LOWY INSTITUTE
FOR INTERNATIONAL POLICY

MAY 2006

ANALYSIS

FUELLING CONFRONTATION: IRAN, THE US AND THE OIL WEAPON

ANTHONY BUBALO
Research Fellow
Global Issues
Tel: +61 2 8238 9140
abubalo@lowyinstitute.org

MICHAEL FULLILOVE
Program Director
Global Issues
Tel: +61 2 8238 9040
mfullilove@lowyinstitute.org

MARK THIRLWELL
Program Director
International Economy
Tel: + 61 2 8238 9060
mthirlwell@lowyinstitute.org

EXECUTIVE SUMMARY

The Iranian nuclear issue has entered a critical phase. A draft UN Security Council resolution has been circulated that could pave the way for political and economic sanctions. Should these fail to change Iran's position, the likelihood of military action will grow towards the end of 2006 and into 2007. At the same time, high oil prices have bolstered Iran's ability to defy demands that it give up uranium enrichment and provide greater transparency with respect to its nuclear program. Given current supply, demand and price indicators, oil provides Iran with a very potent weapon with which to respond to punitive measures. However, the economic and political fallout produced by the use of the oil in this way makes it likely Tehran would use such a weapon cautiously.

LOWY INSTITUTE FOR
INTERNATIONAL POLICY
31 Bligh Street
Sydney NSW 2000
Tel: +61 2 8238 9000
Fax: +61 2 8238 9005
www.lowyinstitute.org

The Lowy Institute for International Policy is an independent international policy think tank based in Sydney, Australia. Its mandate ranges across all the dimensions of international policy debate in Australia — economic, political and strategic — and it is not limited to a particular geographic region. Its two core tasks are to:

- produce distinctive research and fresh policy options for Australia's international policy and to contribute to the wider international debate.

- promote discussion of Australia's role in the world by providing an accessible and high quality forum for discussion of Australian international relations through debates, seminars, lectures, dialogues and conferences.

Lowy Institute Analyses are short papers analysing recent international trends and events and their policy implications.

The views expressed in this paper are entirely the authors' own and not those of the Lowy Institute for International Policy.

Headed for confrontation

Security Council members continue to debate a draft resolution insisting that Iran comply with International Atomic Energy Agency (IAEA) demands that it suspend its uranium enrichment activities and provide greater reassurance that its national nuclear effort does not have military objectives. The current draft of the resolution invokes Chapter VII of the UN Charter – in effect, defining continuing Iranian non-compliance as a threat to international peace and security, and potentially paving the way for a second resolution imposing diplomatic or economic sanctions on Iran. China and Russia are, however, resisting any reference to Chapter VII and the final shape of any resolution is far from clear. In parallel, the European Union (EU) is considering a new package of incentives in the hope that carrots combined with the stick of a Chapter VII resolution will induce Iran to meet IAEA demands.

Over coming weeks and months Tehran may offer up cosmetic concessions in the hope of complicating US efforts to reach a consensus against Iran on this issue. But for a number of reasons there is unlikely to be a fundamental shift in Iran's position. The regime calculates, probably correctly, that agreement amongst the five permanent Council members on anything more than modest punitive measures is unlikely. This perception would only have been reinforced by EU discussions of a new incentive package. While the regime may be tempted to engage in a new round of negotiations with the Europeans to buy time, there is little that Brussels can offer the Iranians that would make them willing to give up uranium enrichment. Moreover, the regime's confidence in the strength of its position has been reinforced by the popular support that Iran's President, Mahmoud Ahmedinejad, is winning in Muslim and some non-Muslim countries for standing up to the US – as was evident in his recent visit to Indonesia.

The US will continue to push for, and may yet get, diplomatic, financial or trade sanctions imposed on Iran – whether through the UN or through a coalition of the willing. But should the US fail in that effort, or should sanctions fail to change Iran's stance, as is likely, military action – specifically US air strikes against Iranian nuclear facilities and conventional military capabilities – becomes more likely from late 2006. Indeed, Tehran may be falling into the same trap as former Iraqi President Saddam Hussein. In the lead-up to the 2003 invasion he too did not believe that the US would move to overthrow him and therefore refused to provide the level of cooperation that might have forestalled a US invasion.[1] But Tehran is miscalculating if it believes that the US will simply accept Iranian non-compliance.

