

International Oil Markets

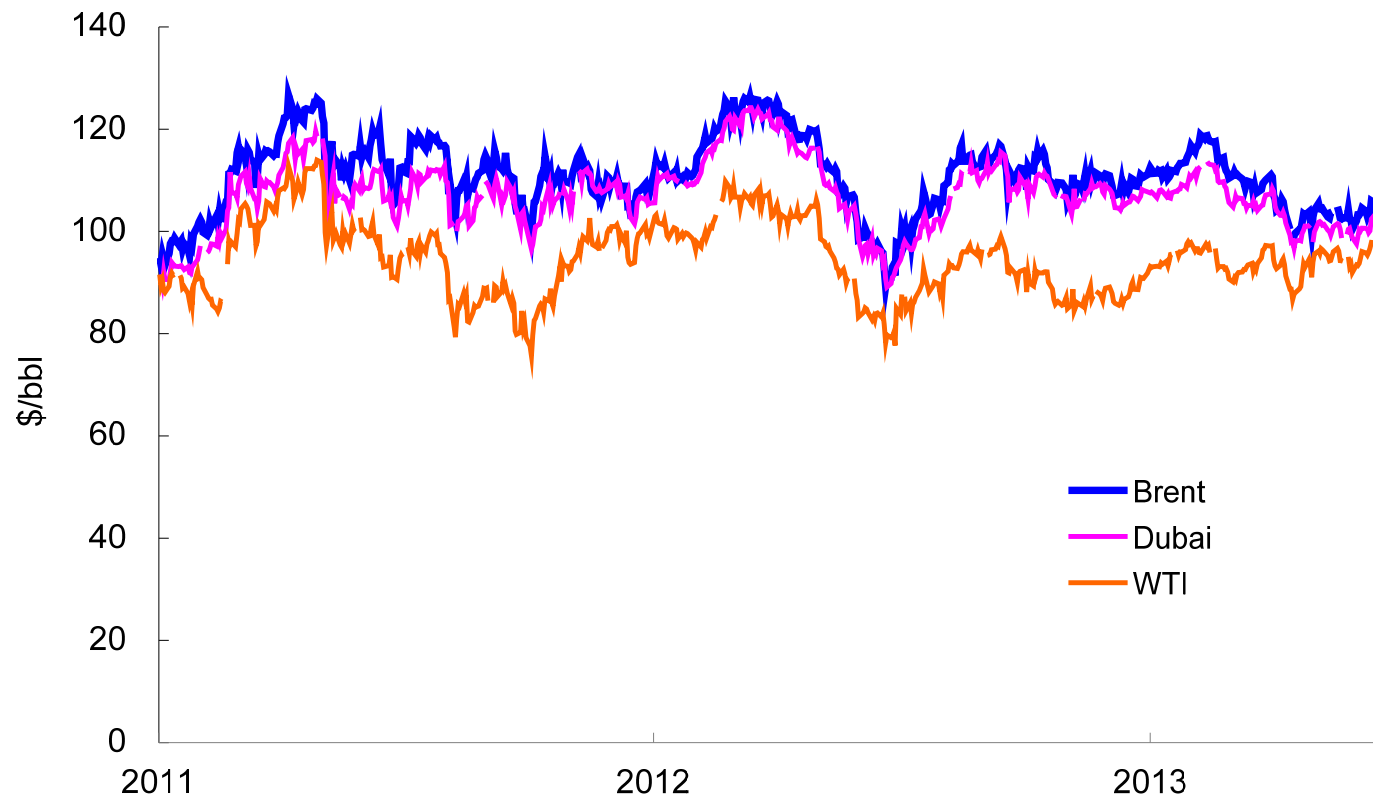
July 11, 2013

Yoshikazu Kobayashi
Oil Group, Oil and Gas Unit
The Institute of Energy Economics, Japan

Recent International Oil Prices

- The latest Brent and Dubai prices are slightly lower than at the beginning of the year
 - WTI on the other hand is rising due to the recovery of the US economy and the debottlenecking of transportation infrastructure from the US inland to the coastal refining complex, quickly catching up with Brent and Dubai.

