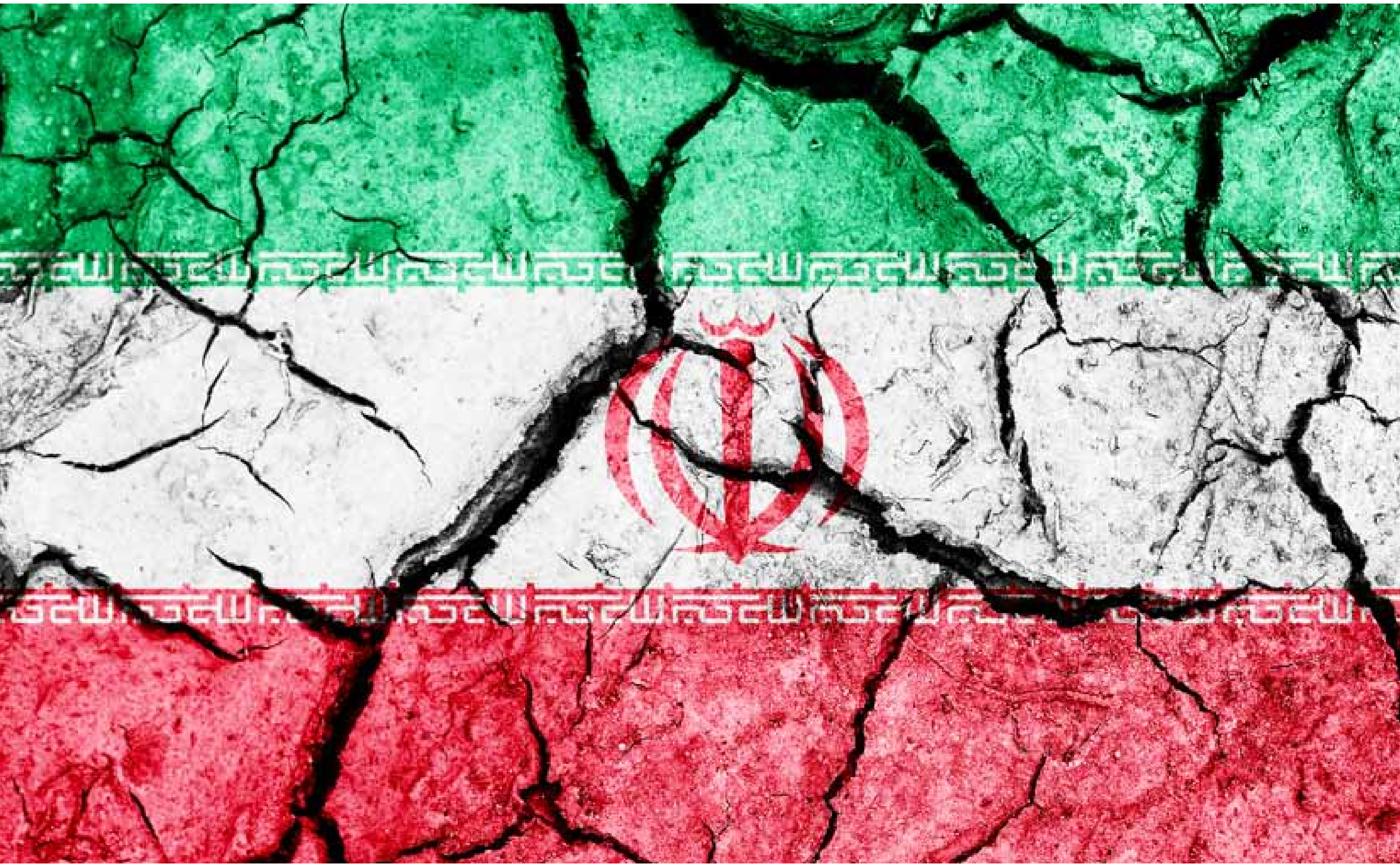
The Economist Intelligence Unit

Oil sanctions on Iran:
Cracking under pressure?

A special report from the Economist Intelligence Unit



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Introduction

In 2012 Western sanctions on the Islamic Republic of Iran's oil and gas industry, aimed at putting economic pressure on it to change its nuclear policy, have reached an unprecedented level. Since the Iranian revolution in 1979, Iran has been in a state of hostility with the US, and has had cool relations, at best, with most European states. Sanctions against official Iranian financial institutions, individuals associated with the Islamic Republic and organisations suspected of being involved in nuclear proliferation activities have been mounting for some time. However, it is only recently that Iran's oil and gas sector has been specifically targeted by both the US and the EU in such a co-ordinated manner. Importantly, this marks the first time since the foundation of the Islamic Republic of Iran that the EU member states have collectively put in place sanctions on the export of Iranian crude oil—until now an action that, with a few exceptions, had only been taken by the US. The stakes have therefore been raised in Iran's confrontation with Western powers over the nuclear issue.

Iran has begun to feel the impact of sanctions on its energy and financial sectors. As economic difficulties build, Iran's rulers are likely to come under increased domestic political pressure. So far, however, despite tighter measures restricting Iran's ability to export oil, the Islamic Republic has not backed down. Indeed, the ongoing dispute over Iran's nuclear programme appears no closer to resolution. Iran's nuclear activities are likely to remain a major foreign policy challenge for the administration of US President Barack Obama in its second term, just as they were in its first. The longer the standoff between Iran and the Western powers drags on, the more likely it is to impact global oil supply and crude oil prices—not just because of the partial loss of oil supply from a major OPEC oil exporter, but also because of the lurking threat that the dispute will flare up into a hot conflict in the Persian Gulf.

The purpose of this report is to outline the energy-related sanctions that have been brought into force, assess their impact on Iran's ability to produce and export oil as 2012 draws to a close, and detail the response of Iran's traditional oil buyers as they seek to maintain adequate levels of crude oil imports. We will also assess the impact of the sanctions on global crude oil supply and prices, and on the Iranian economy. The report begins by laying out the background to foreign involvement in the Iranian oil industry.

