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On Oil Embargos and the Myth of the Iranian Oil Weapon

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Introduction

The literature seems to find the oil weapon a fascinating subject which is worth exploring every now and then¹ – so do, seemingly, producer states. The threat of using the ‘oil weapon’ – that is of cutting oil supplies to consumer countries – is widely believed to give producers a powerful bargaining tool at times of political conflict. Its most notable use in the history of the oil market was a concerted attempt by one of the world’s most important producer blocs to achieve political ends: the 1973 embargo by the members of OAPEC (less Iraq) against specific consumer countries involved first threats, then real cutbacks in oil supplies, and was aimed at breaking down allied support for Israel during the 1973 war between the latter and its Arab neighbours. The oil weapon at the time proved to be a hollow weapon that was unable to achieve its goals, and was soon dismantled.² Nevertheless, the dramatic events surrounding the use of the oil weapon in 1973 have shaped consumer–producer relations and energy security policies in the West ever since.

Almost 40 years later, the myth of the producer’s oil weapon has re-emerged, this time in the context of Iran. In December 2011, the US Congress passed a new bill that will apply sanctions to all financial institutions engaging in direct dealings with Iran’s Central Bank – the recipient of Iranian oil export payments – from 1 July 2012;³ while the European Union in January 2012 decided to ban all Iranian crude oil imports with effect from the same date.⁴ The US tactic aims in its essence to force other, non-EU, countries to in turn reduce or freeze their own oil imports from Iran, since payment for Iranian oil exports would necessarily entail direct transactions with Iran’s Central Bank. Iranian officials have reacted promptly to these new sanctions, reverting in turn to the threat to cut European export volumes with immediate effect; and if necessary to block all tanker traffic through the Straits of Hormuz, one of the world’s busiest oil and gas traffic choke points. The latest episode of US-European-Iranian sabre-rattling over Iran’s nuclear programme is also a reminder that the oil weapon can indeed be employed both ways, and can be turned by consumer countries against oil exporters themselves.

The exchange of threats between Iran and the West has received wide attention among policy makers and analysts, with IMF officials predicting that crude oil prices could increase by as



much as 30 per cent in the case of a halt in Iran's exports to OECD countries, if other sources did not offset the loss of Iranian crude oil.⁵ Others claim that all the elements are set for 'the \$200 a barrel scenario'.⁶ However, the potential impacts of such threats on oil market dynamics are often exaggerated. Oil embargos against individual producing countries are, in reality, difficult to implement, for they require a concerted effort by a large number of buyers to prevent oil producers from diverting crude oil from one market to another. Where they result in a tightening of oil markets and rising prices for consumer nations, they can be relaxed or amended by consumer countries. As for the use of an Iranian oil weapon, the fact remains that despite continuous threats, Iran has never used the oil weapon; the oil weapon remains an indiscriminate policy measure that all producers, including Iran, are reluctant to use; and if ever employed, it is likely to be ineffective and counterproductive from a producer's point of view.⁷ Nevertheless, the fear that governments may pursue policies aimed at restricting the flow of energy supplies rattles markets, places a premium on the oil price, and contributes to increased price volatility.

Oil Sanctions and Embargos

In the long history of oil, unilateral and multilateral sanctions have been widely used against oil-exporting countries. The USA has been the most active in using oil sanctions as a tool of foreign policy to induce change in regimes' behaviour. The effect of sanctions depends on their type, and on oil market conditions at the time. Multilateral initiatives under the UN umbrella (such as those imposed on Iraq between 1990 and 2003, amended in 1996 to allow for limited oil exports in return for food imports) can be very harmful as they restrict oil exports from the targeted country. On the other hand, unilateral oil embargos against specific producers are difficult to enforce. They often impact the direction of trade flows but not necessarily the volume of oil flowing from the country under sanctions. Still, oil embargoes by single, or a handful of, consumer countries can cause inconvenience as the oil exporter needs to establish new trade partners and seek new customers. These measures are costly, especially if the embargoed country needs to sell its oil at a discount to attract a dwindling numbers of buyers.