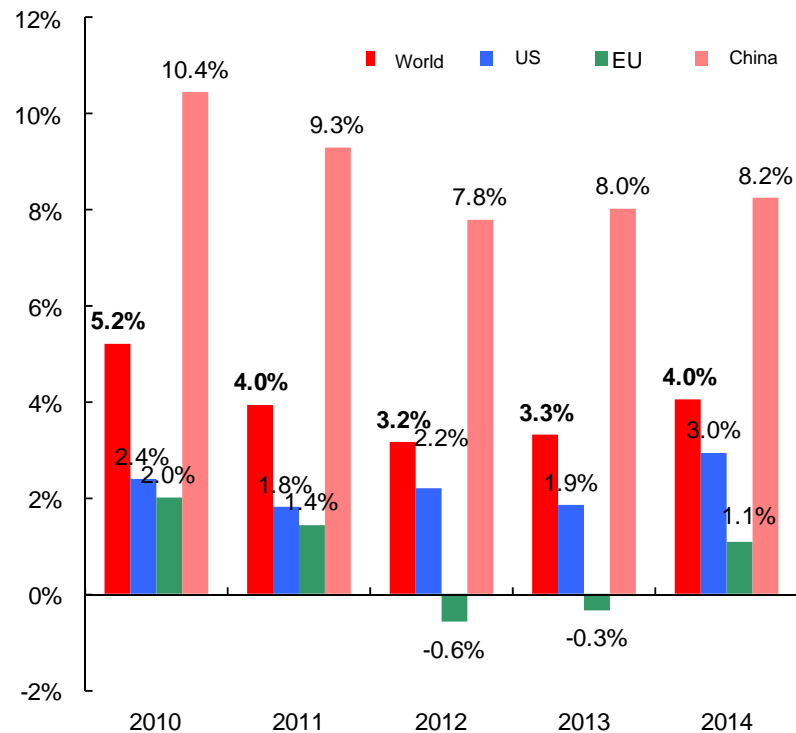
Trends of Oil Price Indices since 2011 (daily)



Uncertain Macroeconomics and Oil Demand

- The global economy is forecasted to grow by 4% in 2014
 - The US economy is making a remarkable comeback while some aspects of the Chinese economy remain uncertain.
- Global demand for oil is expected to exceed 1.0 million B/D in 2014.

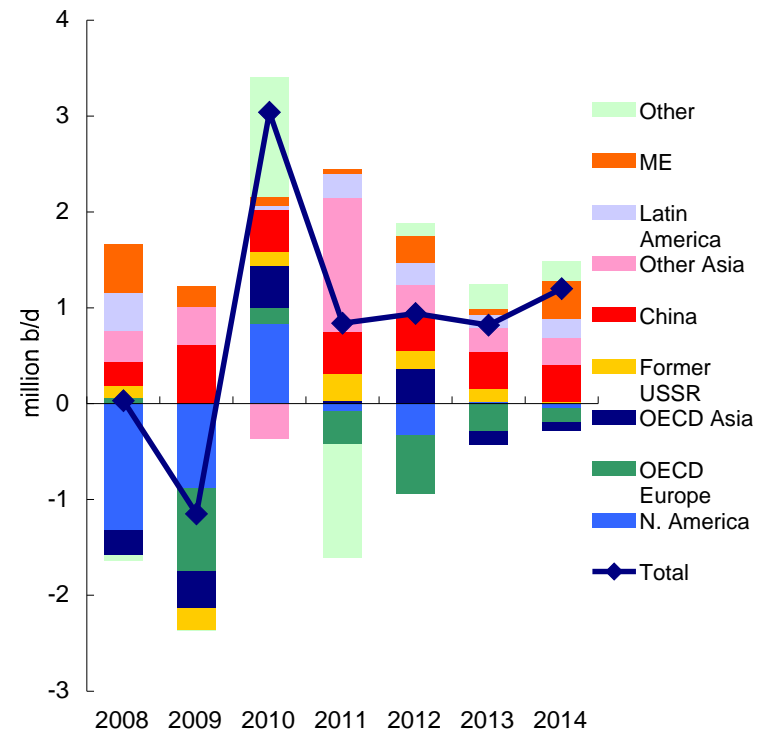
Results and forecasts of regional economic growth by IMF