Foreign participation in Iran's oil sector: from Mossadegh to buy-backs

The geopolitics of Iranian energy have been a source of tension between Iran and the West several times in the past. Oil was first discovered in Iran in 1908, and subsequently a concession to produce oil was awarded by the Shah of Iran to the Anglo-Persian Oil Company, which was renamed the Anglo-Iranian Oil Company (AIOC) in 1935 and British Petroleum (BP) in 1954. In the early 1950s the Iranian prime minister, Mohammed Mossadegh, attempted to nationalize the AIOC, but he was removed from power in 1953 following a two-year crisis. During this episode, the UK, in retaliation for the nationalisation of AIOC, placed an embargo on Iranian oil exports and attempted to prevent Iran from selling oil elsewhere.

In 1954, following Mossadegh's downfall and the return of Iran's monarch, Mohammed Reza Shah Pahlavi, from a brief exile, the Shah's government made a concession agreement with a consortium of Western oil companies, comprising BP, Royal Dutch Shell, CFP of France (now Total) and a group of US companies. Under this arrangement the consortium shared 50% of its net trading profit from oil production in Iran with the National Iranian Oil Company (NIOC), which had been formed in 1948. Production of Iranian oil remained in the hands of the consortium of British, American and French companies. But in 1973 the Shah of Iran reached an agreement with the foreign consortium partners to nationalise their assets, and NIOC subsequently assumed control of oil production. In return, the foreign companies received preferential treatment for a period of 20 years and were permitted to maintain a presence in Iran through service contracts with NIOC.

Unfortunately for them, the Shah's rule lasted only another six years. Following the 1978-79 Islamic revolution, during which time strikes in the oil industry had severely weakened the Shah's rule, the post-revolutionary government terminated service contracts with foreign oil companies. Many foreign industry professionals left the country never to return, and they were joined by a large number of skilled Iranian technical staff. A post-revolutionary constitution was adopted in 1979, under which major sectors of the economy, including natural resources, were brought under state control. The constitution also forbade the awarding of concessions to foreign companies to exploit Iran's natural resources. Iran's phase of resource nationalism, given impetus by a secular prime minister in 1951, was completed by an Islamist-inspired revolution nearly three decades later.

In the mid-1970s Iran's oil production peaked at an all-time high of around 6m barrels/day (b/d), a big increase from around 2m b/d in the mid-1960s. But instability in the years immediately after the 1979 revolution and the outbreak of the Iran-Iraq war in September 1980 contributed to a steep decline in the 1980s. Eventually, after 1988, oil production recovered to reach nearly 3.9m b/d by 2007, but has never again reached the level of 6m b/d that was briefly achieved in the 1970s.

This fall in production is the result of a combination of factors, not least a lack of domestic and foreign investment after the Iran-Iraq war. In the 1990s Iran attempted to attract foreign investment in its oil and gas sector by introducing "buy-back" schemes. These were devised to permit foreign investment without violating Iran's constitution, which bans the awarding of concessions to foreign oil and gas firms. European energy firms such as Total, Statoil and Eni entered the Iranian energy sector for a while. However, the unattractiveness of the terms offered under the buy-back scheme has discouraged investors. So, too, has Western pressure.

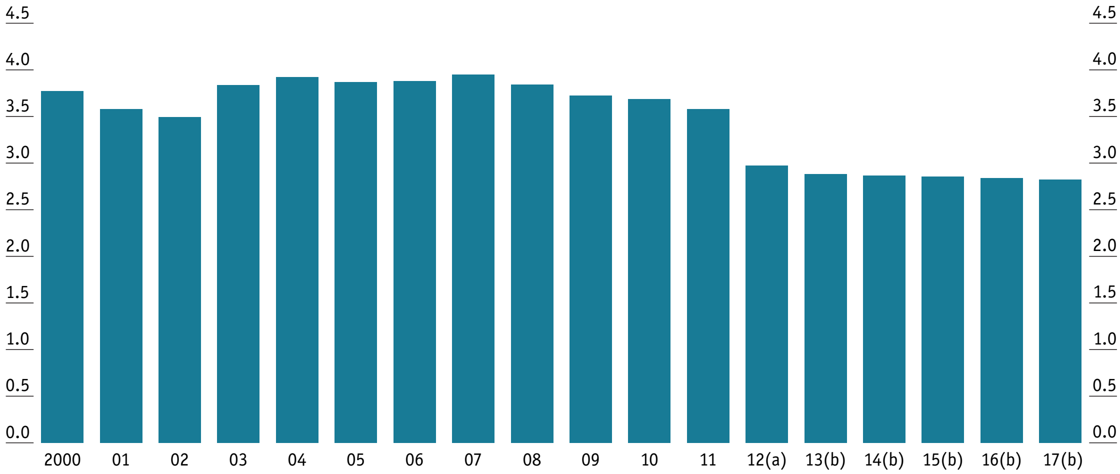
Iran's oil industry under Western sanctions

US sanctions were exacting a toll on the Iranian energy industry. Unilateral US sanctions have been in place since the 1990s, when a presidential executive order by the Clinton administration banned Iranian oil imports and prohibited US investment in Iran's energy sector. US-Iran relations hit a low point in the early days of the Iranian revolution, and were further damaged by the hostage crisis of 1979-81, which soon followed. Diplomatic relations between the two countries were broken off and have not been re-established. On the contrary, the Clinton administration tightened US sanctions against Iran on the grounds that it was pursuing weapons of mass destruction programmes and supporting terrorist groups such as Hezbollah in Lebanon and Hamas and Islamic Jihad in the Palestinian Territories. The US's Iran Sanctions Act (originally the Iran-Libya Sanctions Act 1996) added penalties for non-US energy firms investing in Iranian oil and gas. For its part, until 2012 the EU bloc as a whole had stopped short of banning imports of Iranian oil, but individual states did exert pressure that led EU firms involved in Iran's oil and gas sector to quit the country in recent years. Furthermore, the EU has complemented US efforts to cut off Iranian trade from the international financial system.

This has placed a growing strain on Iran's energy sector. The International Energy Agency (IEA) stated in its report, *Medium-Term Oil and Gas Markets 2011*, that "The much broader sanctions targeting financial transactions, including the banking and insurance industry, have largely choked off foreign investment as well as Iranian companies' ability to procure equipment and materials for their oil projects." It is not just that Iran is unable to bring in the investment and technology needed to explore for new resources. According to the US Energy Information Administration (EIA), the natural rate of decline at producing Iranian oil fields is quite significant, at a rate of around 400,000-700,000 b/d annually. Iran desperately needs to invest in oil recovery programmes to maximise output from existing fields and reverse the production decline. One of the main techniques used to do this is the injection of natural gas into mature oil fields. However, Iran's inability to access the needed equipment means it has been unable to stem the decline.