There are two potential circuit-breakers. First, Tehran may make a significant concession in response to the threat of punitive measures. The regime could come to take the prospect of US military action more seriously. Or regime pragmatists and Bazaaris – a key economic constituency of the regime – who would pay a heavy personal economic price as a result of any imposition of financial sanctions, might ultimately gain the upper hand in internal arguments over how Iran should respond to the international community. So far, however, the more ideologically driven President Ahmedinejad and his allies have been adept at

using provocative rhetoric to shape policy and limit the pragmatists' room for manoeuvre.[2]

A second possibility would be direct negotiations between Tehran and Washington. Conscious of the limited effectiveness of sanctions and the riskiness of military action, Washington may decide to engage in direct negotiations with Tehran, as some commentators in the US are urging. This would, however, require at least implicit recognition by Washington of the legitimacy of the current Iranian regime, which may be a bridge too far for the current Administration. Likewise, for Tehran direct talks would hold out the prospect of significant economic benefits and a real security guarantee. Ahmedinejad's recent letter to President Bush has been plausibly interpreted as a significant signal of the regime's interest in talking. But it is equally plausible that the letter was grandstanding by the Iranian leader for a domestic and international audience, or that it was designed to complicate US efforts to create a consensus behind sanctions.

Oil: a potent weapon

If, as expected, the crisis with Iran escalates toward punitive diplomatic or even military action against Iran, how might Tehran respond? Of all its options for retaliation, perhaps the most worrying is the oil weapon. Iran is currently the world's fourth largest oil producer, pumping some 3.8 million barrels per day (bpd) as of March this year. It is also the world's fourth largest oil exporter, exporting about 2.7 million bpd, and its share of internationally traded oil is more than double its share of world oil production. Were Iran to cut production or take other action to stop the supply of oil out of the Persian Gulf, it could have a major impact on already high oil prices and the health of the global economy.

Of course, it is not simply a question of Iran's deciding to turn off the tap. Other factors such as the prevailing level of demand, the supply response from other producers, and market expectations regarding the future trajectory of these variables, can offset the consequences of a particular geopolitical event. (The Annex provides a more detailed examination of the relationship between politics, supply shocks, and the oil price). But all of these conditions suggest that the market is currently very vulnerable to a supply shock, in the sense that a large price reaction looks to be a likely consequence. A combination of strong demand and tight supply has left the market in a position where the amount of spare capacity is very small and Iran has a great deal of potential leverage.

On the demand side of the market, rising consumption in rapidly growing, urbanising and industrialising Asian economies such as China and India have become key drivers of world oil markets. China alone is estimated to have accounted for around 40% of the increase in world demand for oil in recent years, with its influence felt particularly strongly in 2004.[3] Demand has also been supported by a generally vigorous world economy. In the short to medium term, the supply of oil tends to be relatively inelastic (the supply curve is 'steep') in times of strong global economic growth. As a result, the response to an increase in demand is a marked increase in price.

Moreover, the prospect of continued *future* demand from the emerging Asian giants is also exerting an influence on *current* prices. It is also perhaps fuelling a degree of speculative activity that has further pushed up prices.

At the same time, on the supply side of the market, conditions look tight. On some estimates, for example, the oil market is currently suffering from a more than 2 million bpd disruption to world supply, with oil production in Iraq some 900,000 bpd below pre-war levels, 530,000 bpd of Nigerian production shut in by unrest, Venezuelan production 400,000 bpd below pre-2002/03 strike levels, and output from the US Gulf of Mexico still 330,000 bpd less than before the impact of Hurricanes Katrina and Rita.[4]

The IEA estimates that *effective* spare capacity – excluding Iraq, Nigeria, Venezuela and Indonesia, which have all suffered from long-standing supply disruptions or recent field decline – amongst OPEC members was very thin at just 1.7 million bpd. Only Saudi Arabia is assumed to be able to ramp up production in the event of a shortfall elsewhere. Moreover, Saudi spare capacity is concentrated mainly in heavy sour crude, while incremental world demand is mostly for light sweet crude.

Table 1 reports the International Energy Agency (IEA) estimates for OPEC crude production and spare capacity as of March 2006.