All rights reserved.

Source: IMF

Increase and decrease in regional oil demand (year-on-year)

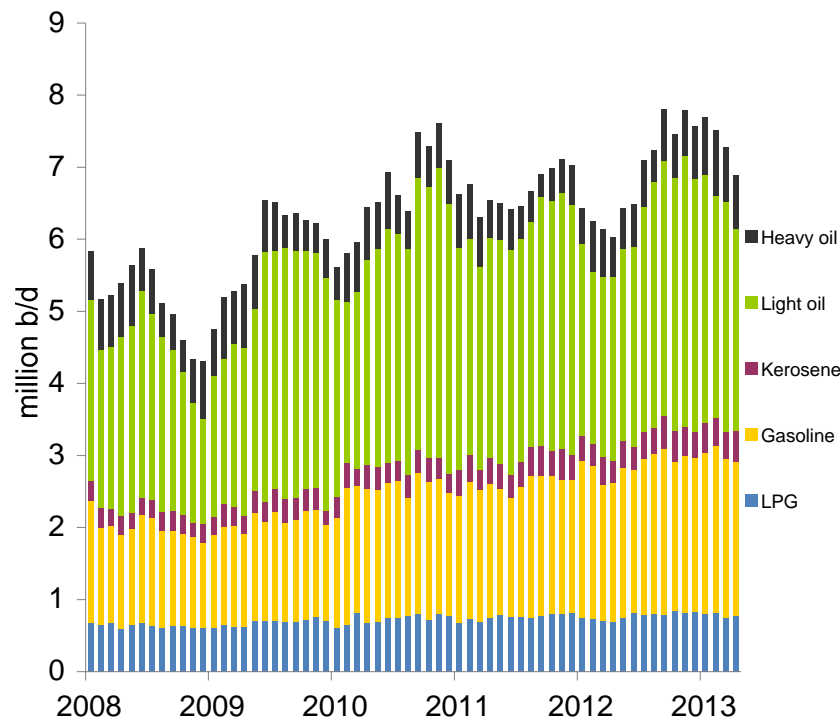


Source: IEA, values for 2013 onwards are forecasts

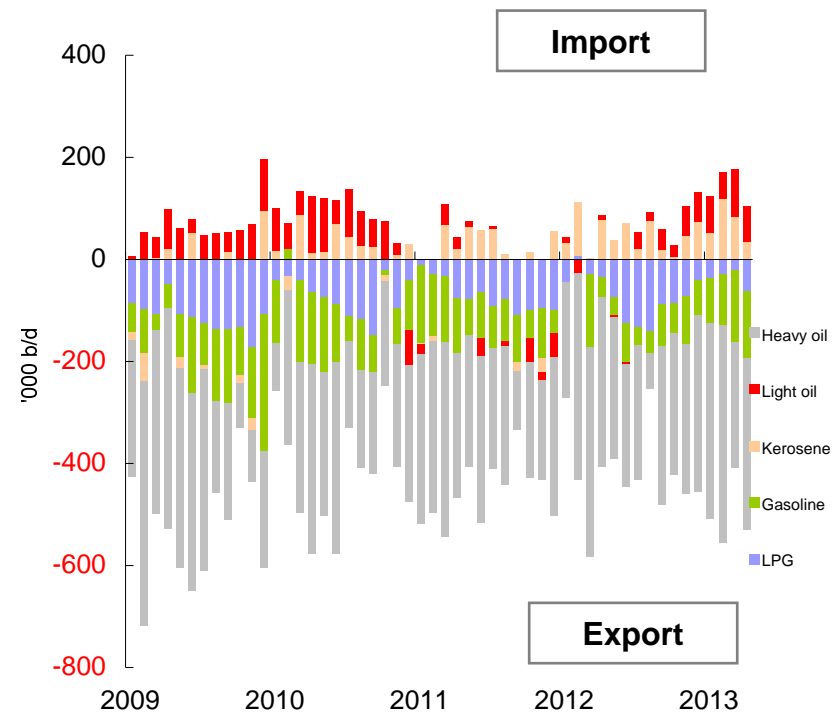
Growth of China's Oil Demand Slowing Down

