lines. Claude Mandil, the executive director of the International Energy Agency, has stated that unless Gazprom revises its priorities and invests more in the upstream part of the business, it will be unable to honour its export commitments.

When the Soviet Union collapsed, an expectation was created that the New Independent States (NIS) in the Caucasus, Central Asia and of course

the Russian Federation would embrace the precepts of the advanced market economies, behaving in line with OECD principles. They were urged to liberalise their oil and gas sectors, open up to international investment, increase production and exports. It was expected that the opening up of the hydrocarbon wealth of the former Soviet Union would allow for substantially downsizing the OECD's dependence on oil and gas imports from OPEC or the Gulf countries, which are perceived as unstable and a potential security threat.

On the basis of these expectations, the EU and, separately, the USA launched 'energy partnerships' and dialogues with the Russian Federation and the rest of the NIS: the latter would, it was believed, behave more like Norway than like Saudi Arabia or Mexico.

"resource nationalism always remained the prevailing political sentiment in the country"

The expectation that Russia would be different was initially supported by the process of privatisation of the oil industry. Several 'private' Russian oil companies saw the light, but the Duma always maintained a resource-nationalist attitude, creating obstacles to foreign investment, and refusing to approve legislation generalising the use of Production Sharing Contracts – a point on which US diplomacy insisted for a long time. In fact, resource nationalism always remained the prevailing political sentiment in the country.

In the gas arena, there was never any doubt. The former Ministry of Gas was transformed into a vertically integrated gas company – Gazprom – which quickly became the key source of power in the new Russia. Initially, as political power was weak in the hands of Boris Yeltsin, Gazprom took over, and its founder and head, Chernomyrdin, became Prime Minister. Later, the company attempted to set itself up as a parallel and independent power, subtracted from the control of its largest shareholder, the Russian government.

As soon as he entered the Kremlin, Putin moved to regain control, appointing a man of his confidence, Alexei Miller, as the CEO of Gazprom. In this respect, any notion that the gas sector could be 'opened up' to foreign participation was always a non starter. Suggestions that Gazprom could be unbundled – separating control of the pipeline network from control of gas production and gas sales – or that Gazprom could be divided into two or three separate and competing companies were flatly rejected.

Recently, the Russian government has moved more and more clearly to adopt the principles of resource nationalism in the oil arena as well. However, for reasons of political expediency, it does not wish to do so openly – as would be the case, for example, if it declared that all oil-producing companies should surrender at least 50 percent of their ownership to a national oil company, which is what a traditional OPEC country would do.

The new policy took shape with the undoing of Yukos, and the shady transfer of Yuganskneftegaz to Rosneft. There was talk that Rosneft would be merged with Gazprom, but in the end it remained independent, and Gazprom instead acquired Sibneft, leaving the Russian government with two corporate tools to control the sector. What is left of Yukos may soon be declared insolvent, opening the door to a further increase of government control of oil reserves.

In parallel, legislation was passed to declare larger oil and gas fields 'strategic' and to reserve them to majority-owned Russian investors. This excludes TNK-BP from competing for access to these assets, seriously undermining its upside potential. The last that was heard on this front is that new legislation may soon lower the threshold of what is considered 'strategic', bringing it from 150 to 70 million tons for oil, and from 1000 to 50 billion cubic metres for gas. In announcing the new legislation, Yuri Trutnev, natural resource minister, said that his proposal was designed to protect Russia's national interests, and would particularly affect TNK-BP.

What does all of this mean? It means very simply that Russia is an oil and gas exporter, and behaves as such. Resource nationalism is a logical and understandable strategy for natural resource producers wishing to progressively transform their economies into advanced industrial economies. The expectation that Russia would identify itself as an industrial country, rather than as a hydrocarbon exporter, was entirely ill-founded. Russia, albeit not a member of OPEC, has every interest in behaving just as if it were one.

"any notion that the gas sector could be 'opened up' to foreign participation was always a non starter"

The expectation that resource nationalism would quickly become obsolete, and IOCs would gain access to much larger resources than they have had since the mid 1970s, was also unwarranted. Resource nationalism is in full swing, and higher oil and gas prices have eliminated one of the key reasons for calling back on the IOCs, i.e. scarcity of finance. Resource nationalism is not necessarily a threat to energy security: in fact Saudi Arabia and the other Gulf countries have contributed the most to increased global oil supplies, at a time of political tensions in other parts of the world.

Russia will, in all likelihood, also contribute to increased oil supplies, albeit probably at a slower pace than was achieved by Yukos under Khodorkovsky. But then, some people are of the opinion that Yukos was pumping too much oil out of their reserve base, and jeopardising the maximisation of recovery rates in the longer run. The rate at which reserves are drawn down is the major difference in expected behaviour between national and international oil companies, and it

is not by chance that Surgutneftegaz or Lukoil has been more prudent than the old Yukos.

When it comes to gas, one cannot understand the conflict between Russia and the EU unless one also considers the latter's drive to create a single European gas market. Russia is still attached to the old order of things, based on bilateral monopolies, long-term take-or-pay agreements, destination clauses and indexed prices. In contrast, the European Union, following the British example, has decided to embrace liberalisation and the creation of a competitive, integrated European gas market.

The key driver of the European liberalisation policy is not so much security of supply or price stability – it is indeed dubious that either of these two would be better served by a competitive and integrated European market – but the creation of a single European energy market. The latter is essential because one simply cannot have a successful monetary union, or claim to have achieved the goal of establishing a Single Market, if national energy markets continue to be separated, and characterised by sharply divergent structures. For this reason, and notwithstanding the clear lack of enthusiasm with which some of the member countries have enforced liberalisation and competition, I believe that there will not be a turnaround in European energy policy. Rather, the Commission will propose, and the Council will in the end accept, progressively more stringent rules to guarantee the convergence of national markets into a single European energy market.

Through a string of initiatives (the European Energy Charter, the INOGATE umbrella agreement, the Barcelona process, the European Neighbourhood Policy, and the latest in the series, the Energy Community Treaty, which came into force on 1 July 2006) the EU has tended to expand the legal reach of the single European energy market beyond the member countries, to incorporate also countries in the so-called neighbourhood of Europe. With the Energy Charter Treaty, an attempt has been made to formulate rules that, while falling short of being fully in line with internal EU rules, are nevertheless at least compatible.

"the EU has tended to expand the legal reach of the single European energy market beyond the member countries"

Russia's refusal to ratify the Energy Charter Treaty is a manifestation of the country's lack of interest in the European rules. Russia does not believe in a liberalised, unbundled, competitive European market. The Russian concept of things has been very clearly expressed by Igor Shuvalov, one of Putin's aides in the preparation of the G8 Summit. 'In our logic, Gazprom should emerge as a global energy company, forming partnerships with major oil and gas companies throughout the world,' Shuvalov was reported as saying in a speech in Paris. 'Our objective is not an association of gas producers, but a closely interconnected and mixed asset-management system whereby both consumers and producers are part of an integrated business structure,' and unless that happens 'there will be no energy security.' The same idea, of an exchange of assets between upstream and downstream, in order to cement a commonality of interests between buyers and sellers, has been articulated by Putin himself.

However, this approach is the negation of competition. It is a vision whereby Gazprom is at the centre of a constellation of bilateral deals with major national importers, each controlling its own national market, and not competing with each other.

In the end, and even if they continue to reject ratification of the Energy Charter Treaty, Russia will have to come to terms with European competition policy. In a recent move, the Competition and Energy Commissioners launched a joint inquiry into monopolistic practices in the energy market, whose results will be of crucial importance in shaping the future of the European energy market and of EU–Russia energy relations. The preliminary report of the inquiry, published in February 2006, asserts that, 'The five main barriers to a fully functioning internal energy market are:

1. Market concentration
2. Vertical foreclosure
3. Lack of market integration
4. Lack of transparency
5. Price formation'

While the preliminary report mentions no individual company by name, it is very clear that Gazprom, in association with its allies, controls a very large share of the European market, is a champion of vertical foreclosure, and does not want competitive price formation.

It is therefore fully to be expected that the Commission will conclude that Gazprom enjoys a dominant position in several of the member countries' gas markets, and is abusing it. Remedies will be proposed, and the doctrine of extraterritorial reach of the European competition jurisdiction will be upheld. One can guess that this will take the form of invalidating existing long-term contracts, forcing Gazprom to sell transmission and distribution assets that they might own within the EU, and eventually capping the share of total EU imports, unless the Russian government enforces a competitive environment at home, notably opening up access to pipelines.

Gazprom does not seem to understand the nature of the issue, or perhaps is trying to pre-empt the course of European policy by imposing a different regime before things evolve too far. So far, European directives have not enforced complete unbundling of ownership. The currently prevailing, mild degree of societal separation between stages has not been sufficient to promote effective gas competition. We should expect more rigorous unbundling to become mandatory.

In the end, Gazprom will have to come to terms with the idea that Europe wants a competitive gas market. If it insists on resisting European

rules, it will inevitably find itself restricted in its freedom to penetrate the market. This has nothing to do with the presumed political use of the 'gas weapon' – Russia was justified in asking for a closing of the gap between prices paid by former Soviet republics and international prices, although it went about doing so in the most undiplomatic way possible. Indeed, the incorporation of the former soviet republics into the single European energy market, as proposed by the European Neighbourhood Policy, *requires* the abandonment of any form of administered or segmented prices. It has, nevertheless, a lot to do with enforcing competition.