The impact of Western measures on Iranian oil output was therefore clear long before more severe sanctions were introduced in 2012. According to Economist Intelligence Unit data, Iran's oil production increased rapidly after the end of the Iran-Iraq war, rising from 2.2m b/d in 1988 to 3.6m

Iran crude oil production since 2000
(m b/d)



(a) Estimate. (b) Forecast.

b/d by 1993. Output rose more gradually after this initial phase of rapid recovery, peaking at 3.9m b/d in 2004. Between 2007 and 2011 crude oil production tapered off, averaging 3.6m b/d in 2011.

In focus Chinese investment in Iran's oil and gas industry: The struggling survivors

Despite the difficulty foreign firms encounter in working in Iran's energy sector, a few are still present—all of them from China. But in Iran's difficult operating environment, even Chinese-backed oil and gas projects find the going tough.

China's biggest upstream producer, China National Petroleum Corporation (CNPC), took over the development of Phase 11 of the South Pars offshore gas field in 2009. Development of the phase had originally been part of a US$4.7bn deal with France's Total and Malaysia's Petronas. However, in October 2012 CNPC reportedly withdrew from the project. The Chinese company has a presence in two Iranian oil fields, South and North Azadegan. In 2009 Iran agreed to develop the North Azadegan oil field, and in the same year CNPC also agreed to develop the South Azadegan oil field, which has an expected production capacity of 260,000 b/d. But headway in these fields has been slow. Japanese firm Inpex was a key player in the Azadegan fields, but by 2010 had withdrawn its remaining 10% interest in the project. Although it is reported that production has begun at the North Azadegan field, South Azadegan has not yet produced first oil.

China National Offshore Oil Corporation (CNOOC) signed an agreement in 2008 to develop the North Pars offshore gas field after Shell and Spain's Repsol withdrew from the project. But CNOOC's participation in developing the field is reportedly on hold. Development of the Yadavaran onshore oil field by Sinopec, another Chinese National Oil Company, was also delayed, although it was reported that the field finally began production in early 2012. Even modest progress is hard-won in Iran's oil and gas industry.

The tightening of sanctions in 2012

In recent years, tensions between Iran, the US and the EU over its nuclear programme have become more severe. Iran continues to enrich uranium to higher levels, approaching what the US and its allies fear is the capability to weaponise nuclear material. Several UN Security Council resolutions have called on Iran to suspend its uranium enrichment programme and allow the International Atomic Energy Agency (IAEA) to verify its nuclear activities as being for exclusively peaceful purposes only, but to no avail. Meanwhile, Iran insists on its right to enrich uranium for peaceful purposes as a signatory member of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

In response, the US and EU have strengthened their sanctions on Iran. Many of the new measures are aimed at blocking the Islamic Republic's ability to use the international financial system in an attempt to curtail its nuclear activities. However, this report focuses on five recent measures implemented by the US and the EU that relate directly to the energy sector. These are:

- A decision by the EU on January 23rd, 2012 to ban the import of Iranian crude oil and petroleum and petrochemical products to EU member states, effective July 1st 2012.

- An EU decision on the same day to ban any financial activities, including insurance provision, related to the import of Iranian crude oil. This prevents maritime insurers in the EU, who provide cover for at least 90% of the oil tanker trade, from underwriting tanker shipments carrying Iranian oil.

- Several pieces of US legislation enacted on December 31st 2011 that facilitate penalties for any institution dealing with the Iranian Central Bank in relation to oil purchases, effective June 28th 2012. This measure also permitted the US president to offer waivers from penalties to countries undertaking to reduce their purchases of Iranian crude oil.

- The US's Iran Threat Reduction and Syria Human Rights Act, adopted on August 10th 2012. This expanded the scope of the Iran Sanctions Act to include any energy-related services, such as insurance, reinsurance and shipping services, as well as technologies related to oil and gas development.

- A directive from the EU on October 15th further toughening EU sanctions against Iran that had been adopted in January 2012. According to an EU statement, "The Council has agreed to prohibit all transactions between European and Iranian banks, unless authorised in advance under strict conditions with exemptions for humanitarian needs." The EU also strengthened restrictive measures against the Central Bank of Iran, targeted Iran's shipbuilding and oil storage sectors, and prohibited EU states from importing natural gas from Iran.

These measures almost immediately began to affect Iran's crucial oil export sector. Iran exported more than half of its crude oil production in 2011: according to EIA data, Iran produced nearly 3.56m b/d in that year, exporting 2.3m b/d of this. Approximately one-quarter of these shipments were directed to EU member states (mainly Italy, Spain, Greece and France). As the EU's ban on Iranian crude oil loomed, in the early part of 2012 European refiners began securing new sources of crude oil in time for the July 1st deadline. By April 2012 European imports of crude oil from Iran had already declined to 160,000 b/d, and by the time the EU's sanctions on the purchase of Iranian crude oil took effect European refiners had cut back on Iranian oil purchases and found alternatives. Iran had lost a 500,000 to 600,000-b/d market.

On paper, however, Iran still had the opportunity to sell this oil to customers elsewhere. The bulk of Iran's crude oil exports were already directed to Asian markets, with China the single largest national buyer of Iranian crude oil in 2011, importing an average of 565,000 b/d. Other major customers include Japan, India, South Korea, Turkey and South Africa.

These countries have faced mounting pressure from the US and the EU to reduce their intake of Iranian crude oil. In particular, the US and the EU have used the international financial system to make buying Iranian oil extremely difficult. Excluding blacklisted Iranian banks from using the Brussels-based SWIFT electronic payments system has made it problematic for buyers of Iranian crude oil to pay for their oil purchases. As a result, purchasers still wanting to buy Iranian oil have resorted to alternative arrangements. The two other significant measures impacting Iran's ability to sell oil are tighter US financial sanctions against the Central Bank of Iran and the move to prevent Europe-based insurers from underwriting Iranian oil shipments.