The recently decided sanctions imposed by the EU and the US Congress constitute an odd mixture of the two types of sanctions. The European embargo against Iranian crude oil imports, on the one hand, is likely to succeed in restricting Iranian access to European markets but, taken on its own, is unlikely to harm Iran. Large volumes of Iranian crude oil can be diverted towards the East instead, where oil demand growth remains robust. US sanctions, on the other hand, aim to convince precisely everyone else to restrict imports of Iranian oil, including Asian buyers trading both with Iran and the USA. If effective, US sanctions can indeed prove damaging to Iranian crude oil exports; they also increase the cost to remaining buyers who try to overcome restrictions in dealing with Iran's Central Bank. Whether or not US sanctions will prove effective will need to be seen in the coming months. Two major Iranian customers, China and India, have in the past month defied US sanctions. India has reportedly been looking for alternative payment routes to Iran while quietly starting to reduce refinery orders for Iranian crude;⁸ China has reportedly begun to buy up Saudi Arabian and Russian extra oil supplies using tolerance clauses in existing contracts, which could help Chinese oil traders to re-negotiate prices for Iranian deliveries downwards.⁹ Two other large customers of Iran, Japan and South Korea, have been seeking US exemptions over its central bank bill.¹⁰



Effective oil embargoes and sanctions would ultimately undermine the productive capacity of the sanctioned country. Iran's oil sector is already facing some serious challenges, manifested in a sharp decline in oil output, with some reports claiming a decline in production capacity of as much as 600,000–700,000 b/d during the last three to four years. While rejecting such reports, Ahmad Qalebani, the Managing Director of state-owned National Iranian Oil Company, has recently admitted that Iran's production capacity target of 5.12mn b/d by the end of 2015 would not be met, citing international restrictions on the financing of oil and gas projects as the main barrier. The new sanctions will only amplify the existing challenges facing the Iranian energy sector.¹¹

Oil embargos against producers may, however, also prove costly to consumer countries. The main European customers for Iranian crude oil – Italy, France, Greece, and Spain – will face considerably greater logistical challenges than other EU countries in trying to replace Iranian grades that they import under term contracts. The five-month period until 1 July, when the embargo comes into effect, aims in principle to provide European buyers with time to find alternative suppliers for their 600,000 b/d of Iranian oil imports; the same 'grace period' is given by the USA to other Iranian customers under its Central Bank bill due on 1 July. Tight markets for particular crude grades can nevertheless imply that European (and other) countries will need to pay considerably more for their crude oil imports, at least in the short term. For some European refineries, finding alternatives for the Iranian crude oil, especially the heavy crude, is not an easy task.¹² There are fewer crudes available in the market that are suitable for the production of high quality bitumen (Iranian Heavy (29.2° API), Soroosh (19.6°), Nowruz (19.7° API)). In 2011, Iranian Heavy represented 70 per cent of IEA's European importers' purchases from Iran.¹³ The loss of Souedi exports from Syria (23.1° API) has added to the tightness of the markets. Saudi Arabia can supply heavier barrels to replace the lost Syrian and Iranian grades, but its greatest flexibility appears to be in supplying medium and sour crudes, which are not perfect substitutes for Iranian heavy crudes. In 2010, out of Saudi Arabia's total production of 8.1 mb/d, 6.7 mb/d comprised medium and sour crude.¹⁴ Outside Saudi Arabia, there are no easily available heavy barrels, as the largest producers (Venezuela and Mexico) are producing at maximum capacity and all their available supplies are already allocated under term contracts.

In addition, several European oil and gas companies still have repayments outstanding for projects already completed in Iran. Most of these repayments are made in crude oil deliveries which are due to stop in July. Italy's Eni, for instance, is reportedly still owed almost \$2 billion by Iran's national oil company NIOC, and may need to wait indefinitely until the company is fully repaid.¹⁵ This factor can make the embargos costly not only for consumers, but for European private oil companies as well.

From the European and the US standpoint, the extent to which the oil embargo and the US financial sanctions are enforced would ultimately depend on global oil market conditions. If the market tightens as a result of higher demand induced by an improvement in global economic prospects and/or as a result of supply shocks, the sanctions would possibly be eased to prevent a sharp rise in the oil price. In fact, under the new law, the US administration can grant waivers for those countries that are adopting measures to reduce their imports from Iran. Furthermore, the new law gives powers to the US President to waive sanctions altogether if these are deemed to be in the interest of US national security, including ensuring a stable energy market.¹⁶ These waivers could lessen market pressure, but also result in a loss



in credibility of sanctions policies vis-à-vis Iran. If on the other hand oil market conditions weaken, the EU would attempt to fully enforce the embargo, while the USA would intensify its pressure on Asian buyers to reduce their crude oil imports from Iran. This could severely harm Iran's export revenue base. Therefore, consuming countries have more flexibility in the use of sanctions and embargoes, than oil producers have with the oil weapon.