Table 1

OPEC crude production (million barrels per day)		
	March 2006 output	**Spare capacity**
Algeria	1.36	0.01
Indonesia	0.93	0.05
Iran	3.82	0.18
Kuwait	2.51	0.09
Libya	1.68	0.02
Nigeria	2.08	0.53
Qatar	0.82	0.01
Saudi Arabia	9.50	1.30
UAE	2.55	0.10
Venezuela	2.60	0.15
Subtotal	*27.84*	*2.43*
Iraq	1.84	0.70
Total	*29.65*	*3.13*
Effective (ex. Iraq, Nigeria, Venezuela & Indonesia)		**1.71**

Source: IEA oil market report 12 April 2006, page 15. Spare capacity covers capacity levels that can be reached within 30 days and sustained for 90 days

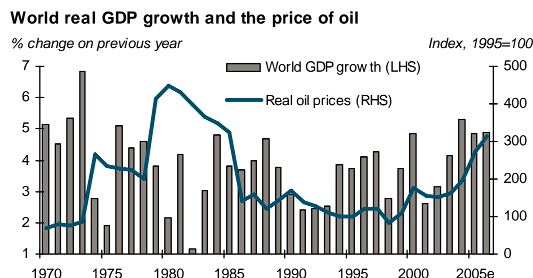
Given these conditions, it is likely that any significant disruption to Iranian exports, or to production elsewhere in the Gulf, would have a large impact on world prices. Indeed, the market is currently so tight that marginal producers much smaller than Iran can have a disproportionate influence on price expectations.[5] It is true that in terms of physical access to oil, the world economy could rely on existing stocks to make up the shortfall: according to the IEA, its 26 members currently hold about four billion barrels of strategic crude stocks, the equivalent of around four years of Iranian exports. But there would still be a major impact on price.

The size of any price rise would depend on just how much supply was lost from the market and for how long, but even a moderate cut to Iranian exports would almost certainly see prices spike above US$100/barrel. The World Bank, for example, last year estimated that a sustained loss of 2 million bpd would send prices to US$120/barrel for the first three months of the shock before seeing them ease back to US$80 in the following three quarters.[6]

Oil prices and the world economy

What would sharply higher prices mean for the world economy? In fact, the global economy has *already* been undergoing a prolonged oil price 'shock': in nominal terms, oil prices have increased from around US$10/barrel in early 1999 to levels of over US$70/barrel at the time of writing. In real terms – the variable that matters for economic activity – the increase, has also been significant, yet the world economy has now managed to record three consecutive years of above 4% growth, with a forecast for more of the same this year (Chart 1).

Chart 1



Source: International Monetary Fund, World Economic Outlook, April 2006 [7]

Why has economic growth proved to be so resilient in the face of the current run-up in oil prices, and does this undermine the potency of the Iranian oil weapon?

Part of the explanation for this apparent resilience relates to the fact that, as noted above, a sizeable proportion of the present increase in prices, particularly in 2003 and 2004, reflected a *demand* rather than a supply shock. As far as world growth is concerned, the same forces that have driven up the oil price have also been boosting global activity. However, it seems likely that the more recent price action has been driven more by the supply than the demand side of the market.

A second reason that the growth consequences of the current oil price shock have, so far, turned out to be relatively modest, is that the international inflationary environment has been a benign one. This has allowed central banks to pursue a relatively relaxed monetary policy response. A third factor is the way in which oil revenues have been recycled, with much of the funds finding their way back to the United States and hence supporting global growth. Finally, the much lower oil intensity of production in most developed economies relative to that prevailing during the 'classic' oil price shocks of the 1970s has also played a role.

There is reason to worry that this benign outcome would not be sustained in the face of a significant adverse supply shock.[8] A new round of price increases would come on top of already high prices, and as we noted above, the current condition of the oil market – strong demand, limited capacity, and expectations of continued high prices – leaves it looking very vulnerable

to a hit to supply. Crucially, supply shocks are more damaging to output than demand shocks. It is also possible that we have still not seen the full economic impact of *past* price rises, perhaps because producers and consumers have been treating at least a proportion of the increase as temporary in nature, and therefore have not yet adjusted their behaviour.