The US financial sanctions enacted in December 2011 give the president the authority to penalise foreign banks dealing with the Central Bank of Iran over both oil and non-oil related purchases by restricting their access to the US financial system. In order to encourage compliance among Iran's client-countries, the sanctions afford the president a degree of flexibility. A presidential waiver from penalties may be granted if it is determined that a country buying Iranian crude oil has made a "significant reduction" in their purchases. According to guidance published by the Department of the Treasury: "The Secretary of State intends to consider relevant evidence in assessing each country's efforts to reduce the volume of crude oil imported from Iran, including the quantity and percentage of the reduction in purchases of Iranian crude oil over the relevant period, termination of contracts for future delivery of Iranian crude oil, and other actions that demonstrate a commitment to substantially decrease such purchases".

By the time the US financial sanctions took effect on June 28th 2012 the US had exempted all Iran's major oil buyers from any penalties, including China, Japan, India, South Korea, South Africa,

Sri Lanka, Turkey and Taiwan. Exemptions were valid for a period of six months from when they were awarded (the countries were exempted on June 11th, except for China, which was exempted on June 28th). The specific pledges that these countries made to reduce their intake of Iranian oil in order to win presidential waivers were not made public.

From July 1st, however, Iran's non-European buyers faced a new obstacle. The EU's decision to prevent Europe-based insurers from underwriting Iranian crude oil shipments was particularly far-reaching: these firms reportedly provide insurance cover for 90% of the world's oil tanker shipments. As a result, even those states that had complied with US wishes to buy lower volumes of Iranian oil and had received exemptions from US sanctions faced escalating barriers to importing Iranian oil.

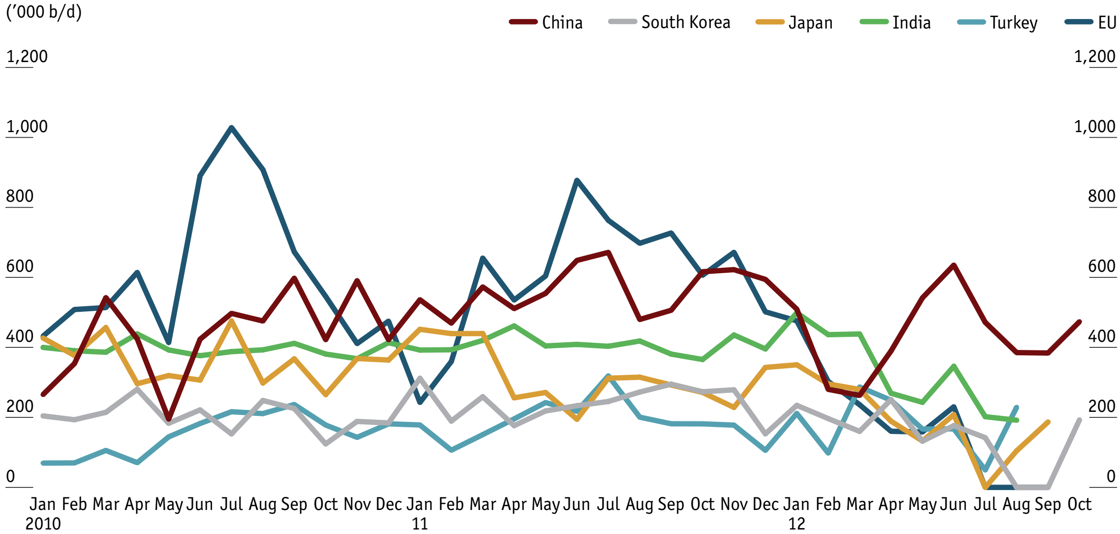
Iran's oil production and exports: much diminished

Iran has faced economic sanctions in its recent history, but the current US and EU measures are the most punishing yet. They have had a severe impact on Iran's oil industry, and both production and exports have slumped.

Averaging around 3.6m b/d in 2011, Iran's crude oil production slipped to 3.2m b/d in May 2012, falling further to 3m b/d in June and 2.9m b/d in July. According to IEA data, Iran's crude oil production dropped to third place among OPEC member states in July 2012, behind Iraq, which hit the 3m b/d mark that month. By September 2012 Iran's production slipped further, to 2.63m b/d, behind fellow OPEC members Iraq, Kuwait and the United Arab Emirates, although output bounced back slightly to 2.7m b/d in October.

After sanctions were strengthened, traditional buyers of Iranian crude oil either phased out purchases completely, in the case of EU states, or reduced them. Month-on-month oil import data tend to be volatile. However, data on Iranian oil exports show that some major non-European buyers of Iranian oil reduced purchases—whether because they agreed to US demands to do so in order to

Monthly imports of Iranian crude oil: major buyers
('000 b/d)



Source: Official statistics and Economist Intelligence Unit estimates (EU, China, Japan, South Korea, India) .

receive sanctions exemptions, because they found buying Iranian oil too problematic, or because of a combination of both factors. India, South Korea and Japan cut their intake of Iranian oil between January and May 2012. China's oil imports from Iran fell during February and March but started to rise again in April, and by May had exceeded the January level of nearly 500,000 b/d.

Iran's crude oil exports to its top five non-European buyers (China, India, Japan, South Korea, Turkey) were around 890,000 b/d in August 2012, down by nearly half from 1.75m b/d in January 2012. According to the IEA, Iran's total oil exports dropped from well over 2m b/d in 2011 to 1.74m b/d by June 2012, and further to 1m b/d by July 2012. By October 2012, exports had recovered somewhat to 1.3m b/d, largely due to increases in volumes exported to China and South Korea.

Attempts to get around sanctions

As the modest recovery in exports suggests, it is likely that the greatest impact of tightened sanctions on Iran's oil industry will have been felt in the months immediately following their introduction. The extent to which non-EU buyers of Iranian oil are willing to co-operate with Western efforts to curtain Iranian oil exports varies. In collaboration with Iran some are, with difficulty, finding ways to adjust to the new sanctions. Iran's crude oil exports could therefore recover further, although not to the levels of 2011, when they amounted to over 2m b/d. The ultimate impact on Iran will be punishing, in terms of lost export revenue, but not necessarily devastating.

Iran and its customers have adopted several approaches to circumventing sanctions:

Get your own insurance

Iran's major customers have sought to continue purchasing oil from Iran, either by moving towards insuring Iranian cargoes themselves or relying on Iran to provide insurance. In late June 2012 Japan's parliament passed legislation to provide government guarantees on insurance for Iranian crude oil cargoes, reportedly up to a figure of up to US$7.6bn per tanker. South Korea decided to temporarily stop importing Iranian crude because of the lack of access to insurance for the shipments. In July it was reported that India's state-run insurers would provide cover of up to US$50m per tanker for Iranian oil shipments (an amount not deemed adequate by some Indian refiners). In August 2012 South Korea was also reported to have been in talks with Iran about resuming crude oil shipments on the basis of Iran providing its own tankers and the insurance; China was reported to have sought the same terms from Iran.