Talk about Russia diverting gas exports to Asia or the United States is not relevant in this context. Russia will obviously diversify its export markets, but Europe will always be the one market that offers the best netbacks. In the same vein, although it may try to develop alternative export routes, Russia will always be dependent on the Ukraine to an important extent. The attempt to approach the issue with a geopolitical toolbox (by-passing, encircling, pre-empting competitors, pitting customers against each other) will in the end prove to be of not much use.

It would be an exaggeration to view Russia as a threat to energy security, but neither should it be viewed as a preferred supplier. Europe must create a level playing field, and focus on establishing the necessary transmission capacity (new pipelines, new regasification terminals) to allow an ever growing number of outside suppliers to compete on the European market. A *competitive* market, that is.

Shamil Midkhatovich Yenikeyeff explains Russia's energy strategy

In the current times of high energy prices, instability in the Middle East, growing Asia–Pacific energy demand and reserve depletion in the OECD region, energy-consuming nations are highly sensitive to any real and probable disruptions in the supply chain. It is, therefore, not surprising that the Russo-Ukrainian gas dispute of January 2006 resulted in the recent highly politicised debate on Russia's reliability as an energy producer. Apart from transit complications with the Ukraine, Moscow has also been increasingly criticised for hindering Central Asian and Caspian oil and gas deliveries to global markets, the Yukos affair and the growing state presence in the energy sector, resource nationalism, non-transparent rules and emerging constraints on foreign investment and third party access, and underinvestment in new oil and gas fields and the relevant energy infrastructure. Some commentators find it ironic that this year Russia as a G8 chair promotes energy security while using energy resources as a 'foreign policy weapon' against its neighbours.

Does this really mean that the world's largest energy producer is a threat to global energy security as some Western observers have recently suggested? To answer this question effectively one needs to examine Russia's energy strategy and its ability to use energy resources as a political tool.

Russia's energy strategy is driven by its determination to occupy a prominent role in global energy markets. To achieve this, it is actively seeking to transform Gazprom and Rosneft into global energy champions, mainly through upstream and downstream acquisitions, liberalisation of shares and gradual withdrawal from subsidised gas prices for domestic consumers and the neighbouring states – the former constituent parts of the Soviet Union. Russia is also attempting to diversify its oil and gas exports which are almost entirely dependent on European energy markets without compromising the existing contracts. In addition, Moscow aims to take an active part in the establishment of guidelines and a new regulatory framework for international oil and gas markets. In all the three described areas Russia has faced considerable resistance.

Transit and price issues involving Gazprom and Russia's neighbours have been the key problem. Russian officials insist that the Russo-Ukrainian gas dispute was of a purely commercial nature, and they have strong grounds for saying so. According to President Vladimir Putin, Gazprom, through low energy prices, subsidises the Ukrainian economy in the region of $3–5 billion per annum. As soon as the Russian energy giant demanded a higher price for the gas supplied to the Ukraine it immediately became a political issue. The essence of the Russo-Ukrainian gas dispute is not only about gas prices it is also about transit pipeline infrastructure and distribution networks. From a commercial point of view and for the sake of stable transits, it is simply a good idea for Gazprom to take control over this infrastructure.

"Russia's energy strategy is driven by its determination to occupy a prominent role in global energy markets"

Gazprom's recent relations with Belarus, Moldova and Georgia have also been developing along similar lines. Russia's oil companies and Gazprom used similar strategies towards Russian regions in the 1990s. If regional administrations were heavily in debt to oil and gas companies for energy supplies they would often be compelled to concede assets under their control, sometimes on a temporary basis. For example, the government of the Russian semi-autonomous region of Bashkortostan leased a local oil and gas refining plant, Salavatnefteorgsintez, to Gazprom to settle an outstanding debt. Like their Ukrainian

and Belorussian counterparts, Russian regional leaders also resisted corporate penetration into their provinces and often attempted to use political rhetoric to protect local assets.

Gazprom's plans to acquire downstream assets in transit countries and Europe are often viewed as a threat to the energy security of the European Union. Some commentators argue that such moves would reinforce Gazprom's monopolistic position in European markets and undermine EU plans to boost security of energy supplies through their diversification. Russia, on the contrary, views Gazprom's downstream acquisitions as an essential component of security of demand. Access to European distribution, retail and generation capacities would provide Gazprom with a guarantee of demand for its new energy production and transportation projects, such as Yamal or the NEGP. In this situation, the suggestions of some European politicians, heightened by members of the journalistic community, to establish legal obstacles to Russian downstream acquisitions in Europe have created new uncertainties for Russian energy companies.

Some of the EU initiatives to change its energy relations with Moscow have resulted in serious incompatibilities between Russian and European energy strategies. The European Commission has recently come up with an idea of a sole EU–Russia gas framework which, in Russian eyes, seeks to undermine Gazprom's system of long-term bilateral agreements with European companies. Under the existing framework, EU partner companies of Gazprom's export arm, Gazexport, are restricted to selling Russian gas within their own territorial domains. The European Commission seeks to change this practice by making Gazprom sell its gas at the EU border, while European gas companies will no longer have any territorial restrictions when it comes to selling Russian gas. As a result, Gazprom's existing export revenues, long-term investments and strategic bilateral relations with individual EU countries (such as Germany) will be harmed. It also raises serious concerns in Russia about security of demand in relation to Europe since around 80 percent of Gazprom's supplies to the EU are conducted on the basis of long-term contracts. Some European suggestions to diversify away from Russia as a supplier have only strengthened mutual tensions and a climate of distrust in EU–Russia energy relations.

"Russian officials insist that the Russo-Ukrainian gas dispute was of a purely commercial nature"

Russia's resistance to ratifying the Energy Charter Treaty (ECT) has also been subjected to misunderstanding and misinterpretation. Today the ECT is probably the only international document which aims to establish meaningful rules for energy cooperation between producer and consumer nations. Nevertheless, the Energy Charter is unlikely to be ratified by Russia in its current form. Since 1994, when over fifty countries signed the treaty, many of its provisions have become dated. Russian minister of finance, Alexei Kudrin, recently complained that many of the Charter provisions on investor protection and transit issues are weak and/or lost their value with the EU enlargement. Government officials in Moscow often hint that Russia may sign the Charter but without its annexe, the Transit Protocol, as this undermines Gazprom's commercial interests. The protocol seeks to open Russian gas pipelines to exporters in the Caucasus and Central Asia at a Russian transit charge of $0.35 per 1000 cubic metres. This will establish a serious competitive advantage for the gas from Turkmenistan, Kazakhstan, Uzbekistan, and Azerbaijan as it will cost around half the price of the Russian gas at the German border.

Moreover, Article 20 of the Transit protocol establishes exemptions for member states of the European Union whose energy relations are covered by the EU's own rules and regulations. This means that new members of the European Union, many of which are transit countries, are no longer covered by the ECT. Such provisions make this important international document an external policy paper regulating transit issues outside the European Union. As a result, the ECT has been devalued in the eyes of key producer nations, including Russia.

Today Russian government and independent experts agree that EU initiatives on diversification and market liberalisation have been implemented without proper consultations with suppliers. Since these initiatives are clearly undermining the commercial interests of producer nations, they are now trying to find some common ground (such as the formation of the GECF – the Gas Exporting Countries Forum) to deal with pressures from some European policy makers, described by Nadine Hallouche in the previous issue of the *Oxford Energy Forum*. Europe's one-way street approaches and ultimatums in its energy relations with Russia will not work and are undermining the energy dialogue.

It is rather unfortunate that some commentators and policy makers in their discussion of energy security tend to view energy resources as a potential foreign policy weapon in the hands of producer nations. This rhetoric, reminiscent of Cold War times, may well be part of an ongoing bargaining process between producer and consumer nations on new rules of the energy game, but it further damages mutual trust in the energy area. Russia is dependent on its consumers as they are dependent on stable energy supplies from Russia. Mutual dependency undermines Russia's ability to use energy resources as a weapon. At present, Russian energy exports are almost entirely dependent on European buyers and any serious disruptions in the supply chain hurt Russia as well as Europe. Possible transit complications which result in gas supply disruptions in European markets (like the ones involving Belarus in 2004 and the Ukraine in 2006) can only be prevented if all parties involved in the energy trade and transit develop a new international legal framework beneficial to all participants.

The UK Energy Review and Nuclear Power

Charles Henderson

The danger with the DTI's Energy Review is that it will give the wrong answers to some questions that do not need answering, and fail to address those that do need answers.

Nuclear is a case in point. The prime question here is whether nuclear has a role to play in reducing carbon emissions. The Prime Minister seems to have decided that the answer is yes. And he must be right. Faced with a global warming crisis it would be extraordinary folly to rule out one possible avenue. But the critics, not excluding some respected bodies and individuals, are effectively saying that a choice has to be made by the government between nuclear and renewables, and nuclear should be ruled out. The argument runs that renewables are capable of solving the problem; that no nuclear capacity will be available until 2016 at the earliest, and so it is not worth embarking on a new nuclear programme; and that we cannot manage the pursuit of both renewables and nuclear at the same time – a new nuclear programme would crowd out renewables.

It may be that renewables *can* solve all our problems but it would be a brave person who decided to rely on this. The global warming problem is likely to intensify with time and any contribution that nuclear can make to mitigating the problem, whether before or after 2016, should be seized. And the idea that we cannot manage to pursue both nuclear and renewables is surely a counsel of despair, based on the experience of twenty or thirty years ago when decisions about investment in generation plant were taken centrally and paid for by the Treasury. These arguments smack of the old anti-nuclear ideology and we must hope that they will be disregarded and that the Review will focus on some rather more difficult issues that have to be considered if the nuclear option is to be properly assessed.