The toll on world output from another round of oil price increases could therefore be significant. According to the World Bank simulation reported earlier, a sustained loss of 2 million bpd would see world output would fall by 1.5% of GDP in the year following the shock. This is in line with estimates produced by the IEA, OECD and IMF in 2004, which judge that a *sustained* US$10/barrel increase in the price of oil would take off half of one percentage point from world GDP growth in the following year.[9] Moreover, it is possible that these projections are underestimates. Work by McKibbin and Stoekel that looks explicitly at the case of an adverse supply shock, for example, suggests that the impact on world growth could be up to 50% greater than the IEA projections.[10]

Oil prices and US politics

Another key question in terms of Iran's use of the oil weapon would be the impact in the US, given the key role that Washington plays as the driver of international policy on the nuclear issue. What matters to US consumers is not so much the cost of a barrel of crude oil as the price of petrol at the pump. Petrol prices in the United States have shot up over the last year: from about US$2/gallon in early 2005 to nearly US$3/gallon today. (Of course, petrol is still relatively cheap in the US compared to other Western countries such as Australia (approximately US$4/gallon) and Germany (approximately US$6/gallon).)[11] This has big implications for domestic politics in a country that has one twentieth of the world's population but burns one quarter of the world's oil.[12] In the land of the big car, the wide open road and the SUV, cheap petrol is regarded as a birthright.

Petrol prices have all politicians running scared, but the main targets are Republicans, for three reasons. First and foremost, prices have spiked on the Republicans' watch. The GOP holds the White House and both Houses of Congress, so they own the problem. Second, there is a fairly common perception that Republicans are in the pockets of Big Oil, which is aided by the fact that both the president and vice-president are oil men and that political donations by oil and gas companies favour Republican over Democratic candidates by a ratio of three or four to one. Finally there seems to be a growing belief that the instability in the Middle East – which flows in part from the Bush Administration's war in Iraq and its policies toward Iran – is driving up oil prices.

What does all this mean for the US mid-term elections in November? It is always difficult to predict how nationwide issues will translate into 435 individual House races, or 33 individual Senate races. But high petrol prices usually feed into a general feeling of unease and a belief that the country is 'on the wrong track', which often shifts votes. Prices will undoubtedly be a factor in many races – but whether the issue could help the Democrats win control of the House (for which they need to gain fifteen seats) or the Senate (for which they

need to gain six seats) will depend on where prices go in the next six months. A major discontinuity in the price similar to the oil shocks of 1973-74 and 1979 could have the most severe repercussions. President Carter's presidency was basically wrecked by the second oil shock, which led to what he himself called 'a crisis of confidence… that strikes at the very heart and soul and spirit of our national will.'[13]

So far the national angst about petrol prices does not appear to be influencing US policy on the Iranian nuclear question. Clearly the Iraq war is unpopular and elites are increasingly keen on getting out of the current Middle East imbroglio rather than initiating another one. Polling at the end of last year showed a sizeable jump in the number of Americans who believe the US should mind its own business internationally.[14] High petrol prices would probably reinforce the public's view that Washington needs to focus on hip pocket issues rather than remaking the international system – unless the Administration could make the case that muscling up to Iran is part of the solution to petrol prices, a difficult argument to make on the merits and one that would probably undermine its international diplomacy on the question.

Iranian caution

If the foregoing analysis underlines that Iran could wield the oil weapon to great effect, in reality Tehran is likely to be wary about using oil in this manner. In some respects Iran is already using oil as an instrument of its international policy. Iran would not have been as immovable over the nuclear issue had oil been $US30/barrel rather than $US75.[15] But its caution about using the oil weapon in a more explicit way to threaten the US and the international community is reflected in the contradictory statements emerging from the regime in recent months, ranging from threats to close the Straits of Hormuz to declarations that Iran would not use oil as an instrument of foreign policy.

Iran has three main options:

Continue its current approach: Iran is likely to continue stoking the current crisis atmosphere which is probably adding US$7-US$10 to the price of a barrel of oil. It costs Tehran little to lob, from time to time, the odd rhetorical grenade that both provides Iran with a significant financial windfall and protects the regime from the prospect of the international community imposing oil sanctions – the one economic weapon that would be effective against the regime. That said, simply maintaining current prices is not going to protect Iran from the prospect of other types of sanctions or indeed from military action.