Disguising tankers

Iran's NITC is one of the largest tanker companies in the world, with a fleet of 39 tankers, including 25 very large crude carriers. NITC has been expanding its capacity, with reports in May 2012 that the company would receive the first batch of an order of 12 supertankers from China. It has been estimated that a significant amount of NITC's tanker capacity is being used to store surplus oil that cannot be exported owing to sanctions. Once it became clear that the strengthened EU and US measures were having a significant effect, NITC began to rename its tankers, as well as flag its vessels under different countries, such as Tanzania and Tuvalu, to avoid detection. NITC has also turned off its tankers' GPS systems, which they are required to use under international maritime law, so their movements cannot be tracked.

In July 2012 the US government targeted the NITC with sanctions, a move which included the identification of 58 vessels used by the company, as well as the identification of 27 used by its affiliates. The US Department of the Treasury stated that "These identifications will aid companies and individuals in complying with sanctions against the Government of Iran and undermine Iran's attempts to use NITC front companies or renamed vessels to evade sanctions." Four other companies which the US government states are fronts for the NIOC and Naftiran Intertrade Company—Petro Suisse Intertrade Company, Hong Kong Intertrade Company, Noor Energy of Malaysia and Dubai-based Petro Energy Intertrade Company—were also sanctioned. (Both NIOC and Naftiran Intertrade Company were already subject to US sanctions.)

The US also placed pressure on Tuvalu and Tanzania to back down from allowing NITC to deploy its tankers under their respective flags, which seems to have had the desired effect. Tanzania, for example, de-registered some vessels in response to US pressure. The Iran Threat Reduction and Syria Human Rights Act, passed in August 2012, also stipulated penalties against any foreign entity acting to conceal the origin of Iranian vessels engaged in the transportation of crude oil from Iran.

Payment in local currencies and using barter

In order to lessen the impact of US financial sanctions on its ability to export oil, the Islamic Republic has implemented the use of alternative payment methods. One such arrangement involves accepting payment for crude in gold or in the currency of the purchasing country. Iran has accepted payment in the rupee and yuan for crude oil sales to India (through an Indian bank that does not trade in the US) and China respectively. In some cases, Iran has also made barter arrangements with its traditional oil customers, such as India. While these measures allow Iran's crude oil trade to go ahead, however, in the process Iran is deprived of badly-needed hard currency.

In focus Alternatives to Iranian oil

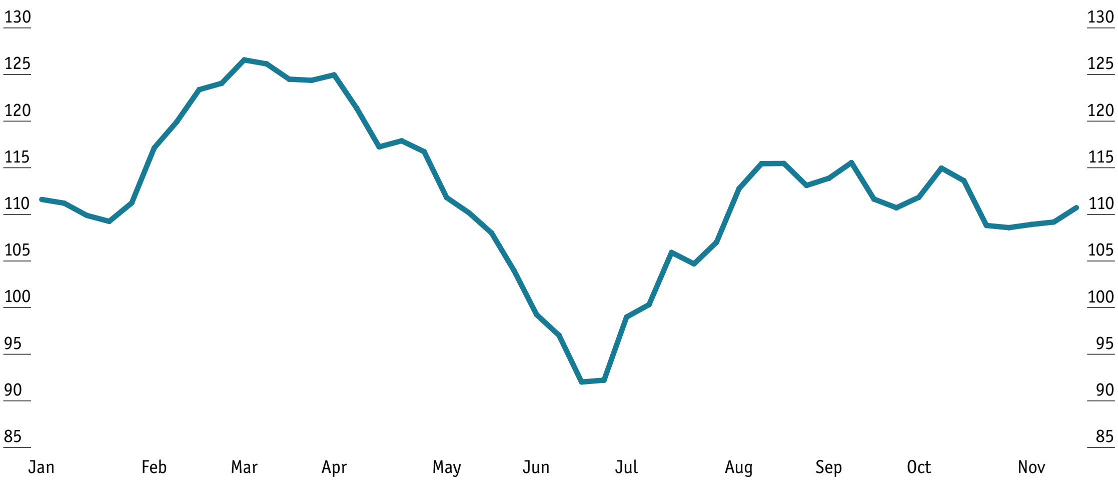
With their access to Iranian crude oil restricted or cut off entirely, European and Asian refiners need alternative sources of supply that are similar to the quality and characteristics of Iranian crude oil grades. The main factors that refineries look at in selecting oil types are American Petroleum Institute (API) gravity (a measure of oil's heaviness relative to water) and sulphur content. Iran's main crude exports, Iran Light and Iran Heavy, have gravity values of 34.2 API and 30.9 API respectively and sulphur contents of 1.38% and 1.68% by some estimates. Iran Light's nearest relations are Arab Light, produced by Saudi Arabia, and Oman crude; Iran Heavy is similar to Arab Medium, from Saudi Arabia, and Dubai crude (supplies of which have nearly dried up). Iraq's main oil grades, Basra Light and Kirkuk, are also a good match. Russia's oils compare less handily, with the notable exception of Urals crude. Even so, there is no shortage of substitutes for Iranian crude from other Persian Gulf oil exporters.

Sanctions and oil prices

Iran's position in the Strait of Hormuz, coupled with its proximity to other major oil producers in the Persian Gulf, combine to create the risk of a conceivably huge disruption to global oil supply. This could occur in the event of any military strike or an attempt by Iran to close the Strait during a conflict with the US or possibly Israel. The Strait of Hormuz is a narrow seaway through which 17m b/d of crude oil passes, mainly to markets in Asia, and its crucial importance to the global economy cannot be underestimated. Even without a military confrontation, however, the price of oil is at risk because of the loss of Iranian supply and owing to the fact that sanctions reflect ongoing geopolitical tension in a crucial oil-producing region.