- With the slowing economy, growth in demand is falling.
 - The next focus is the trend of demand for light oil from this summer onwards.
- While domestic demand is slowing, China's refining capacity is being increased. Exports of petroleum products grew in the first half of 2013, centered on middle distillate.

Demand for China's main products (monthly)



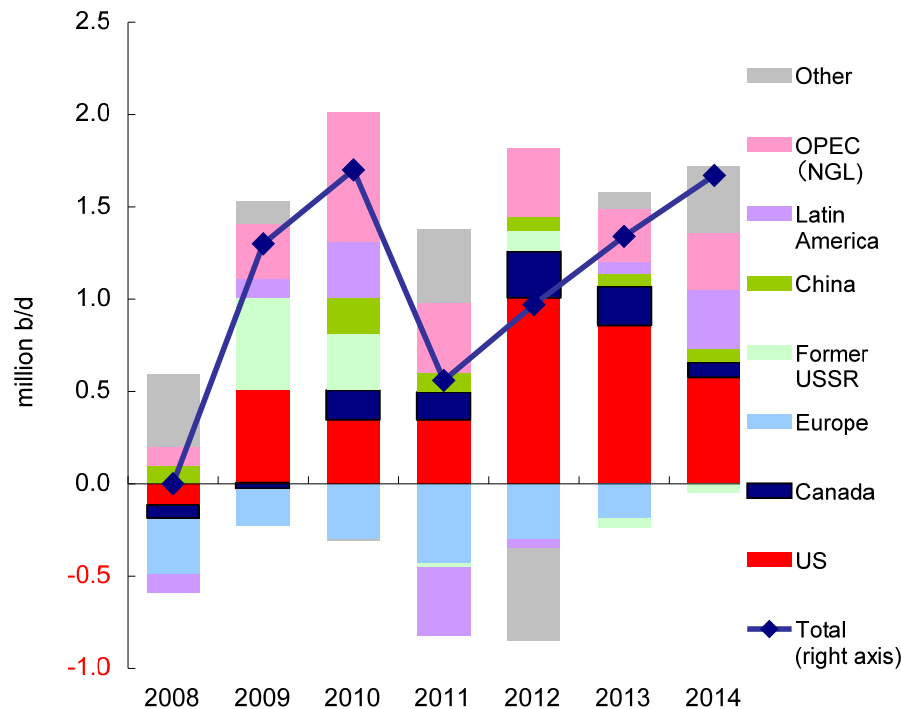
China's product import/export (monthly)