The Oil Weapon

The use of the oil weapon has been threatened by Iran several times in the past, though it has never been used. Several reasons suggest that this is likely to remain the case, despite current heights in political tension. To start with, the oil weapon is not suited to targeting specific consumer countries. The nature of global oil markets is such that oil flows freely, and at whatever quantity and price the market participants are willing to transact at. As noted by Adelman, 'whether a supplier loves or hates a customer (or vice versa) does not matter because, in the world oil market, a seller cannot isolate any customer and a buyer cannot isolate any supplier. But conventional wisdom ... is that Middle Eastern nations wield an "oil weapon" that they can use to punish the United States or any other nation.'¹⁷ In order for the oil weapon to have an impact, it should result in the cutback of total global oil supplies. This measure, if effective in increasing the oil price, is indiscriminate, and would hit all consumer countries, friend and foe alike. This reality means that the oil weapon is a blunt instrument, costly in diplomatic terms, and most likely counterproductive in the long term.

In the absence of a powerful coalition of producing countries that implement the oil weapon collectively, a single producer's cut in supplies to consuming countries is unlikely to be effective in the long term. The willingness of producers with spare capacity to compensate for the cut in exports neutralizes to a large extent the use of the Iranian oil weapon. Saudi Arabia alone currently sits on 2.15 mb/d of spare capacity¹⁸ and has signalled its willingness to fill the gap.¹⁹ Iranian warnings that OPEC producers, Saudi Arabia, and others should freeze their production ceilings and keep from filling in for Iranian oil supplies²⁰ exemplify the difficulty Iran would face in making use of the oil weapon unilaterally. Iran's crude oil production is without doubt replaceable by the other oil producers, who share no interest in supporting the country's reverse oil embargo against key Western allies. Iran's current political isolation among several Gulf neighbours has certainly played a role in this decision. GCC countries accuse Iran of interfering in their domestic affairs – for example Iran's incitement of its Arab Gulf neighbours' own sizeable Shiite populations against their Sunni rulers.²¹ They also feel threatened by Iran's nuclear ambitions, with many GCC leaders urging the USA to put an end to Iran's nuclear weapons programme by whatever means possible, including military attacks. Furthermore, key oil producers with large reserves, such as Saudi Arabia, desire to keep oil prices from increasing beyond a certain price range that could destroy oil demand and undermine oil as a long-term reliable source of energy.

Finally, like any oil exporter, Iran is highly dependent on oil revenues and hence cannot support production cutbacks for a sustained period. Oil accounts for 85 per cent of Iran's exports and makes up 65 per cent of government revenues. That being said, a successful use of the oil weapon could raise prices to such levels that the loss from lower output could be offset by increased total revenues. The 'dependency on revenues' argument for not using the oil weapon holds only if Iran stops exporting oil altogether, which might be needed in current market conditions for the cutback to have a serious and sustained impact on oil markets. Iran's recent threats to stop export volumes to a number of European countries before the EU



ban enters into effect would result in an unnecessary loss of much needed revenues. Those who stand to benefit the most from such a move are countries with spare capacity that have shown willingness to fill the gap. The decision in the Iranian parliament of whether or not to impose an oil embargo against European consumers has been delayed since it was first proposed – possibly in reflection of anticipated negative effects on Iran itself.

The Closure of Oil Trade Routes

Part of the producer's oil weapon can also be the threat of blocking major oil trade routes, which would forcibly impact other producers' supplies to consumer countries. Trade routes can be blocked at strategic chokepoints, namely locations 'that limit the capacity of circulation and cannot be easily bypassed, if at all. This implies that any alternative to chokepoints involves a level of detour or use of an alternative that translated into significant financial costs and delays'.²² The oil market is vulnerable to the closure of transport routes owing to its high reliance on tanker transport: more than 1.9 billion tons of petroleum products a year are shipped by maritime transportation, constituting around 62 per cent of all petroleum products.