The first such issue is what government measures are needed to facilitate a resumption of nuclear build. Is it sufficient to set in place the right investment climate and leave it to industry? Indeed what is the right investment climate? Apart from making it clear that the government is not opposed to new nuclear plant, should it introduce a nuclear obligation putting it on a par with renewables? Or should it rely on the effect of the emission permit regime? In either case how can it give the industry sufficient confidence about the future regime to undertake investment? If with such measures industry does not opt to build new nuclear stations what if anything should be contemplated to get one going? Government subsidies? A government controlled building programme? Such a step as this would begin to justify the fears of the anti nukes.

Then there is the question of reactor type. Here it is worth reflecting a bit on the past history of nuclear in the UK and elsewhere. It will be recalled that the government decided in the 1960s to favour gas-cooled technology – but then left it to the industry to decide on design. We got four different designs, none of which was built to time or cost. The French meanwhile settled on the PWR and, with a single manufacturer/contractor, built a series of near identical plants. The steady and predictable programme and the replication enabled them to drive down costs.

You might say that this is just typical French centralist behaviour, depending on a single electricity supplier (EdF) and a single manufacturer (Framatome), and that this has no relevance to today's situation in the UK. But the message from this story is actually very potent. Without the certainty of replication of a tried product, a nuclear programme in this country will simply not happen.

So how can we apply this lesson to the UK situation, where the generating sector is fragmented, and there is no indigenous manufacturing capability (Westinghouse having been sold to the Japanese)? It may not in fact be that difficult. The UK generators are now international companies, which can draw on their overseas experience and thus secure replication on a worldwide basis, rather than within the UK market. Similarly, there are international power station building consortia. So provided we do not see the need for an essentially British technology and building capability the world market may give us what we need.

This points to a possible scenario in which at most two reactor designs are available to UK generators, both being adopted and built in other parts of the world, and giving an assurance of reliability, ease of construction and cost reduction. It could be left to the advocates of new nuclear build in the UK to choose between these two. Or possibly government and the Nuclear Installations Inspectorate (NII) might seek to persuade the UK industry to settle on a single design, at least by relaxing any competition constraints on joint ordering. A possible obstacle to this vision of internationalisation and replication is the fact that each country sets its own safety requirements. So the major customers for a particular reactor design need to harmonise their safety requirements either multilaterally, or through the EU.

This discussion suggests that the essential outcomes of the Government Review should be

- an acceptance by the government that nuclear has a role to play in meeting our future energy needs (this looks increasingly likely judging by statements by the Prime Minister and the Chancellor);
- a description of the regulatory or statutory measures that it proposes to adopt to facilitate this. This will need to include measures designed to give investors confidence in the long-term predictability of the planned regime;

- a statement that the government will not intervene by subsidising nuclear power stations or embarking on a government controlled and financed programme if the measures referred to above prove inadequate. (This is a difficult one; it needs to be said in order to disarm the renewables lobby and to ensure that the industry does not overstate the obstacles to a market solution in the hopes of obtaining subsidies; however, will it be believed if the government is saying that nuclear is an essential contribution to the solution?)
- a statement about reactor choice and the steps the government expects the NII to take to minimise delay in the licensing process, and possibly co-ordinating clearances with safety authorities in other major countries.

It is in these last three areas that the debate needs to concentrate, and unless the government clearly sets out the options and its preferences, if not intentions, in these areas, the argument following publication of the Review is likely to degenerate into a squabble between committed anti- and pro- nuclear factions.

The Geopolitical Causes of High Oil Prices

Walid Khadduri considers the instability of Iraq, its causes and challenges

Whatever the purpose of the US occupation of Iraq in March 2003, the results so far have been disappointing. In the first half of 2006, over 6000 people were murdered in Baghdad alone – mostly for sectarian reasons; around 20,000 people have been kidnapped; and approximately 180,000 people were displaced from their homes as a result of ethnic cleansing.

A Series of Mistakes

It was always assumed that the removal of the Saddam regime would be difficult and full of retributions. However, what has come as a surprise to many, including some of the most senior members of the Iraqi government, is the number of mistakes committed by the occupation authorities in the past three years. Their frequency and seriousness have left few viable and peaceful options in the period ahead.

There is the familiar list of mistakes

It includes, among other things, a military doctrine that has grossly underestimated the required number of soldiers to carry out nation-building following the war. Instead of the approximately 450,000 members of the armed forces and security personnel under Saddam, the United States has deployed around 130,000 men and women. Their task is not only to protect the nation's borders, but also to patrol the streets and maintain law and order in rebellious Iraqi cities and towns.

There is also the disbanding of the Iraqi armed forces, the one and only state institution that could have maintained law and order following the collapse of the totalitarian regime. The decision to dissolve the army and police created a big vacuum that the allied forces could not have possibly filled. This has resulted in widespread theft and the destruction of private property, the wide opening of the borders, as well as some 2–3 million people being left without any income.

Finally, there is the indiscriminate de-ba'thification process that has dismissed thousands of civil servants and teachers from their jobs, and left state institutions with few experienced personnel.

These three decisions resulted in the absence of security, the deterioration of state institutions, and the creation of a fertile ground for terrorism and sectarianism.

Questions Unanswered

There are, moreover, scores of questions that remain unanswered. How could a superpower, with such access to information and analysis, not take into consideration the debilitated conditions of Iraqi society after three major wars and comprehensive international sanctions, and plan economic recovery accordingly?

> "The big problem, of course, lies within Iraqi society itself"

Why were the priorities of Iraqis for security and the provision of basic daily needs neglected in favour of grandiose capital-intensive projects? It has not gone unnoticed that while multi-billion dollar projects were awarded to major US firms, the people lacked electricity, gasoline and jobs. Many of these projects have not been implemented for budgetary and security reasons, while the basic daily needs are still lacking.

Why was there such poor planning and execution to bring the country back to normalcy? The fix-it as you go approach, the rapid change of the first occupation authority after barely a month in power, and the failure to re-establish functional and accountable state and local authorities have driven the country to near civil war.

Why the War?

However, a more fundamental

problem concerns some of the premises provided for the war.

If the US purpose was to create a new Middle East, friendly to democracy and modern society, then why build a religious state? More seriously, why throw the US weight behind sectarian politics? And, if pragmatism necessitates working with grassroots religious and ethnic parties, then why isolate and marginalise the secularists – a major component of Iraqi society?

The big problem, of course, lies within Iraqi society itself.

There was an informal social contract that governed Iraqi society and politics throughout most of the past century, albeit with many shortcomings and setbacks. However, one of its most notable achievements was the building of a country on the basis of meritocracy, irrespective of religion, sect, gender or ethnicity. It allowed students from rural and urban areas to compete on an equal footing with similar chances for higher education and professional success. It also allowed for religious freedom, without prejudice and sectarianism, so much so that Iraq was one of the few secular states in the Middle East.

"It is difficult for Iraqis to understand how a country with such oil wealth … all of a sudden finds itself short of gasoline"

The Saddam regime, the wars and the international sanctions tore apart this social contract. The neo-conservatives in the Pentagon saw fit to bury the last remnants of the contract by disbanding the army. They did this without any back-up plan of how to run a state of over 25 million people.

The USA allied itself with Saddam's opposition who are playing a zero sum game towards others, floating objectives that cannot be accepted by their friends and foes, and with no spirit of Truth and Reconciliation, like that in South Africa. Iraq has not only lacked a Nelson Mandela, but also the political culture and tradition that would save the country from the massacres and carnage that are witnessed today. The fact that some of these political forces are allied with neighbouring states, particularly a theocratic Iran, adds fuel to the fire.

The Oil Industry

Iraq has the second largest oil reserves in the world, after Saudi Arabia, and has the potential to increase its production capacity to 6 million barrels per day, if there is peace, stability and an agreed upon Social Contract among the major domestic political groups. However, the oil industry has suffered much during the past three years, to the extent that production has decreased from an average of 2.6 mb/d during 2002 to the current 2 mb/d. As a matter of fact, the industry has been inflicted by many of the security and political problems discussed above. Its experience is a microcosm of why Iraq is where it is now.

One popular image of post-war Iraq is the picture of a marine standing guard at the Ministry of Oil the first day after the fall of the Saddam regime while gangs were looting the Iraqi museum. The message was clear to all: there were orders to protect the oil wealth and none to safeguard the country's heritage.

The fact of the matter is that while the Ministry of Oil was protected, other oil institutions, such as the State Oil Marketing Organization (SOMO), the Exploration and Production Department, the main water injection plant that provides the necessary pressures for the southern fields, the whole range of drilling rigs available to the oil industry, the trucks, cars, and so on … all were stolen, destroyed and looted. So much so that the Ministry of Oil had no means in April and May 2003 to communicate with the operating companies in the north and south except by renting taxis and dispatching its officials to go back and forth giving instructions, and surveying what was needed.

A second image is the long queues of cars waiting at the petrol stations. It is difficult for Iraqis to understand how a country with such oil wealth and no previous record of petroleum products shortages, all of a sudden finds itself short of gasoline.

The answer is simple. A new law was passed in mid-2003 allowing the import of cars and trucks – tax free, as part of a greater trade liberalisation policy. Over a million cars were imported in two years, doubling the consumption of gasoline. This happened at a time when the war-fatigued refineries were working on hand-to-mouth spare parts and equipment, as a result of 12 years of sanctions. Moreover, and more important, the insurgents, tribesmen and terrorists have targeted – among other things – the pipeline system extending from the fields to the refineries and distribution centres. They also kidnapped drivers carrying products from neighbouring countries, killing over one hundred. To make matters worse, a large network of gangs, with the collusion of local employees in the oil establishment distribution system facilitated the building of an extensive black market.