Since the US and EU sanctions took effect, the price of Brent crude oil futures (front-month contract) has risen from US$94/barrel at the end of June to US$109/b in mid-November. Brent oil prices thus recovered from a recent historical low of just under US$90/b in June and have stayed above $100/b since mid-July. Nevertheless, although more than 1m b/d of Iranian crude oil has been taken

Brent crude oil prices in 2012, weekly average
($US/b)



Sources: Financial Times; Haver Analytics.

off the market, Brent oil prices have not risen sharply. One reason for this is that the loss of Iranian volumes has been partly covered by additional output from Saudi Arabia and Iraq. Saudi Arabia's oil production was 400,000 b/d higher in October 2012 than during the same month a year earlier, while Iraq's output has increased by 460,000 b/d over the same period. Overall, despite the loss of Iranian supply, the output of OPEC (including Iraq) was 1.2m b/d higher year-on-year in October 2012, at 31.2m b/d compared to 30m b/d a year earlier.

The other main reason why prices have not risen more dramatically is the sluggish performance of the global economy, which is making only a patchy recovery from the financial crisis of 2008-09. This has caused global oil demand growth to be subdued. We expect growth in global oil consumption to have languished at just 1% (900,000 b/d) in 2012, and to rise only slightly in 2013 by 1.3% (1.2m b/d). In 2011 oil demand growth was even lower, at 0.9% (800,000 b/d). Oil demand among OECD economies is expected to continue to decline in 2013, while demand growth in emerging non-OECD economies will be modest at best in the near term. A return to the growth rates of the previous decade would make the concerted effort to restrict Iran's oil exports more risky in terms of its impact on the global supply-demand balance, but noticeably stronger global oil demand growth is not expected to occur until 2014.

Despite the relatively benign market fundamentals, oil prices are being supported by geopolitical risk, especially the frictions between Iran and the West. A risk premium is hard to quantify, yet ongoing tensions between Iran and the US and its European allies—not to mention speculation about an Israeli military assault on Iran's nuclear facilities—is undoubtedly causing oil prices to hover at a level higher than would otherwise be expected.

Scope for compromise between Iran and the P5+1 (the five permanent members of the UN Security Council - US, UK, France, Russia, China - and Germany) over Iran's nuclear programme is limited, and the oscillating pattern of a ratcheting up of tensions followed by negotiations is likely to continue. A clash between Israel and Iran remains a possibility, particularly as senior figures in the Israeli government remain sceptical about the benefits of diplomacy and sanctions, although an Israeli attack on Iran's nuclear facilities is unlikely in our view, at least without explicit US support. With the Obama administration beginning a second term there may be a new initiative from the US in 2013 to find a diplomatic solution to the nuclear issue, although there will be some uncertainty on the Iranian domestic policy front as presidential elections in Iran are due in June 2013. The result of the Israeli Knesset, or legislative, election scheduled for January 2013 could also impact US-Israel-Iran relations next year.

For the time being, the lack of progress on the nuclear negotiation front, coupled with the background threat of a military flare-up in the Persian Gulf, will help to keep oil prices at an average of around US$109/b in 2013. A stronger recovery in Iranian oil exports, caused by Asian oil buyers only modestly co-operating with Western efforts to reduce Iran's oil revenue, would ease the supply-demand balance going forward, especially if strong oil demand growth does not return. Ironically, the ongoing nuclear standoff keeps oil prices elevated, mitigating the impact of sanctions on Iran's oil revenue.

Sanctions and the Iranian economy

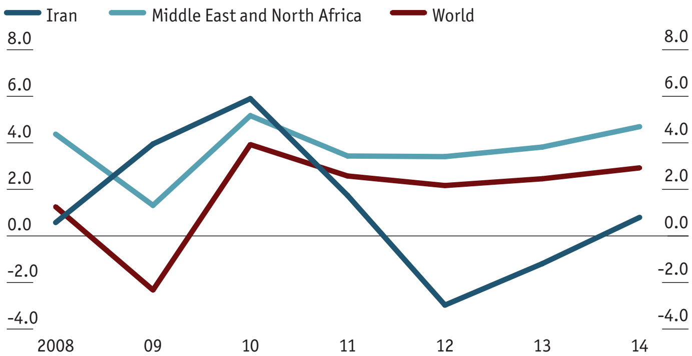
The purpose of US and European sanctions targeting Iran's energy sector is to compel the Islamic Republic to change its approach to its nuclear activities by exerting economic pressure. Iran's economy is heavily dependent on its oil sector—crude exports normally account for about 80% of its total export earnings and 50% of government revenue—and stronger sanctions are already taking a toll.

Indeed, the year 2012 has been difficult for the Iranian economy. We estimate that Iran's GDP will contract by 3% in 2012 (Iranian fiscal year 2012/13) and forecast a further contraction of 1.2% in 2013/14. The economy is forecast to recover slightly during the period between fiscal year 2014/15 and 2017/18, growing by an average of 1.6%. This assumes that Iran's oil exports start to edge up again as the major purchasers of Iranian oil adjust to international sanctions. Such growth is substantially below Iran's historical trend and potential given its hydrocarbons wealth, and until 2016/17 the economy will remain smaller in real terms than it was in 2010/11.

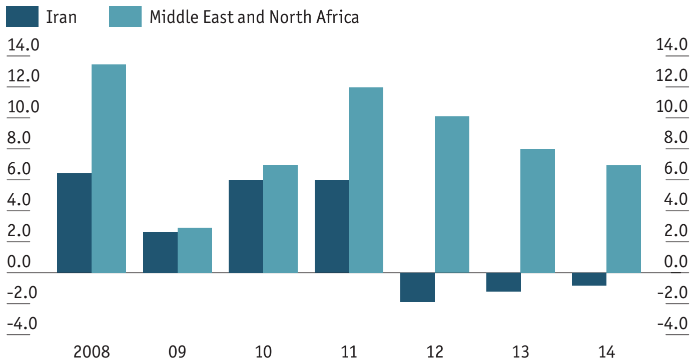
Government revenues will be squeezed by a drop-off in oil exports in 2012 and weak tax receipts as the economy contracts in 2012-13 and posts anaemic growth in 2014-17. We therefore expect the government to tighten its fiscal stance. Since Iran's fiscal position relies heavily on oil earnings, the sharp decline in export volumes in fiscal year 2012/13 has already caused a considerable worsening of the public finances. In addition, parliament has in effect blocked the next round of the retail fuel price subsidy removal programme initiated by the president at end-2010, although it is unclear whether it will reinstate the subsidies that were abolished (and replaced with cash handouts for lower income earners).