Disrupt external oil supplies: As a more active step to keep oil prices high, Tehran could sponsor efforts to disrupt oil production in other parts of the Persian Gulf. The Iraqi oil infrastructure would be an obvious target, but attacks in Saudi Arabia might also be possible. This would add a much more significant risk premium to the price of oil, and anything that produced a further loss of productive capacity would make Iranian oil even more important to the global economy, thereby making any US push for sanctions or military action against Iran an even riskier venture. The problem for Iran would be that unless such an action was completely deniable, it could actually

precipitate the sanctions or military strikes it was designed to avoid.

It is more likely, therefore, that Iran would attempt such action only in retaliation to, or perhaps in immediate anticipation of, military action. Under these circumstances Iran could seek to disrupt traffic through the Straits of Hormuz, the world's most important oil chokepoint. While Iran would probably not be able to close the Straits completely, attacks on shipping and mining operations in the Gulf would have a major impact on shipping insurance rates and global prices. The main question is whether Iran could sustain operations against shipping, given that a standard assumption is that any US military action against Iran would also target naval and missile forces positioned in the Gulf. Such an attack by Iran would also open it to further military attack from the US, seriously damage relations with Gulf neighbours, and perhaps even stop the flow of Iranian oil. Nonetheless, the impact of even limited attacks on global oil prices would be significant.

Cut domestic production: This could either involve a partial or full reduction in exports or a selective embargo on particular countries or regions. Again, given the risks to the regime associated with such a step, it seems likely that it would only be taken *in extremis*. Given that oil export revenues account for more than 80% of Iran's total export earnings and more than 40% of the government budget, a prolonged across the board production cut would do real damage to the Iranian economy and the regime's hold on power.[16] Should the regime choose to use this weapon it is likely to only cut production for a short period, probably coinciding with US military strikes.

Iran could, of course, rely on the considerable finances that have been built up in its oil stabilisation fund – which now reportedly holds over US$20 billion. But the political and psychological impact of such a move within Iran makes it risky for a regime that is already extremely insecure. The regime remains acutely conscious of the mood of the Iranian people and would be especially sensitive to it following any US strike. The regime would reasonably expect many Iranians to initially rally around the flag. But once the dust had settled it would also fear popular charges that Tehran's fight against the international community had been unnecessary and ruinous, given the priority most Iranians place on economic and social issues. The regime would be conscious of the psychological and real impact domestically of a prolonged cut to oil exports that promised tougher economic times ahead for ordinary Iranians.

Conclusion

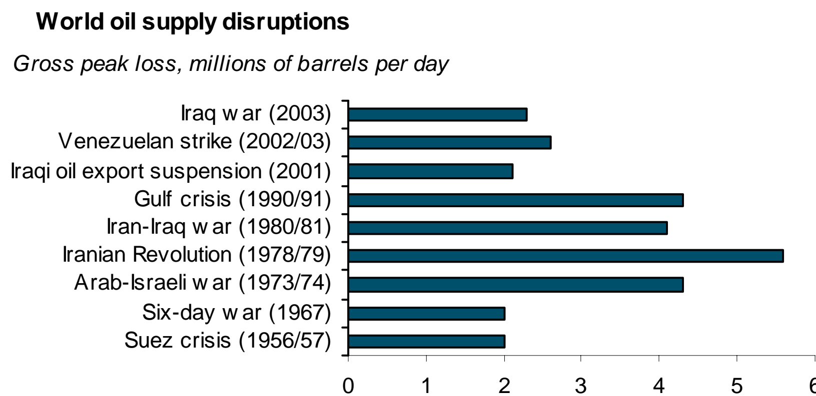
It is always dangerous to assume that in these situations international actors will behave rationally. In the same way that Washington may resort to military action despite the considerable risks involved, Tehran's pride, hubris, or messianic illusions might make it willing to employ oil as a weapon in a way that is as dangerous for Iran as it is for the international community. Certainly the chances of its use will increase along with the prospects of military action. But that said, the theocratic nature of the regime should not blind us to the premium it puts on its own survival. Cooler heads in the regime understand that, like the atomic weapon the US fears Tehran is trying to build, the fallout from the use of the oil

weapon is not easily confined to one's adversaries. The odds are, therefore, that Tehran will use this weapon cautiously.