The Straits of Hormuz off the Iranian coastline constitute one of the world's most important oil shipping chokepoints. About 88 per cent of all the petroleum exported from the Persian Gulf passes through the Straits of Hormuz – approximately 17 million barrels per day, or 20 per cent of the world's oil supply – serving key customers in Japan, Europe, the USA, and other Asian customers.²³ Alternatives to the transport of oil through tankers via the Straits of Hormuz remain limited. Until recently, the only significant alternative outlet for oil from the Arabian Peninsula was the Saudi Arabian pipeline to Yanbu on the Red Sea, but this pipeline can only handle around 4.8 million barrels per day. Abu Dhabi, in January 2012, reported the completion of a pipeline that circumvents the Straits of Hormuz: the new 370 km long pipeline runs from Habshan in the south-west of Abu Dhabi to Fujeirah's export terminals located on the Gulf of Oman, and carries up to 1.5 million barrels per day of crude oil, slightly more than half of Abu Dhabi's current crude production of some 2.7 million barrels per day. A second direct pipeline between Abu Dhabi and Fujeirah is reportedly being built,²⁴ but is unlikely to be completed this year, and would once more add only limited additional capacity in view of the traded volumes of oil that pass the Straits each day. Thus, the closure of the Straits of Hormuz represents an ultimate nightmare for oil markets.

Free passage through the Straits of Hormuz is also of strategic importance for the transport of a range of other strategic goods. About a quarter of global Liquefied Natural Gas (LNG) supplies transits through the Straits, the majority being some 77 million tons per year of Qatari LNG shipments destined for Asian and European markets;²⁵ but foreign companies' supplies of LNG to the gas-hungry markets of GCC neighbours Kuwait and the UAE are also involved. Several otherwise landlocked GCC countries such as Qatar, Bahrain, and Kuwait also depend on shipment through the Straits for a large part of their foodstuffs needs. LNG transport from and to the Persian Gulf, unlike oil, faces a situation in which there are no immediately available alternative trade routes. The only regional gas pipeline in place is Dolphin, which currently transports some 19.5 bcm of Qatari gas to the UAE and Oman. The full capacity of the pipeline (21.5 bcm) is nearly reached, which leaves Qatar with no option but to shut down substantial parts of its production should the Straits of Hormuz be closed. For some of Qatar's long-term contract clients, particularly those in Asia, the simultaneous loss of Qatari LNG and Persian Gulf oil supplies would be a worst-case scenario. The result



could be a scramble for alternative spot oil and LNG, which would ultimately drive up prices for both commodities.

The severe consequences implicit in a scenario resulting from the closure of the Straits of Hormuz, however, are difficult to envisage. Blocking the Straits of Hormuz would not only defy international conventions, but resulting oil and LNG supply disruptions would harm a very large number of countries, including some that have been, until now, averse to sanctions against Iran, such as some of Iran's Asian buyers. The long term blockage of the Straits, tightening market supply, and surging world market prices for oil and other sources of energy would provoke a very strong coalition of countries willing to defend free passage via the Straits of Hormuz with whatever means necessary. Regionally, Iran faces political isolation, in particular in relation to its Arab Gulf neighbours who are set to be most directly affected by a closure of the Straits. Recent calls by GCC officials for the international community to secure free passage through the Straits of Hormuz have demonstrated that Iran's immediate neighbours would not hesitate to call for, and support, international intervention in the case of a closure of the Straits.²⁶

Furthermore, there are doubts about whether Iran can physically block the Straits of Hormuz. Shazly, Talmadge, and Blair and Lieberthal have assessed possible ways in which Iran could block the Straits, and conclude that none of these is militarily feasible.²⁷ Artillery bases on islands can be destroyed by waves of air strikes. Given the currents and depth of the Straits, mines can be removed with little difficulty by minesweeping operations. Furthermore, oil tankers are not as vulnerable as is commonly perceived. During the Iran–Iraq war many oil tankers went through mines without suffering serious damage. Sinking modern oil tankers by mines and conventional warheads in order to block the Straits of Hormuz would be very difficult, and would require large missile stockpiles which a small naval power cannot maintain. Iran could resort to non-traditional offensive operations such as the use of explosive-packed 'super-modern flying boats' piloted by suicide bombers or suicide planes/drones. Although such actions could adversely affect maritime activity, the damage caused would probably be limited, could not be sustained for a long time, and would not lead to a full blockade of the Straits. Finally, Iran does not have a strong enough navy to enforce a blockade. The Iranian Navy would easily be defeated and neutralized by the strong US Fifth Fleet roaming the Persian Gulf. Thus, only very extreme conditions would push Iran to use this 'suicidal' weapon, and even then it may not succeed in achieving its objective of disrupting energy supplies.