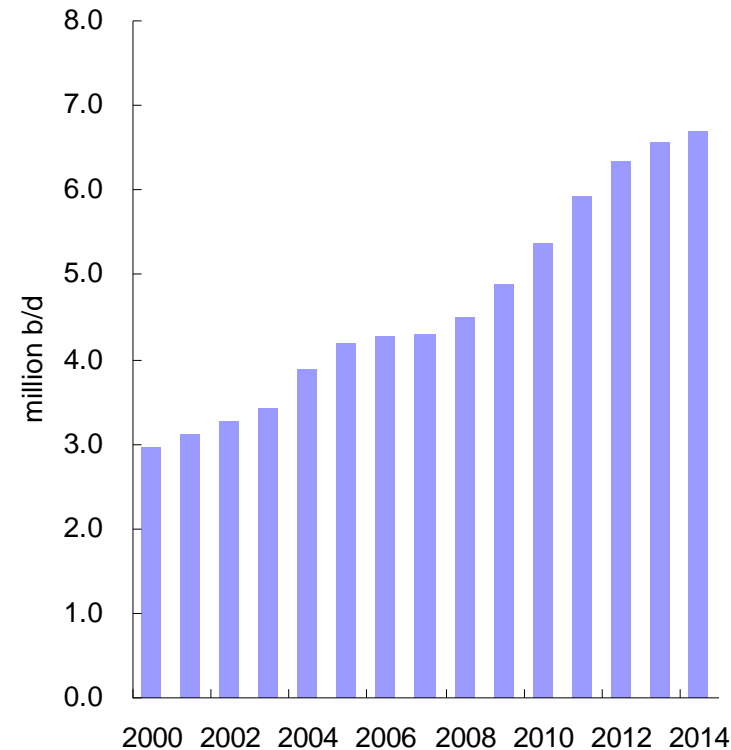
Accelerating Non-OPEC Supplies

- Supplies from non-OPEC are accelerating due to the production growth in the US
 - The production of Canadian oil sands is increasing steadily, as well as light tight oil which is continuing to outgrow initial forecasts.
- Noticeable increase in production of OPEC NGL
 - Doubled in the past 10 years; expected to add a further 500,000 B/D in the next 5 years.

Increase/decrease in non-OPEC production by region (Y-o-Y)



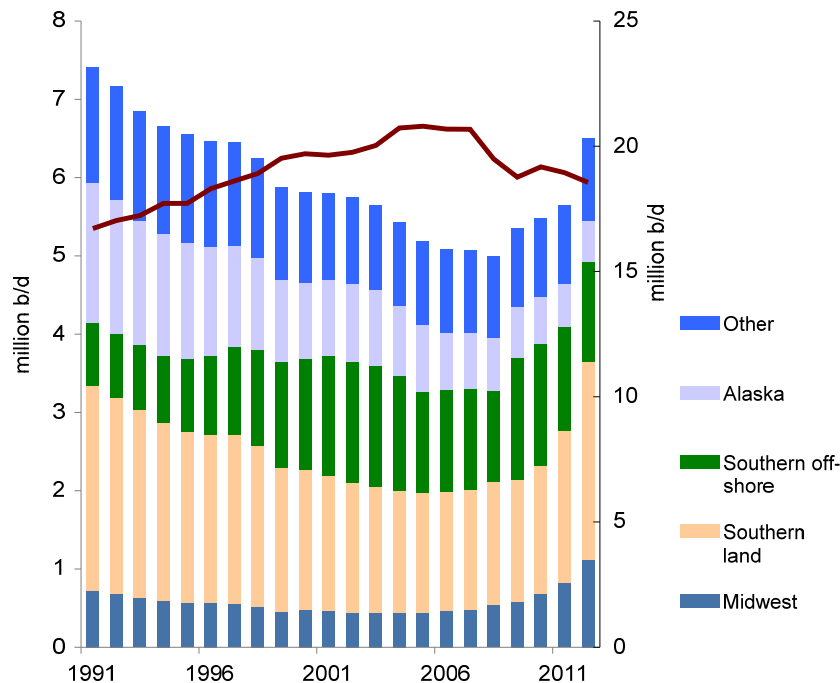
OPEC NGL production (annual)