"a weak Iraq on the brink of a civil war can only invite intervention from neighbouring regional states"

In essence, what we have here is the enactment of laws and orders that do not take into consideration the overall conditions of the economy, the lack of security because of the absence of police and army, and the spread of graft.

The third image is that of massive corruption, way beyond the experience of any other oil-producing country. Oil revenue, to the tune of around $1 billion monthly, is lost because of smuggling and corruption.

Both the Inspector Generals of the Ministry of Oil and the US Army published in May 2005 detailed reports about the activities that

surround such operations. Some of the facts provided are inexplicable. There are eight illegal ports along the 65 km Shatt al-Arab. One would think that the British Army could put a stop to them. The fact that smuggling gangs continue operating is a testimony to the fact that these groups, some of them active in the previous regime, have merely changed their protectors – the politicians.

So far, the country has been preoccupied with politics. Deliberations on the oil question have been very limited. However, taking into consideration the experience of the past three years, and the narrow personal interests of the politicians that have taken precedence over the country's national interest, it will not be surprising to see a major battle over oil policy and revenue distribution in the months ahead.

Challenges

Iraq under the Saddam regime had reached a dead-end. The system was not going anywhere, burdened by international sanctions and a leadership that was cut off from global developments. What the occupation has offered is the opportunity to draw up a constitution and have elections.

The problem lies with the foundations of the new system being established. Instead of building a secular society that attempts to bring together all national elements and political parties, it took off by embracing sectarianism. It is difficult to see how stability can be maintained in Iraq under such a system, and without a national reconciliation to remedy the situation.

Moreover, a weak Iraq on the brink of a civil war can only invite intervention from neighbouring regional states who would exploit the conflict to their advantage, whether for security reasons, regional ambitions, or support of ethnic and religious groups associated with them.

Furthermore, and as long as the occupation continues, it is safe to assume that conflict will continue, either by resistance fighters or by religious terrorists who have taken up the challenge to fight the USA on Iraqi soil.

Finally, it is necessary for the Iraqis to gradually find for themselves a new Social Contract. The Saddam regime obliterated civil society. It is necessary to build a new one that encompasses all parts of society. It must be clear by now, and after taking the country to the brink of civil war, that force alone will not resolve the conflict. A policy of reconciliation could offer an alternative. While this may be the only option for a better future, there are no easy solutions or short cuts. Much damage has already been done because of the gravity of the mistakes that have been committed. It will take time and much effort to regain civility again.

Eric Rouleau analyses the conflict between Iran and the USA over nuclear

The security of the Gulf depends to a great extent on the future of relations between Iran and the United States; thus the keen interest in the situation in those countries in the region whose economies depend on the supply of petrol. And the feeling of relief since a military intervention against the nuclear installations in the Islamic Republic began to be considered less and less likely, at least in the foreseeable future.

In a report published in Washington on 13 March, entitled National Security Strategy Paper, it was suggested that the USA would abstain from attacking Iran. Moreover, for several months American military experts, particularly some retired generals, were explaining that air bombardments would be extremely risky. First of all, it would be very difficult, if not impossible, to destroy most of the nuclear installations, which are dispersed over the vast area of Iran, some of them either unknown to the intelligence services or well protected in deep underground tunnels. The US intelligence services (as well as the Israelis it is claimed) are not even sure of the existence of any construction of a strictly military character. Estimates of the length of time needed to manufacture a bomb, supposing that Tehran intends to do so, vary between five and ten years.

"The US intelligence services … are not even sure of the existence of any construction of a strictly military character"

In any case it is generally considered that the political and economic consequences would be seriously damaging. The ambassador of Saudi Arabia to Washington, Sheikh Turki al Faisal, warned the administration in June that such a military confrontation 'could double or triple the price of oil', thus threatening the world economy. Many observers have commented that Iran would undoubtedly retaliate, all the more easily given its considerable influence among the Shiites of the Gulf, particularly in Iraq, the Achilles heel of the USA. What would happen, one retired American general asked, if 100,000 Iranian 'volunteers' infiltrated the country to join up with the ranks of Iraqi insurgents? Tehran could also encourage the tensions between the Lebanese Hezbollah and the Palestinian Hamas on the one side and Israel on the other, so increasing instability in the Middle East. In addition of course the Islamic Republic could disrupt to some extent petroleum traffic through the Straits of Hormuz, despite the presence of the US navy.

In order to block the Iranian nuclear project, Washington has two other options: to negotiate and if that fails

to impose international sanctions on the regime in Teheran. This second option remains unlikely given the opposition in the Security Council of Russia, China and perhaps even France. And there are good reasons for this: Washington has not been able to prove either that Iran is on the way to producing atomic bombs or that it has violated the rules of the Nuclear Non-proliferation Treaty, of which it is a signatory. The uranium enrichment by Iran, which the western powers are opposed to, is perfectly legal within the terms of this Treaty. Moreover, it seems to be established that Tehran is coming up against serious material and technical problems which are preventing it from enriching uranium in sufficient quantities to manufacture a nuclear bomb. And even if a resolution is passed in the Security Council, the effectiveness of the sanctions would be extremely uncertain as experience in a number of cases has clearly shown.

"It is difficult to envisage Washington accepting to conclude a non-aggression pact with Tehran"

Unilateral US sanctions would leave the field open to China and Russia whose ambition is to establish a bridgehead in the Islamic Republic in order to penetrate the Gulf. Beijing is currently negotiating the conclusion of a contract worth several billion dollars which will allow China to import Iranian liquefied gas during the next quarter century. For its part, Russia would be very pleased to be able to become the principal partner of Iran in the field of energy; together these two countries have at their disposal the largest oil and gas reserves in the world. Moscow could contribute to the modernisation and development of the Iranian energy installations, even though its technology is clearly inferior to that of the United States. In any case, in the course of the next 25 years Moscow could supply part of the necessary investment which is estimated at $160 billion. In the long term the big loser from this relationship would be the United States.

Such considerations were not far away when Washington decided on 31 May to embark on the path to negotiation alongside France, Germany and the United Kingdom, the European triumvirate which has tried in vain since 2003 to establish a common ground with Iran.

President Bush's decision represents an important turning point in American policy towards Iran and perhaps marks the beginning of a broader dialogue. Nevertheless, the negotiations risk being long, difficult and perhaps doomed to failure at first. It seems unlikely that Iran will give up definitively the enrichment of uranium without obtaining in exchange explicit assurances that its security will be guaranteed, which would oblige America to renounce its doctrine of preventive war as well as its policy of 'regime change'. It is difficult to envisage Washington accepting to conclude a non-aggression pact with Tehran or to undertake formally never to have recourse to force against the Islamic Republic.

However, it might be possible to get around this obstacle if the United States would agree to take part in negotiations on all the differences between it and the Islamic Republic since the Khomeini revolution in 1979. For the moment, Washington only wants to deal with the nuclear crisis, which is against all logic if one thinks that a full normalisation of relations with Iran would serve the interests of the USA by bringing peace not only to the Gulf but to the whole of the Middle East. In fact Iran would inevitably have to give up its support of the Lebanese Hezbollah, the Palestinian Hamas, and to cease all interference in Iraq and elsewhere where there are strong Shiite minorities.

Logically, it would also be in the interest of the Islamic Republic to turn over a new page on its tumultuous relationship with the USA. Iranian opinion, according to all the polls, would be favourable and the regime would then be able to stabilise and strengthen itself. A necessary condition however would be that its role as regional power is recognised, which of course is opposed by America which wants to maintain exclusive hegemony in the Gulf countries.

"it would also be in the interest of the Islamic Republic to turn over a new page on its tumultuous relationship with the USA"

Unfortunately, for 27 years Khomeini's Iran has been regarded by Washington not as an adversary but as a diehard enemy. Recently the US intelligence service sent to President Bush a study which described the Islamic Republic as being 'the most dangerous challenge' that the USA will have to face in the coming years. The firm belief of the US leaders is that it would be useless to hope that the Islamic system is capable of reforming itself, in other words to become a 'friend' or even an 'ally' of America like all the other Gulf states. Indeed, it is difficult to imagine that Tehran will resign itself to accepting the network of American bases that besiege it, from Iraq to Qatar, from Kuwait to Bahrain.

If it is premature to hope for an early Iranian–US reconciliation, it is not impossible that a compromise will be found to settle the nuclear imbroglio. The incentives offered by the allied powers could seduce the Iranian leaders, at least the more moderate among them. The United States is offering among other things to remove most of the sanctions imposed over the last ten years, to supply the necessary technology to develop the nuclear industry for peaceful use, to participate in the development of oil and gas resources and to support the entry of the Islamic Republic into the World Trade Organisation (WTO).

Despite its reticence and maximalist demands, the Tehran government seems to believe in the success of the nuclear negotiations. Clearly it is

actively preparing to join the WTO by announcing this month a vast programme of privatisations, which goes completely against its traditional statist doctrine.

Despite everything, many observers remain cautious and envisage much less optimistic scenarios. One of them takes into account the influence of intransigent anti-Americanism at the heart of the regime, as well as that of supporters of the use of force in the highest levels of the US administration – admittedly small in both cases. If one or the other (or both) comes to prevail, there would be the danger of an impasse leading to confrontation. What is certain is that the coming months or weeks will be decisive for peace in the Gulf region and stability in the Middle East.