From 2013, after the Iranian president, Mahmoud Ahmadinejad, has completed his second term and must step down, we believe that a new president will be required to consolidate spending further in the face of still-weak revenue caused by lower oil exports. Iran operates an oil stabilisation fund, the National Development Fund (NDF), which receives payments when oil revenue is higher than budgeted. Parliament has also approved a law barring the government from tapping the NDF to finance cash payments to households. We expect the official net fiscal deficit to widen from an estimated 5.2% of GDP in 2012/13 to 5.8% of GDP in 2013/14, assuming a lack of significant diplomatic progress on the nuclear issue and a pre-presidential-election spending boost. The official net fiscal account will

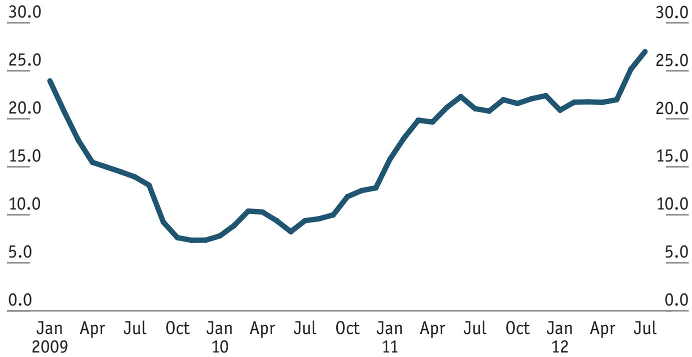
Real GDP growth
(% change)



Current-account balance
(% of GDP)



Consumer price inflation
(% change, year on year)



Source: Economist Intelligence Unit.

remain in deficit for the remainder of the forecast period, as oil income is weakened by sanctions and tax receipts are curbed by poor economic performance. The deficit is normally covered by transfers from the NDF, but the government may have to borrow from state-run banks if the fund runs low.

Perhaps the most significant impact of sanctions on the Iranian economy has been the fall in market value of the national currency, the rial. We estimate that the rial's market exchange rate has fallen by as much as 80% since 2011, reaching a low of around IR35,000:US$1 in October 2012. In the short term, Iranians will shift their savings into safer assets such as gold or the US dollar, if permitted. The Iranian Central Bank, Bank Markazi, has tried to limit the rial's depreciation by raising interest rates, introducing a new multiple-exchange-rate system and opening a foreign exchange centre to satisfy demand for dollars; further moves to control the exchange market are likely in a bid to stabilise the collapsing rial. The official rate has been set at IR12,260:US$1, with a IR15,000:US$1 rate for importing capital and intermediate goods. (All other imports will be purchased using the black-market rate.) However, amid the loss of confidence in the currency, these levels will be difficult to maintain. Further depreciation over the forecast period is possible as barriers to accessing foreign exchange—brought about by financial sanctions—make official rates difficult to maintain.

The unofficial exchange rate is also coming under pressure. Inflation is expected to remain high, driven by the removal of subsidies and by the sanctions that have been imposed this year. This in turn is leading to a dramatic weakening of the unofficial value of the rial and hence higher prices for imports. There are serious concerns over the accuracy of officially published inflation data, and Bank Markazi has not published inflation statistics since April, when inflation stood at 24% year-on-year. However, press reports indicate that inflation is well above officially recognised levels. After reaching an estimated peak of 30% in 2012/13, Iran's official average inflation is forecast to remain above 20% in 2013/14, before falling back gradually to 15% in 2017/18. Furthermore, in the face of declining government revenue, there is a risk that the authorities will print money to fund spending, which would feed an inflationary spiral.

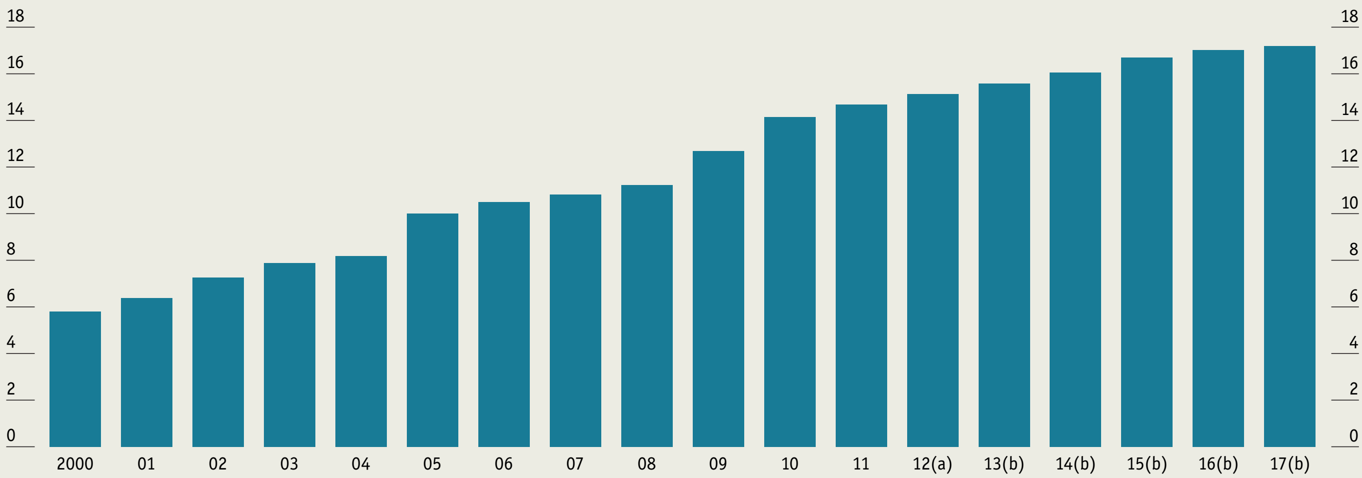
In focus What about gas?