Annex: Geopolitics, supply shocks and world oil prices

Past experience shows that supply shocks triggered by geopolitical events have been closely associated with significant moves in oil production and in the oil price. Chart 1 reports nine previous examples of disruption to global oil supplies, ranging from supply losses amounting to around 2 million bpd associated with the Suez crisis and the Six Day War to the 4.3 million bpd loss associated with the 1973-74 Arab-Israeli war and the 5.6 million bpd loss triggered by the Iranian Revolution.[17]

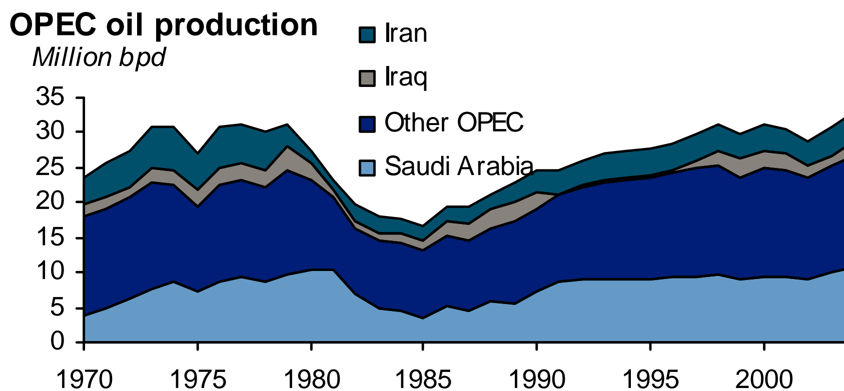
Chart 1



Source: International Energy Agency (IEA) [18]

Chart 2 presents another view of the same phenomenon, tracking OPEC oil production over time. The fall in Iranian production following the revolution and the impact of the Iran-Iraq war are both apparent.

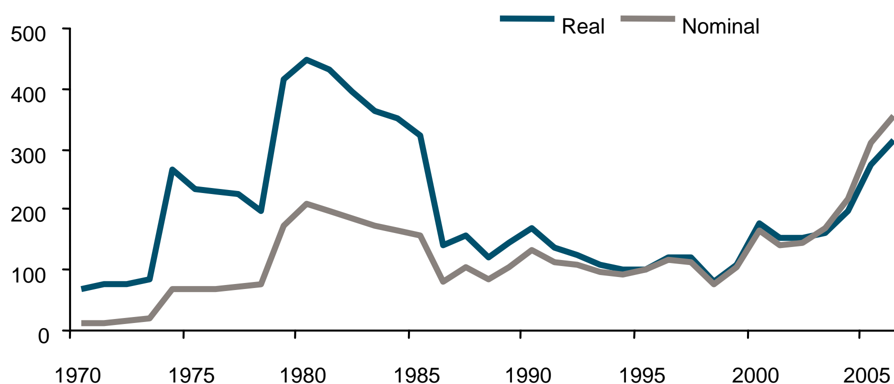
Chart 2



Source: BP Statistical review of world energy (2005)

Some of these shocks to supply have been correlated with large increases in the world price of oil. This was particularly the case in the 1973-74 and 1978-79 episodes. However, not all adverse supply shocks have been closely correlated with dramatic price movements. Chart 3 looks at movements in an index of *real* oil prices, since it is the real price of oil that is the variable that matters in terms of the impact of a given price rise on economic activity. In contrast to the obvious impact of the 1973-74 and 1978-79 episodes, the Iran-Iraq war and the invasion of Kuwait are not associated with any dramatic run-up in the real price of oil.

Chart 3



Source: International Monetary Fund, World Economic Outlook, April 2006 database

In other words, while supply shocks linked to geopolitical events have sometimes been an important factor determining world oil prices, we also need to understand what is happening to production outside the affected producer(s), what is happening on the demand side of the market, and what is happening to market expectations about future developments before we can take a view on the potential implications of a given shock for prices, and hence for the world economy.[19]

NOTES

[1] See Kevin Woods, James Lacey and Williamson Murray, Saddam's delusions. *Foreign Affairs* May/June 2006.

[2] For an overview of the impact of internal disputes on Iranian foreign policy see Anthony Bubalo and Michael Fullilove, *Iran, the international community and the nuclear issue: where to next?* Lowy Institute Analysis, December 2005.

[3] See for example Anthony Bubalo and Mark Thirlwell, *Energy insecurity: China, India and Middle East oil*. Lowy Institute Issues Brief, 2004.