Philippe Copinschi discusses unrest in the Niger Delta

Expected to become a key element in the future supply of oil and gas to the USA (25 percent of US hydrocarbon imports in 2015 according to some projections), Sub-Saharan Africa is seen, especially in Washington, as being strategic to the world energy supply. However, this hope could be frustrated by the effects of the failure of economic development and the collapse of political structures – which all African oil states are victims of, in particular Nigeria, the most important of them. Nigeria is a victim of the 'Dutch Disease' and like all the African oil states has become deeply dependent on the revenues from its oil resources. These represent more than 90 percent of the value of its exports, around 80 percent of government revenues and about 60 percent of GDP (all of which vary according to changes in the world price of crude oil). This dependence on oil receipts has extremely negative consequences in terms of governance (endemic corruption and the collapse of state structures) and development (the disappearance of non-oil activities, especially agriculture).

"In Nigeria the economy is organised exclusively around oil rent"

In Nigeria the economy is organised exclusively around oil rent. In providing the government with huge revenues almost automatically, oil rent tends to take away any motivation to develop a diversified economy. Above all, by pushing up the real exchange rate of the local currency (due to the massive capital inflows), the rent makes all other economic activities non-competitive, both agricultural and industrial, and tends to marginalise them or even cause them to disappear. This has even more pernicious implications since the oil industry does not create employment for the local population: oil is an economic enclave which generates few jobs and has little impact on the other productive sectors of developing countries. Through a ricochet effect the question of the distribution of the rent tends to become the focal point of political debate or power struggles. The exercise of power is even more attractive since it is the only way to gain access to the oil wealth – it is the state that negotiates with the oil companies the rights to exploit the petroleum resources of the country.

Given the environmental degradation caused by oil exploitation and neglect by the local authorities, which are generally corrupt, the local population tends to turn straight to the oil companies to obtain the fruits of what they consider to be 'their' oil. Since government institutions are practically non-existent on the ground (or at least invisible), the companies are the sole representatives of public authority that are accessible to the local populations. For although the companies pay considerable sums to the state in the form of royalties and income taxes, most of the population of the Niger Delta feels completely excluded from the benefits of oil activity. Regularly and in a more and more violent way, young members of these forgotten people demonstrate their hostility to the oil companies. Pressure is applied in various ways, ranging from sabotage of pipelines, kidnapping employees and occupation of installations, including offshore shallow water platforms. The companies find themselves caught in a vicious circle, where their activities and the revenues they generate distort the political life, increase the tendencies towards the formation of a rent economy and the collapse of political institutions, and so create the frustrations of which they are the first victims – at the same time being seen as guilty by sections of public opinion in the Western countries!

"oil is an economic enclave which generates few jobs and has little impact on the other productive sectors of developing countries"

The deterioration of the socio-economic situation in the Niger Delta began at the end of the 1980s, when the collapse of oil prices and the subsequent drying up of oil revenues gave birth to numerous organisations with a marked ethnic identity, for example MOSOP (Movement for the Survival of the Ogoni People) who were fighting for regional autonomy and denouncing the inequity of the division of the oil rent (from which they consider the local populations do not benefit enough). This movement was the first to focus its discourse on the environmental impact of oil exploitation, claiming large financial compensation not only

from the federal government but also the oil companies who were active in the region (the foremost being Shell). Thanks to the active support of large transnational NGOs like Greenpeace and Human Rights Watch, the political-ecological campaign led by MOSOP against Shell under the leadership of the writer Ken Saro-Wiwa found an international response which profoundly affected the public image of the company. In the face of the sometimes violent mobilisation directed against it, in January 1993 Shell decided to leave the Ogoni country and shut down its installations – which remain closed today. This unprecedented decision intensified the repression of the MOSOP leaders, ending in the arrest and execution of Ken Saro-Wiwa in 1995, which in turn provoked intense international mobilisation, at the diplomatic level as well as public opinion. The regime of General Abacha was blacklisted as well as the Shell company which was accused of complicity, at least passive.

"The companies are well placed to know that the substantial revenues they pour into the federal government are 'lost' well before they could be of benefit to the local communities"

Since then the Niger Delta region has frequently suffered from violence that opposes local communities and ethnic groups demanding better access to positions of power and, more specifically, a redefining of the distribution of oil rent in their favour. The two main oil towns of the Niger Delta (Warri and Port Harcourt) are particularly affected by the troubles – the occupation of installations and sabotage of pipelines are commonplace. Although Shell, as the historical actor that dominates the Nigerian oil scene and the real incarnation of the country's oil industry, is particularly targeted by acts of violence, in fact all the companies (ChevronTexaco, Total, ExxonMobil, ENI and so on) are equally affected by the troubles and regularly forced to temporarily close some of their installations, which results in surges in world oil prices.

Confronted by this double threat (local instability and accusations at the international level) the oil companies have for several years tended to react by setting up programmes for local development. These programmes, which are intended to enable the local populations to benefit directly from the presence and activity of the companies in the exploitation of oil resources, have become an element that cannot be ignored (and is given much publicity in the media) in the strategies of the companies to seek legitimacy from the local populations as well as international observers (NGOs for example). Dozens of schools and clinics, as well as roads, networks for electricity and water distribution have all been constructed through funding by the oil companies.

However, much of this infrastructure is usually not operational since there is no public finance to take charge of the running costs (teachers' salaries, health equipment, maintenance of roads and so on). Without any lasting impact on local development, because of lack of partnership with the public authorities (often non-existent), these programmes seem essentially to be intended as a response to the critics and to pressure from the local populations and international NGOs. In fact the companies find themselves not only obliged to make hundreds of ineffective appointments but, above all, to take the place of the state in order to assure the minimum of public services. Thus they are locked in a vicious circle where, by taking on the role of the state to buy short-term social peace, they perpetuate a situation (the weakening of the state) which is the source of the problems they are facing.

On the basic questions (the lack of transparency and governance by the political authorities), the companies avoid calling into question the systems of corruption which have formed around oil activities. However, corruption and the lack of governance are said by everyone involved in oil to be the basis of the social troubles which frequently occur in the Niger Delta. The companies are well placed to know that the substantial revenues they pour into the federal government are 'lost' well before they could be of benefit to the local communities, whose frustrations turn them against the companies. 'Bunkering' (theft and the blackmarket in oil which today is said to involve between 10 and 15 percent of the production of Nigeria) is another consequence of the widespread practices of corruption.

"corruption is a problem of systemic order linked to the development of rent economies and the concomitant collapse of the institutional structures of the state"

The risks that the oil companies face in their activities in Nigeria result from the problems of governance peculiar to the rent economies which are characteristic of oil-producing countries. The oil companies however, being private economic actors, are not in a position to respond to these systemic problems. Particularly in Nigeria, corruption is a problem of systemic order linked to the development of rent economies and the concomitant collapse of the institutional structures of the state. Since they act from an industrial and financial, not political logic, the companies are overcome by inertia in their relations with the governments, whose legitimacy they cannot call into question, even in the name of ethical principles. Lacking an appropriate international legal framework and in the absence of an international organisation able to impose it, they perpetuate a system which they know is deadlocked and whose consequences will seriously jeopardise the oil development of the region, and thus the supply of the world market.

Anouk Honoré considers the case of Bolivia

Introduction

Latin American countries undertook structural reforms and economic liberalisation during the 1990s, hoping to increase their economic growth on a sustainable basis and alleviate poverty. In a radical move from these fairly market-oriented policies of the past decade, many countries have now elected leftist governments. The recent victories of Evo Morales in Bolivia, Michelle Bachelet in Chile, Alan García in Peru are just new additions to the group of left-wing governments in Latin America, which includes Hugo Chávez in Venezuela, Luiz Inácio Lula da Silva in Brazil, Néstor Kirchner in Argentina and Tabaré Vázquez in Uruguay.

Some countries like Chile, Uruguay and even Brazil are trying to enhance improved social policies while retaining the liberalising reforms of the 1990s. Other countries like Venezuela, Argentina and Bolivia are developing more radical policies, close to the Latin American tradition of populism. This concept of 'populism' describes the means by which the masses are brought into the political system in an effort to cure the social ills caused by capitalism. In Latin America, this was accomplished in their time by populist leaders such as Juan – and Eva – Perón in Argentina, Víctor Paz Estenssoro in Bolivia and Getúlio Vargas in Brazil.

The sovereignty over oil and gas resources is back on the political agenda. After two years of a 'gas war' which ended up with the election of populist Evo Morales in December 2005, Bolivia nationalised its hydrocarbon resources on 1 May 2006. This was a clear sign that the situation has changed, but will the impacts be as negative as energy analysts have described them? Is it the beginning of a new era in Latin America or rather a symbolic reply to the 1990s' policies failure? What can we expect for the future?

The 2006 Bolivian Nationalisation

On 1 May 2006, Bolivia's left-wing President Evo Morales kept his election promise by nationalising the hydrocarbon resources, and ordering the renegotiation of existing natural gas production contracts. The presidential Decree gives the 26 foreign oil companies operating in Bolivia (including Spain's Repsol, Petrobras of Brazil, UK's BP and BG and Total from France) 180 days to hand over control and ownership of oil and gas produced at the wellhead to YPFB, the newly state-owned company. YPFB will also be responsible for determining all aspects of production and commercialisation of reserves, including output volumes and prices for internal and external markets.