The focus of sanctions against Iran has been directed at its oil sector, but more recently its natural gas sector has also received attention from the US and EU. Unlike crude oil, Iran is not a major natural gas exporter; the bulk of its output supplies the domestic market. Since 1997, however, Iran has been exporting a modest amount of gas to Turkey, with recent estimates of about 10bn cu metres (Bcm) being exported per year. A smaller amount is also exported via pipeline from Iran to Armenia. Since 1997 Iran has also imported small volumes natural gas from neighbouring Turkmenistan. Iran's contribution to the global gas market is negligible, representing less than 1% of total gas traded annually. Nevertheless, Iran is pursuing the construction of a gas pipeline into Pakistan, a project which the US opposes, and also has plans to develop liquefied natural gas (LNG) export capacity. The US has placed pressure on Pakistan not to proceed with the Iran-Pakistan gas pipeline, while existing sanctions have prevented Iran from accessing the necessary technology and equipment to develop the capability to liquefy gas for export as LNG. As a result of lack of investment and access to technology, and rapidly growing domestic needs, Iran has not yet been able to develop a significant gas-for-export sector.

Iran's gas production has grown considerably over the last decade – unlike its oil output – as it has striven to meet growing domestic demand. Iran's gas production has more than doubled, from 5.8bn cu ft/day (Bcf/d) to 14.7 Bcf/d between 2000 and 2011, largely due to the development of the giant offshore South Pars gas field which was discovered in 1990. The field will be developed in 24 phases, of which eight phases have already been completed and are now producing. Due to American sanctions on investment and political pressure from European governments, international oil companies have withdrawn from various phases of the South Pars project, leaving development mainly up to domestic Iranian firms. Most recently, China's CNPC withdrew from Phase 11 of South Pars.

The EU recently banned imports of Iranian gas, but this was a symbolic move as little, if any, Iranian gas finds its way to European markets. It would also be problematic for the US to pressure Turkey and Armenia to cease importing Iranian gas, or Turkmenistan from exporting gas to Iran. At any rate the volumes involved in these bilateral gas flows are not significant. Iran could be impacted negatively if restricted access to finance and technology prevents the growth needed in output from South Pars and other projects, thus creating domestic gas shortages. To date, however, Iran has been able to keep pace with fast-growing local consumption, although lack of finance will make it quite difficult for Iran to develop a viable gas export sector.

Iran natural gas production since 2000
(bn cu ft/d)



(a) Estimate. (b) Forecast.

Conclusion

This year Western sanctions targeting Iran's energy sector have reached a new level of severity. Not only has the EU joined the US in banning the import of Iranian crude oil, but it has complemented American efforts to make it more difficult for Iran to export crude oil to other buyers, mainly in Asia. This is being achieved by restricting Iran's access to the international financial system and its use of hard currencies such as the US dollar and the euro; by restricting, in particular, the ability for Iran's crude oil buyers to access insurance for tanker shipments; through pressuring countries to reduce their intake of Iranian oil or face a raft of sanctions; and by toughening measures aimed to discourage investment in Iran's energy sector and strangle off access to technologies that would assist in the development of its oil and gas industry.

The impact on Iran's oil production and export performance, especially in the second half of 2012, is clear. So too is the effect on the Iranian economy, which depends heavily on energy exports for its overall health. Iran's oil exports, which averaged around 2.3m b/d in 2011, are estimated to have fallen by as much as 1.5m b/d by the third quarter of 2012. Exports may recover as Iran and its Asian customers find ways to work around the American and European sanctions, but Iran's oil exports have taken a severe hit. As a result, oil production has fallen, with latest estimates from the IEA putting Iran's output at around 2.7m b/d, compared to 3.5m b/d in 2011.

The fall in oil production and exports has curbed Iran's ability to earn revenue and contributed to a collapse in the value of the Iranian rial. Partly because of the weakness of the rial, Iran's freedom to import goods has been impaired, and the higher cost of imports has had an inflationary impact on the Iranian economy. As a result, the EIU expects the Iranian economy to contract in the 2012 and 2013 fiscal years, only returning to positive growth in 2014. Iran's oil revenue will be lower in 2012 and 2013 than it was in 2011, but the buoyancy of oil prices, despite weak projections for global oil demand growth, will mitigate the impact on Iran's oil revenue. Nonetheless, Iran may earn well below the actual market price for its crude oil if it is obliged to offer generous discounts in order to incentivise Asian buyers.

Tensions between Iran and the Western powers cause anxiety in the oil market, driving up a risk premium that keeps prices higher than would otherwise be the case. The loss of more than 1m b/d of Iranian supply has not caused a sharp spike in oil prices, but Brent oil futures have not dropped

below the US$100/b level since the sanctions took full effect. Should oil demand growth return to a more robust trajectory in the short-term, the oil market may feel the pinch of lost Iranian supply more sharply. Unless that happens, however, prices will remain high enough for Iran to earn a reasonable amount of revenue, but not so bouyant as to fundamentally undermine the US and EU sanctions strategy. Helping the West's cause are soft market fundamentals caused by anaemic oil demand growth, Saudi willingness to replace lost Iranian barrels, the resurgence in Iraqi oil supplies and growth in US unconventional oil production (the latter of which has kept non-OPEC supply growing modestly in recent years).

The point of tightening sanctions against Iran is to place pressure on the Islamic Republic over its nuclear policy. As 2012 draws to a close, however, there is no clear resolution in sight. Iran still insists that its nuclear programme is for peaceful purposes only and refuses to give up on its enrichment activity. For their part, the US and its European allies continue to suspect that these activities are at least partially motivated by the desire to achieve the capability to acquire a nuclear weapon, or go further and attain nuclear weaponry. While riots occurred in the Tehran bazaar in October over the devaluation of the rial and falling living standards, the Islamic Republic does not appear to be on the verge of collapse, as some sanctions proponents might have hoped. As a result, the sanctions regime against Iran's oil exports could become a prolonged affair, lasting throughout 2013, and is not guaranteed to lead to the result desired by Western policymakers. Until the nuclear deadlock is broken the Persian Gulf region, and oil markets, will continue to feel the effects.

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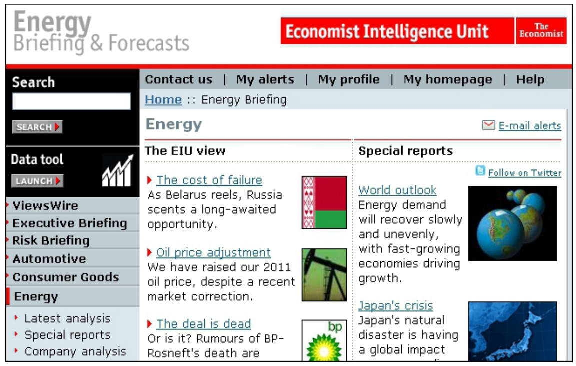

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