The potential for a temporary blockage of the Straits still exists if Israel, or a coalition of powers led by the USA, decides to attack Iran's nuclear sites. In such a scenario, energy flows would be disrupted, as oil and LNG tankers would avoid passing through the Straits of Hormuz during the military strikes. Iran's own oil production would most likely halt. This would cause panic in the oil market (as well as among main LNG buyers from the region) as countries competed to gain access to supplies, putting upward pressure on oil and LNG prices. Oil and gas disruption resulting from military action would be temporary, and its effects could be mitigated by spare capacity from Iran's Gulf neighbours and the use of OECD strategic and commercial stocks, which at the end of September 2011 stood at 4189.5 million barrels, providing a forward cover of 92 days.²⁸ The key Asian LNG consumers – Japan, South Korea, and Taiwan – would also be likely to use stored LNG stocks to alleviate the impact of a cut in Persian Gulf supplies.²⁹ In such a bleak scenario, the oil weapon would



lose its effectiveness. Instead, the Iranian regime would most probably resort to the use of its overt and covert ‘weapons’ to destabilize key regional players. At a time when the region is still grappling with the repercussions of the Arab spring, this could prove to be a nightmare scenario for oil and gas markets, inducing a prolonged period of geopolitical uncertainty and increased tail risk.

Looking Ahead

Assuming that the current conflict does not end in military confrontation, the most likely scenario is for Iran to continue its threats to disrupt supplies, but without using the oil weapon. As argued above, Iran as a country may gain in the short run from making threats, but has most to lose in the long term from translating them into practice effectively. Worries by global oil market participants can potentially play into the hand of Iran in the short term, through higher crude oil prices that increase Iranian revenue flows while no embargo is yet in place.

The imposition of sanctions has so far failed in forcing Iran to abandon the nuclear course or change its foreign policy; the latest sanctions are unlikely to fare better. Iran has demonstrated a remarkable degree of resilience in response to past rounds of sanctions. For example, in July 2010, the USA imposed sanctions against foreign firms selling or providing Iran with refined petroleum. In response, Iran adopted multiple measures to reduce its dependency on imported refined products. These included rationing gasoline consumption, removing energy subsidies (which resulted in multi-fold increases in gasoline prices), converting petrochemical plants to producing gasoline, using compressed natural gas (CNG) in transport, and expanding refinery capacity. As a result of such measures, Iran managed to decrease the share of imports in Iran’s gasoline supplies from around 40 per cent to less than 5 per cent over the last few years, neutralizing to a large extent the impact of the fuel sanctions.³⁰

Nevertheless, Iran’s resilience will not help the country in reducing its political isolation; prevent its economy from further deterioration; and will not protect its energy sector from the more detrimental long-term effects of sanctions – through lessened foreign investment, restricted access to finance, and lack of access to foreign technology. This is, in fact, a loss not only for Iran, whose citizens will bear most of the cost; but for all parties involved, for Iran with its vast oil and natural reserves remains an important source of current and future energy supplies. As such, Iran could very well be a contributor, rather than a threat, to European and US energy security.

¹ See for instance Adelman, M.A., ‘The Real Oil Problem’, *Regulation*, Spring 2004; Blair, D., Lieberthal, D. ‘Smooth Sailing’, *Foreign Affairs*, May/June 2007, 86:3; Chapman, D., Khanna, N. ‘The Persian Gulf, Global Oil Resources, and International Security’, *Contemporary Economic Policy*, 24:4, October 2006, 507–19.

² For a detailed review of the history of the oil weapon, see Mabro, R. ‘The oil weapon’, *Harvard International Review*, XIX, Fall 2007, 52–60.

³ ‘US Senate Approves Sanctions Against Iranian Central Bank’, *Oil Daily*, 5 December 2011.

⁴ ‘EU to Ban Iranian Crude Imports From July’, *Petroleum Intelligence Weekly*, 30 January 2012.

⁵ ‘IMF: Iran sanctions could push oil to \$140’, *Trend*, 26 January 2012.

⁶ ‘Iran worries spark fears of \$200-a-barrel oil’, *Financial Times*, 8 November 2011.