> "The sovereignty over oil and gas resources is back on the political agenda"

While new contracts are being drafted, fields that produced more than 100 million cubic feet a day in 2005 will pay 82 percent of the value of production in taxes and royalties in order to help YPFB cover new exploitation costs and investments. Foreign companies will keep only 18 percent. This precise measure might seem surprising, but the 82–18 percent split is only the mirror-image of the tax regime established by the original privatisation contracts in the 1990s. Moreover, in practice only two fields will be affected by the measure: San Alberto and San Antonio, both operated by Petrobras. And the surtax only applies for 180 days, a period during which contracts will be renegotiated after an audit for each company.

Despite the fact that international energy analysts interpreted the Decree as an unforeseen event and highly criticised it, the move is in fact the logical follow-up of the New Hydrocarbon Law of 2005, enacted before Evo Morales' election. Moreover, the President was elected on the basis of an ambitious nationalist agenda he had been pushing while in opposition. The 1 May Decree can not therefore be called a surprise. Even before 1 May, it was clear that contract renegotiation would be a key element of the new government's energy policies as the contracts did not conform to the 2005 Hydrocarbon Law. Symbolic measures such as the nationalisation were expected as Morales needed a significant change in the status quo. Sending troops to seize 56 oil and gas fields was also a symbolic measure, which was internationaly criticised. In reality, things went rather smoothly, with no threats or use of force whatsoever.

What's next?

Foreign companies have invested about $4 billion in the Bolivian hydrocarbon sector in the last ten years, which is an important, but not an excessive amount compared to investments realised in bigger markets such as Venezuela for instance. In theory, this would make it easier for the companies to walk away from Bolivia if the rules of the game for the natural gas sector become too unattractive. However, despite increasing concerns, companies with longstanding investments in the country are most likely to try to comply with the terms the government is offering. The problem is for new investors who will fear that any rules can be changed by the government at any time, and therefore may prefer to invest in markets where the perception of risks is less important.

Bolivia is rich in natural gas, but it has a small domestic market for the fuel and needs foreign partners to

develop and provide external markets for that gas. The future of the country's energy sector depends on how the Decree is interpreted; both the government and the companies know this. Even oil companies admit that Bolivia's Decree is extremely broad, and are agreeable to a case-by-case solution, which leaves scope for negotiation. Of course, any agreement will be less profitable than before 1 May for these companies, but this will not be commercially disastrous, even for Petrobras which is the biggest investor in the gas sector and the largest buyer of the country's gas exports. The Decree aims only to re-equilibrate the balance of power and the distribution of profits. After a short period of tension due to the 'surprise' of the 1 May Decree, relations with Argentina and Brazil (the two main markets for Bolivian gas) have already eased.

"despite increasing concerns, companies with longstanding investments in the country are most likely to try to comply with the terms the government is offering"

In the short term, uncertainties due to the renegotiations should not result in constraints on natural gas exports. However, Bolivia's ability to increase production and exports is at risk, as investment decisions will likely be delayed until the new rules for the natural gas industry are known. Argentina and Brazil could be affected by these delays, as they do not have access to significant alternative gas supplies in the short term. However, both countries will probably start to look for alternative sources of supply for the long term which will replace potential additional demand for imports from Bolivia, affecting its export market potential. For instance, Petrobras has already declared its intention to build two Liquefied Natural Gas (LNG) terminals and not to increase Bolivian gas imports beyond what is already planned. However, if the renegotiation of the contracts between Petrobras and the Bolivian government goes relatively well, the Brazilian company can still revise its strategy later. Argentina is likely to continue to increase its imports from Bolivia, but also to try to boost its own production to meet its rising demand. Both these solutions for Brazil and Argentina are economically less interesting than importing Bolivian gas (on grounds other than security of supplies) even if tariffs are increased to $5–5.5/Mbtu. In markets where natural gas provides a relatively large share of the energy mix and where imports rely on one main source, alternative measures should be looked at, even in the absence of political tension with the supplier country, in order to ensure security of supply in case of gas disruptions, which could be due to non-political reasons such as technical incidents.

Conclusions

Bolivia is not an isolated case in Latin America. During the past four years, governments in Argentina, Venezuela and Ecuador have also raised taxes on the oil and gas producers and changed contracts unilaterally. In time of high commodity prices with additional fears about scarcity, it happens that governments tend to hike up taxes and change contracts terms. There is nothing intrinsically wrong in trying to maximise royalties and taxes in poor countries in order to raise money to develop the economy; but whether any contract renegotiation is voluntary or coerced is the key issue. Investors in Bolivia or Venezuela may well be able to invoke international arbitration against these mandatory renegotiations, which is what happened in Argentina following the crisis of 2000–2001 with the devaluation of the peso and the unilateral decision to freeze tariffs in the country.

But nationalisation and renegotiation of contracts in Latin America are not just a response to high oil and commodities prices. They are linked to the desire to exercise power on natural resources and to maximise rents, but they are also a response to the failure of the 1990s liberalisation policies. Market-oriented measures were enacted following initially the International Monetary Fund and other international organisations in order to develop the economies of the countries and alleviate poverty. But a decade later, some Latin American countries remain very poor; among them Bolivia, the poorest. And it is hard for leaders in vulnerable countries to resist the temptations of Venezuelan aid, even if highly politicised. Evo Morales can hardly expect to gain from making concessions to the United States, as shown in the last 10 to 15 years with the coca eradication policies for instance. Knowing that the country needs financial, technical and political help, it is easy to understand Morales' viewpoint, that he might as well follow the populist tradition of Latin America and count on Chávez's support. Bolivia might also join Venezuela, Brazil and Argentina in making possible the so-called 'Southern Pipeline' stretching more than 9000 km between Venezuela and Argentina, even if Bolivia had previously dismissed the project as impracticable.

"After a short period of tension … relations with Argentina and Brazil … have already eased"

Venezuela, Argentina and Bolivia are seen as forming a radical populist grouping in Latin America that contrasts with the more moderate leftwing governments of Chile and Uruguay, while Brazil has sought to steer a middle course. However, revenues from gas exports are fundamental for the Bolivian economy, representing about 15 percent of the gross domestic product. The challenge for President Morales will be to balance his nationalistic agenda and the country's need for international support and foreign investment, and not only from Venezuela. The ability to achieve a safe and sound equilibrium will shape Bolivia's future economy and energy landscape.

Why is the Macroeconomic Impact of Oil Different this Time?

Christopher Allsopp

With oil prices around $70 per barrel compared with a low of about $10 a few years ago, one of the biggest questions is why the impact on the world economy seems (so far) to have been so small. There are lots of hypotheses and stories. One is that the impacts, on inflationary pressure and on world growth, will come through soon enough – they are just delayed. Another is that the nature of the 'shock' – demand rather than supply – is the difference that makes the difference. Yet another is the view that the relatively slow rise in the oil price – spread out over several years – makes it easier for economies to adjust. None of these seems very satisfactory. More plausible accounts appeal to changes in economic behaviour or structure and/or to changes in economic policy – particularly better designed monetary policy in many OECD countries. But what are these changes and why should monetary policy make such a difference?

This short comment goes back to basics, asking the kind of policy questions that were asked about the oil impacts in the 1970s – to see if there are good reasons for coming up with different answers now – and with different policy conclusions. It is true that some aspects of the situation do look very different now. Others, such as the mounting concern over energy security then and now, look very much the same, with the added constraint now arising from concern over climate change limiting the 'obvious' policy options – such as increased dependence on coal.

What is an Oil Impact?

Physical supply shortages

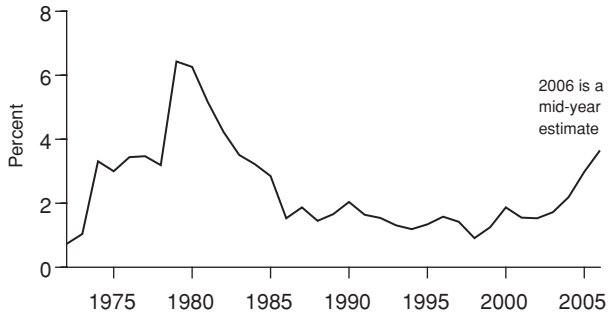
It is often forgotten that the first phase of the first oil crisis (from 23 October to December 1973) was about physical supply. The initial price rise was relatively small, small enough to be mostly neglected in macro policy debates. What really scared politicians was the embargo which created a real threat of physical shortages for some countries. The embargo was ineffective (oil turned out to be 'fungible') but that could not be known at the time, and fairly draconian measures to cut the demand for oil were adopted in many OECD countries (such as restrictions on driving on odd days of the week). There was a crisis atmosphere – which affected subsequent responses.

The big price rise in December 1973 coincided with the ending of the embargo. It was greeted with relief, and policy passed from defence ministries and departments of industry to finance ministries and central banks. The input output tables were put away. The oil impact needed to be looked at in macroeconomic terms along with other macroeconomic impacts and changes, such as taxes and interest rates.

How big?

Even now, many overestimate the macroeconomic significance of oil (and of energy more generally), because of potential supply disruptions which can paralyse an economy. In fact the first oil price impact was of the order of 2–3 percent of industrialised countries' GDP (measured very simply as oil consumption multiplied by the price impact and divided by OECD nominal GDP). Rather conveniently – in terms of the 'stylised facts' – the late 1970s impact was of a similar order of magnitude, and so was the effect of the large fall in oil prices from 1985 to 1986 (which boosted growth and lowered inflation in the late 1980s). (Figure 1)

Figure 1: Oil Consumption as Percent of GDP



So how does the present situation compare? Very roughly, a $10 rise in the price of a barrel of oil translates, for the OECD area, into an increase in expenditure on oil (in the short term) of about ½ percent of OECD GDP. So a rise in the oil price of $40 is about 2 percent of GDP: $60 would be 3 percent. No one really knows what a normal price was before the recent increases, or what the future price of oil will be. But, it should be clear that the present situation does involve – in broad terms – a price shock comparable with the big oil price shocks of the past.