[4] Cambridge Energy Research Associates (CERA), *Slow-motion supply shock and 2 million barrel/day "aggregate disruption" maintaining pressure on world oil market*. CERA press release, 24 April 2006.

[5] According to Eurasia Group, for example, about 12 small oil producers are currently facing increased levels of political risk, which could potentially disrupt production. Cited in Jad Mouwad, Once marginal, but now kings of the oil world. *The New York Times*, 23 April 2006.

[6] Chapter 1 in World Bank, *Global economic prospects 2006*. World Bank, 2005.

[7] GDP growth calculated using purchasing power parity rates. The oil price is a simple average of Brent, West Texas Intermediate (WTI), and Dubai Fateh.

[8] The IMF highlights this risk in the first chapter of the latest *World Economic Outlook*.

[9] International Energy Agency (IEA), *Analysis of the impact of high oil prices on the global economy*. Paris, IEA, 2004. Available at: http://www.iea.org/textbase/papers/2004/high_oil_prices.pdf. The projection period for higher prices was 2004-08.

[10] Warwick McKibbin and Andrew Stoeckel, Oil price scenarios and the global economy. *Economic Scenarios* (9) 2004.

[11] Energy Information Administration (EIA) fact sheets.

[12] BP Statistical Review of World Energy; Population Reference Bureau, 2005 World Population Data Sheets.

[13] Nicholas Lemann, How the Seventies changed America, in William H. Chafe, et al, *A history of our time: readings on postwar America*, 6th ed. New York, Oxford University Press, 2003, pp 355-65.

[14] Pew Research Center and Council on Foreign Relations, *America's place in the world 2005: opinion leaders turn cautious, public looks homeward*, November 2005.

[15] See Christopher Dickey, The Oil Shield. *Foreign Policy*, May/June 2006.

[16] Energy Information Administration (EIA), *Iran country analysis brief*. Available at: http://www.eia.doe.gov/emeu/cabs/Iran/Background.html.

[17] Note that the magnitude of a supply shock in terms of its economic impact will depend on how these magnitudes compared to total supply (and demand) at the time of the shock.

[18] Supply shortfall is defined here as the peak gross supply loss, *excluding* any supply increases by other oil producing countries.

[19] See Robert B Barsky and Lutz Kilian, Oil and the macroeconomy since the 1970s. *Journal of Economic Perspectives* 18 (4) Fall 2004 pp 115-134.

ABOUT THE AUTHORS

Anthony Bubalo is Research Fellow at the Lowy Institute for International Policy. He graduated from the University of New South Wales with a Bachelor of Arts Honours, majoring in Political Science. He joined the Department of Foreign Affairs and Trade in 1991. He undertook long-term Arabic language training in Egypt, and has served in Australia's Embassies in Saudi Arabia and in Israel. More recently he was a Director on the Iraq Task Force and was the Department's senior speechwriter. He also served as Middle East Analyst in the Office of National Assessments from 1996 to 1998. He is the author of Lowy Institute Paper 05: *Joining the Caravan? The Middle East, Islamism and Indonesia*.

Dr Michael Fullilove is Program Director, Global Issues at the Lowy Institute for International Policy. Previously he worked as a lawyer and an adviser to Prime Minister Paul Keating. Michael graduated in government and law from the Universities of Sydney and New South Wales, with dual university medals. He also studied as a Rhodes Scholar at the University of Oxford, where he wrote his doctorate on United States foreign policy. His first book, '*Men and Women of Australia!' Our Greatest Modern Speeches*, was published by Vintage in November 2005. He is the author of the Lowy Institute Paper *Diaspora: The World Wide Web of Australians* and the Analysis *The Testament of Solomons: RAMSI and International State-building*.

Mark Thirlwell is Program Director, International Economy at the Lowy Institute for International Policy. Mark is a graduate of Cambridge University and has an MPhil degree in economics from Oxford University. Before joining the Institute, Mark worked as an economist for the Bank of England, JP Morgan, and the Australian Export Finance and Insurance Corporation. He is the author of the Lowy Institute Papers *India: The Next Economic Giant* and *The New Terms of Trade*.

LOWY INSTITUTE

FOR INTERNATIONAL POLICY

WWW.LOWYINSTITUTE.ORG