⁷ Previous comments on this subject matter, on which this comment draws, are Fattouh, B. ‘The Myth of the Iranian Oil Weapon’, Oxford Energy Commentary, Oxford Institute for Energy Studies, August 2007; Mabro,



R. 'On the security of oil supplies, oil weapons, oil nationalism and all that', OPEC Energy Review, March 2008.

⁸ 'India: Iran's Losses Could Be Saudi, US Gains', *Energy Compass*, 27 January 2012.

⁹ 'China buys up Saudi, Russian oil to squeeze Iran', *Reuters*, 7 February 2012.

¹⁰ 'Asia: Scrambling to Prepare for Iran Sanctions', *Energy Compass*, 13 January 2012.

¹¹ 'Iranian Crude Output Continues To Fall, Hurt By Sanctions', *MEES*, LV:5, 30 January, 2012.

¹² We would like to thank Joel Couse for suggesting this point.

¹³ *Monthly Oil Market Report*, IEA, 18 January 2012.

¹⁴ *World Oil & Gas Review*, ENI, 10th Edition, 2012.

¹⁵ 'Iran to Cut Oil Exports to "Some" EU Countries', *International Oil Daily*, 31 January 2012.

¹⁶ *Monthly Oil Market Report*, IEA, 18 January 2012.

¹⁷ M.A. Adelman, 'The Real Oil Problem', *Regulation*, Spring 2004; Pollack, K. 'Securing the Gulf'. *Foreign Affairs*, July/August 2003. For a reverse oil weapons thesis, see Yetiv, S.A., Feld, Y. 'America's Oil Market Power. The Unused Weapon Against Iran', *World Policy Journal*, Fall 2007, 53–62.

¹⁸ *Monthly Oil Market Report*, January 2012 figures, IEA, 18 January 2012.

¹⁹ 'Iran to Cut Oil Exports to "Some" EU Countries', *International Oil Daily*, 31 January 2012; 'Saudis Play Silent Role in Iran Sanctions', *Petroleum Intelligence Weekly*, 30 January 2012.

²⁰ 'Iran warns Saudi to reconsider vow to open oil taps', *AFP*, 24 January 2012.

²¹ This threat has seemingly gained in weight since the beginning of 2011, when a wave of popular protests began to shake various Arab political systems and to depose the long term presidents of Tunisia, Egypt, and Libya. Particularly sensitive relations between governments and Shiite populations exist in all of Iran's neighbours of the Gulf Cooperation Council (GCC), Iraq, and Yemen.

²² 'Straits, Passages and Chokepoints: A Maritime Geostrategy of Petroleum Distribution', Jean-Paul Rodrigue, *Les Cahiers de Géographie du Québec*, Vol. 48, No. 135, 2004, 359.

²³ 'Global Oil Choke Points', Lehman Brothers Global Equity Research, 18 January 2008; 'Dire Straits', *LNG Intelligence*, 11 January 2011.

²⁴ 'Abu Dhabi: In the pipeline', *Oxford Business Group*, 26 January 2012.

²⁵ 'Qatar Drawing Up LNG Contingency Plan For Hormuz Closure – Source', *Zawya Dow Jones*, 2 February 2012.

²⁶ GCC officials are reported to have held talks with EU and NATO officials in early February addressing the Council's concern over the Straits of Hormuz question and urging the international community to protect the free passage of the Straits. GCC Secretary General Abdullatif Al-Zayani was quoted saying that 'It is the responsibility of the international community to ensure free navigation in that strategically important strait.' 'Keeping Hormuz open responsibility of international community', *Arab News*, 4 February 2012.

²⁷ *The Gulf Tanker War: Iran and Iraq's Maritime Swordplay*, Nadia El-Shazly, Palgrave Macmillan, 1998; 'Closing Time. Assessing the Iranian Threat to the Strait of Hormuz', Caitlin Talmadge, *International Security*, Vol. 33, No. 1 (Summer 2008), 82–117; 'Smooth Sailing: The World's Shipping Lanes Are Safe', D. Blair and K. Lieberthal, *Foreign Affairs*, May/June, 2007.

²⁸ *Monthly Oil Market Report*, IEA, 18 January 2012.

²⁹ 'Dire Straits', *LNG Intelligence*, 11 January 2011.

³⁰ 'Iran gasoline demand falls as natural gas use rises', *Reuters*, 29 January 2012.