The impact on supply potential

Many studies have attempted to account for the falls in output that followed the oil shocks of the 1970s in terms of the effects in reducing aggregate supply potential, either directly through the production function or in terms of the scrapping of inefficient equipment. Without wanting to discount these potential effects, it is hard to explain large effects on output or productivity on the basis of the stylised numbers above. Indeed, this is what studies in the 1970s and 1980s tended to show. For example, to get any substantial estimated effects from the first oil crisis, Bruno and Sachs (1985)[1] had to include the effects of other commodity price rises as well. It is also the case that changes in real commodity prices of similar orders

of magnitude during the 1950s and 1960s were not particularly unusual.

Long-run effect on inflation

A change in the price of oil is a *real* change. It is fundamental that there should be no effect on nominal quantities, such as inflation, in the longer run.

The Indirect Tax Analogy

In thinking about the impact of oil price shocks, by far the most useful analogy is with an indirect tax increase. Thus, an oil price impact of 3 percent of GDP can be thought of as the imposition of an indirect tax on oil, levied by the producers and paid by the users (firms and households). (This is more than an analogy – in Europe more than half the price of a barrel of oil represents 'taxes' levied by consumer country governments).

The 'special' characteristics of an oil price impact are immediately apparent.

- In the short run, the price elasticity is very low. (It appears to be quite high in the longer run, mainly due, in the 1980s, to the substitution of other fuels –especially for power generation).
- In the case of oil, much of the 'tax' impact crosses national frontiers, so that balance of payments positions are affected.
- As with any other tax, the overall effect depends on the effects on and behaviour of those who pay the tax, and the behaviour of those who benefit from it. A well-known feature of the first and second oil price shocks (and, to a lesser extent, the present one) was that some of the recipients, such as Saudi Arabia and Kuwait, were unlikely to spend the extra revenues in the short term. This adds up to an increase in world savings, which is deflationary unless offset by a sufficient fall in interest rates. (Or by fiscal offsets in consumer countries).[2]

The analogy with an indirect tax rise (of 2–3 percent of GDP) levied on oil (think fuel duty) the proceeds of which are not spent in the short term, immediately demonstrates that the well-known effects of an oil crisis are far from surprising. In fact they are just what one would expect. First, households and businesses in the non oil sector are poorer, since they pay the tax. A cut in expenditure is very likely – that is the deflationary effect. Second, there is a level effect on prices. Some prices, such as petrol, go up directly. Others go up to the extent that firms pass on rises in input costs to consumers. This level effect is not really inflation (though it will be measured as inflation whilst it is coming through – see below). It is a change in the real relative price of oil. Third, there is a clear danger of a wage price spiral as wage earners try to recoup their losses by higher nominal wage demands and as firms try to maintain profitability by passing on increased costs to consumers. It is often suggested that the 'stagflation' of the 1970s and 1980s was paradoxical and a serious blow to the prevailing economic consensus. Nothing could be further from the truth!

It is also clear that there is nothing inevitable about stagflation as a response. There are many examples of taxes (including indirect taxes) that have been raised without triggering an inflationary spiral. Likewise, terms of trade changes have often occurred without these kinds of responses. And there are lots of ways in which the deflationary impact might be avoided, either by direct spending effects elsewhere (e.g. by oil producers, or by governments, or by consumers themselves) or by indirect effects, such as the induced effects on spending of lower interest rates.

In looking at the present versus the 1970s and 1980s, the key question is why the responses might be different – including, importantly, the response of economic policy makers.

Could the Oil Impacts have been Offset?

If an oil impact (say of 2–3 percent GDP) is judged persistent, there is an important sense in which, in the longer term, it cannot be offset. If the oil is imported – the case for most industrial countries in the 1970s – the terms of trade worsen, and living standards fall (economic welfare drops). GDP, however, would be unaffected. The same would be true if the impact arose because of an increase in domestic resource costs: welfare would be reduced, though GDP would be unaffected.

In the short term, however, there is an obvious 'offset' – oil could be de-taxed domestically to the extent that the international oil price had risen. This would offset both the short-term demand effects *and* the price/inflation impact. (In fact, this was proposed as a response by OPEC in 1974.) The consequence, however, would be a rise in the domestic budget deficit. For an oil-importing country, the deterioration of the budget would match the deterioration in the external balance of payments position. For the world as a whole, the policy amounts to balancing the increase in world savings by the oil producers with dissaving by consumer country governments.

Such an offset is largely of academic interest.[3] A policy response which was actually discussed in the 1970s would be to accept the oil price impact (for resource allocation reasons, and to encourage conservation and development of supply) and lower other indirect taxes in a compensating manner. It was not adopted, mainly, it may be argued, because deflation was required anyway to try to control inflation pressures at the time.

The other interesting offsetting strategy would be to lower interest rates – to stimulate demand and maintain growth. (Some of this happened automatically in the 1970s – when real interest rates became very low. More recently, real interest rates have also been pushed down – in part because of oil producers' surpluses, but, more importantly, because of savings and current account surpluses in Asia.) This strategy amounts to a monetary policy offset to any demand lowering effects of an international oil price impact.

Obviously, any offsetting policy for demand would have to be temporary and be phased out over time as savings surpluses declined and exports from consuming countries rose (to pay for higher priced oil).

Macroeconomically, there is nothing special about oil price impacts

What the above should demonstrate is that there is really nothing special about oil price impacts. In fact, in macroeconomic terms, they are in many ways much simpler than other impacts that monetary and fiscal policy makers have to deal with.[4] For example, the Maastricht fiscal convergence process in Europe involved about 3 percent of GDP. The indirect tax rise in Japan in 1996 (a policy error according to most analysts) was about 3 percent of GDP, as is the proposed rise in Value Added Tax in Germany for next year. The rise in public spending between 2000 and 2005 in the UK was about 7.5 percent of GDP.

The basic point is not that oil price shocks do not have macroeconomic effects, but that there are lots of other things going on which also have macroeconomic effects and which pose challenges for policy makers. It is the task of macroeconomic policy to respond to the overall situation, rather than to oil shocks per se.

Oil Price Shocks under 'Flexible Inflation Targeting' Regimes

In comparing the responses now to those of the 1970s and 1980s it is much easier to reverse the time line of history and to start with the present. This is because the framework of macroeconomic policy and of policy responsibilities is much clearer, more explicit and more transparent now than it was back then. For brevity, the discussion is in terms of a system like that in the UK – which is widely regarded as best practice and is one of the most explicit and transparent frameworks in the world. (Similar considerations would apply, however, to Europe and to the more informal US system.)

In the UK, the main functions of macroeconomic policy are assigned (delegated) to the Central Bank and its Monetary Policy Committee (MPC) which is responsible for (a) meeting an inflation target in the medium term and (b) subject to that to stabilise the economy as much as is possible. The control instrument is the short-term policy interest rate. It is a forward looking system in which the 'interest rate policy reaction function' is always working to bring forecast inflation back to the target 'in the medium term'. An important aspect of the system is that it is publicly understood, so that private sector expectations of output, inflation and of the interest rates necessary to achieve the target are affected. The system is 'predictable' in the sense of Woodford (2003)[5] and 'rule like' in the sense of Taylor (1993).[6]

Anything that affects forecast output gaps and inflation needs to be taken into account by the MPC in setting the policy rate. Apart from current trends, this includes the exchange rate, asset prices (such as housing), and fiscal policy, to name but three. Fiscal policy is the responsibility of a different institution (the Treasury) and is one of the things that need to be taken into account by the monetary authority.

In such a system, oil price changes (and anticipated future oil prices) are just one more thing to consider in setting the policy instruments in order to meet as far as possible the mandate to control inflation in the medium term. The level effects on prices of the change in real oil prices are not usually regarded as problematic *per se* (they are not usually regarded as inflation – see above). Second round effects via a wage price spiral or via expectations definitely are and must be contained by policy.[7]

There is much more that could be said. But the way the system can function is well illustrated by a particular decision of the MPC in August 2005 to lower interest rates (by 25 basis points) in the face of rising oil prices. The judgement was in effect being made that the inflationary effects of rising oil prices (especially the second round effects) were not coming through and that the demand lowering effects were. Given everything else, the overall judgement was that a small stimulus to demand via a cut in interest rates was justified in order to maintain inflation targets in the medium term.

One reason for the lack of second round effects – the triggering of a wage price spiral – may well be the credibility of the institutional framework, stabilising expectations. But there are many other things distinguishing the recent situation in the UK and elsewhere from the 1970s and 1980s, including changes in labour market structures and the downward effect on prices of 'globalisation', especially the rising importance of China and India in international trade. One can be sure that if a wage price spiral showed signs of developing, the response of the monetary authorities would be immediate.

A Glance Back at the 1970s and 1980s

There is no reason to expect the responses of policy makers and of private sectors in the 1970s and early 1980s to be even a reasonable guide to responses now. (In the jargon, the policy regime is completely different and the Lucas Critique applies). First there were an awful lot of other things going on: the hangover of the Vietnam War, the ending of Bretton Woods, wage explosions in Europe, excess demand on a world scale in 1973 and so on. Second, policy makers were in a muddle. This did not just lead to policy mistakes. It also altered the likely responses of economic agents throughout the economy. (For example, if you think that everyone else is going to get a wage increase to compensate for higher fuel prices, you would be crazy not to demand one yourself.) Third, the kind of policies that hindsight might suggest were needed then, were probably politically impossible anyway.

In fact, during the 1970s and 1980s the demand reducing effects of oil price rises were pretty well understood. Germany, for example, in 1974/5 appears to have accepted

the need for demand restraint to control inflation. Not offsetting the demand lowering effects of the oil price shock was one way of implementing that. (They adopted other policies as well.) By the second oil shock, there was generalised acceptance of the need for deflation. The impact was not offset. In fact, policies such as the rise in interest rates in the USA at the end of the 1970s (the Volcker shock) had little to do with oil and a great deal to do with the persistence of inflationary pressure. It would be a great mistake to assume that the second oil price shock led, in any simple way, to the recession of the early 1980s.

Some Implications

All this is saying that the past may be a very poor guide to the future. That in itself has large implications.

If oil price rises do not lead to a slowdown in the world economy, there are potentially large effects on the assessment of future oil demand and on price. The feedback from price to slowdown has been absent so far. This is not a question of demand shocks versus supply shocks – as is so often claimed – but of changed responses, within economies and by policy makers. (The two aspects interact, of course).

This means one should be wary of model simulations which suggest, for example, that a $10 oil price rise would, say, knock ½ percent off OECD GDP growth. It might instead lead to a cut in interest rates to maintain growth – with completely different implications.

In looking at economic responses, the two key areas are the demand effects and the effects on inflation.

As far as the demand effects are concerned, it appears that households and firms are much more prepared to smooth their expenditures (letting savings take the strain). This is what theory would predict if agents are not liquidity constrained (they are certainly less liquidity constrained than twenty years ago) and if they are confident that growth will be maintained.

But should they be confident that growth will be maintained? They should be so long as they are confident that policy makers are aiming for such an outcome and that by and large they have the requisite policy instruments available and the competence to achieve their objectives. That confidence appears to have been growing. It appears to have been increased by the observation that there have been some large shocks – the Asia crisis, the ending of the dot com boom, 9/11, geopolitical instability and uncertainty, which, whilst they have had effects, have not seriously dented the trend of world growth. (Thus, the US recession was remarkably shallow.) Such confidence could, of course, disappear very quickly.

The absolute key is the muted response (so far) of inflation. This is not just about oil. Exchange rate changes, tax changes, other commodity price changes appear to have much smaller pass-through effects to inflation than a couple of decades ago. The reasons are not fully understood. If this continues, then policy makers will try to support growth – or rather to maintain growth at productive potential. But any rise in inflationary pressure would lead to a rapid and possibly draconian response. Any widespread rise in inflation – whether triggered by oil price developments or not – would almost certainly lead to a policy induced slowdown in the world economy, just as it did in the past.

There is a chance that the benign trend will continue. (There is equally a danger that other problems – such as the unwinding of world imbalances – will throw it off course.) If it does, there is a fair probability of continuing high or even rising oil and other energy prices.

This leads to two final observations. The first is that it is the benign scenario which includes continuing high oil and other energy prices that accounts for the rapidly mounting concerns over energy security. These concerns would, in all likelihood, go away if world growth slowed down markedly. The second is about the environment. High oil prices are often taken to be a good thing as far as the environment is concerned. But the obvious substitutes are nuclear, coal and tar sands. The latter two could be disastrous in environmental terms, whilst nuclear raises both security and environmental issues of a different kind. Environmental issues are now inextricably mixed up with energy security issues posing a real set of new challenges that policy makers did not face in the 1970s and 1980s.

Notes

1 Bruno M. and Sachs J. (1985), *Economics of Worldwide Stagflation*, Harvard University Press.
2 Referring to the UK, the 'tax' was paid abroad in the case of the first shock. In the case of the second, the UK was self sufficient; the increment of revenue accrued to oil companies in the short term and largely to the government in the longer term (with a lag of about 3–4 years). The impact on the non-oil private sector was similar in the two cases. In both, savings rose, due to OPEC saving in the first case, and because increased tax revenues were not spent in the second. It is thus not surprising that the impacts were essentially similar despite the move from import dependence to self-sufficiency over the 1970s.
3 Or it should be. In fact many countries, especially oil producers themselves, do react in practice by subsidising the domestic price of oil. Even amongst developed industrial countries, a de-taxing response is also surprisingly common.
4 A major reason for this is because of information. The impact effects of oil price changes are particularly clear. So are some of the longer-term responses. In the 1970s, for example, estimates of the build up of oil producers' demand for imports were not particularly wide of the mark – and even the composition of that demand (by product and by country source) was relatively well understood. Of course, major errors have been made about forecasts of the oil price, especially in the 1980s – and recently.
5 Woodford, M., 2003, *Interest and Prices*, Princeton University Press.
6 Taylor, J.B., (1995), 'The Monetary Transmission Mechanism: an Empirical Framework', *Journal of Economic Perspectives*, Volume 9 (4): 11–26.
7 In Europe and in the USA the distinction between level effects and second round effects is embodied in the importance given to indicators of 'core inflation' – excluding the direct effects of energy prices.

Asinus Muses

A challenge to motherhood

Energy efficiency these days is vying for a place among humanity's most hallowed concepts, alongside motherhood and peace. It looks like a new way to have one's cake and eat it. And, of course, as in the case of peace, the main global threats to it are considered to come from other people, other firms and other countries (than those of the considerer).

Who is the most efficient of them all?

Not long ago the Financial Times reported that one of these, President Bush, had argued that the rising price of fuel was 'a tax on the American dream' caused by Asian energy inefficiency. ('Bush urges greater energy efficiency in China and India to ease oil prices', FT, 17 May 2005).Well, virtually the only available national indicator of energy efficiency is the World Bank's measure of the quantity of GDP (purchasing power parity, fixed 2000 prices) for every unit of energy used (equivalent of kg. of oil). On this measure, the USA, China and India are not far apart. In 2003 the USA produced 4.51 dollars of GDP for every kg. equivalent of oil it used, China with 4.54 dollars was marginally more efficient and India most efficient with 5.25 dollars. Moreover, these figures show that between 1990 and 2003, the USA increased its energy efficiency by 23 percent, while India's rose by 33 percent and China's jumped by 120 percent. Hence Mr Bush's reported offer 'to help countries like India and China become more efficient users of oil' strikes Asinus as pretty perverse.

Out of the mouths of presidents

Similarly profound contributions to the energy debate flow freely from the lips of other world leaders. Russian President Putin, for instance, is quoted as not being opposed to a measure of global warming since people 'would have to spend less money on fur coats and other warm things' ('G8 loses interest in climate change', International Herald Tribune, 5 July 2006). Meanwhile, the beleaguered pair at the helm of France, President Chirac and Premier de Villepin, have both argued, in the words of the former, that 'we must learn to progressively give up petrol'. Both, however, are fervent supporters of the French Formula 1 Grand Prix, a contradiction pointedly drawn attention to in Paris in July 2006 by demonstrators against the 'paroxysme du gaspillage' unleashed by Formula 1 racing.

Poor fish

Inconsistency, perversity, deviousness, opportunism, dishonesty and hypocrisy are just what you would expect in arguments about a concept like energy efficiency which has become a universal yardstick of virtue. If something is justified in the name of energy efficiency who can resist it? So it came as no surprise to Asinus, therefore, to be told by an angry representative of European fish that in June 2006, in the name of energy efficiency, the European Union launched a new €3.8 billion European Fisheries Fund to modernise the fleet, already said to have 40 percent of overcapacity. New more energy efficient motors will mean, the spokesfish told me, that the fishermen will break the fishing restrictions more easily and cheaply. The fish have been supported, apparently to no avail, by several green NGOs including WWF.

Poor birds

Aeolic energy, still the doyen of green energies, is increasingly criticised by environmentalists mostly because wind turbines kill wild birds. Most recently, alarm has been expressed (by the RSPB among others) over the threat to the endangered white tailed eagle (Europe's largest) from the large wind farm at Smola, off Norway. Texas wind farm owners have even been shamed into stopping the turbines during the migration season, though not for too long because, they say, the birds have the effrontery to build their nests on them. A friend of Asinus, who happens to be a vulture, points out somewhat cynically that no complaints about birds of prey are ever taken seriously until eagles are threatened. My friend is aghast at the awe in which this murderous bird is held compared to the habitual contempt for the peaceable, not to mention environmentally friendly and energy efficient, vulture.

The cat/wind turbine ratio

Another friend (a human) reports hearing at a recent alternative energy conference an interchange on the avicidal tendencies of wind turbines in which it was argued that far more birds were killed by cats. One riposte to that was that there may simply be more cats than turbines. Since noone knew, Asinus, abhorring an empirical vacuum, has done a bit of research. Figures are very hard to get; the Unit for Laboratory Animal Medicine at the University of Michigan usefully points out that 'the total number of cats in the world is not recorded'. Another website, however, estimates at 210 million the number in the ten countries with the highest populations (of cats). Estimating for less cat-friendly countries and adding something for the 36, mostly threatened, species of wild cats gives a population of at least 250 million. As to wind turbines, it is easier to ascertain the amount of generating capacity than the actual number of turbines, but my present estimate stands at 60,000. This implies that the global cat/wind turbine ratio is provisionally estimated at 4,166. Do not forget – you read it here first.

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