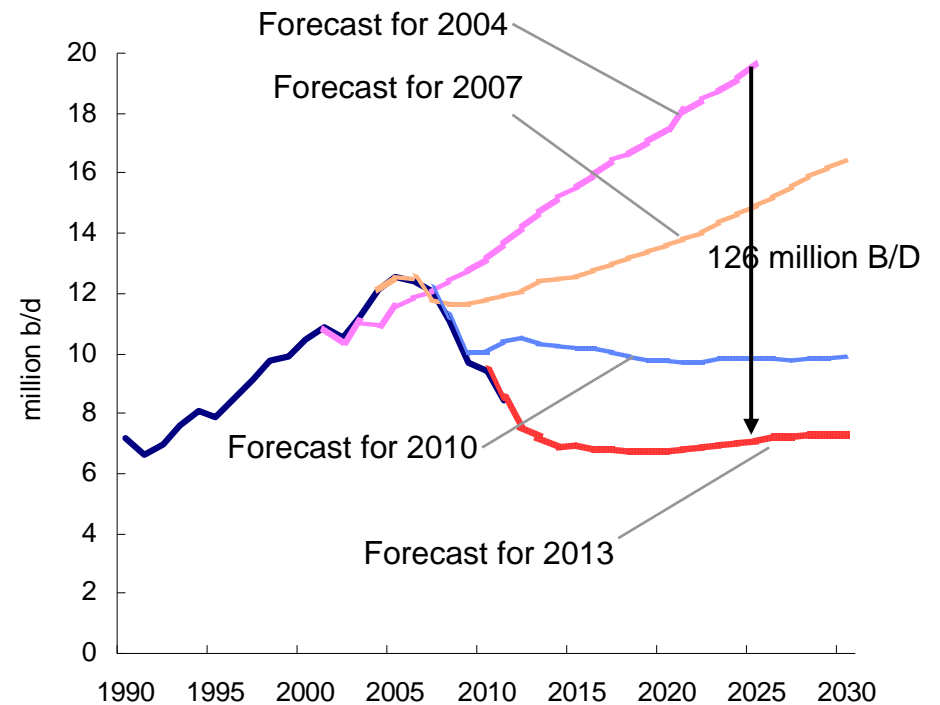
Sharp Decline in Net Oil Imports by the US

- Net imports are decreasing sharply due to the increase in domestic production and decrease in demand
 - The decrease in demand is attributed also to tighter fuel regulations and shrinking demand due to high oil prices.
- Future forecasts will continue to be subject to downward revisions
 - Currently, the government estimates that net imports will remain around 7 million B/D as domestic production peaks.

Domestic production and demand in the US (annual)



Downward revisions to US's net import forecasts

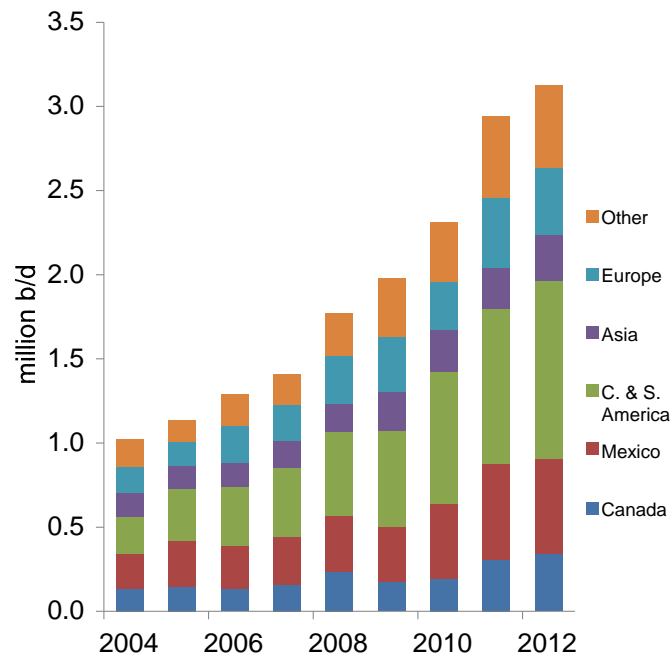


Product Exports Continue to Expand in the US

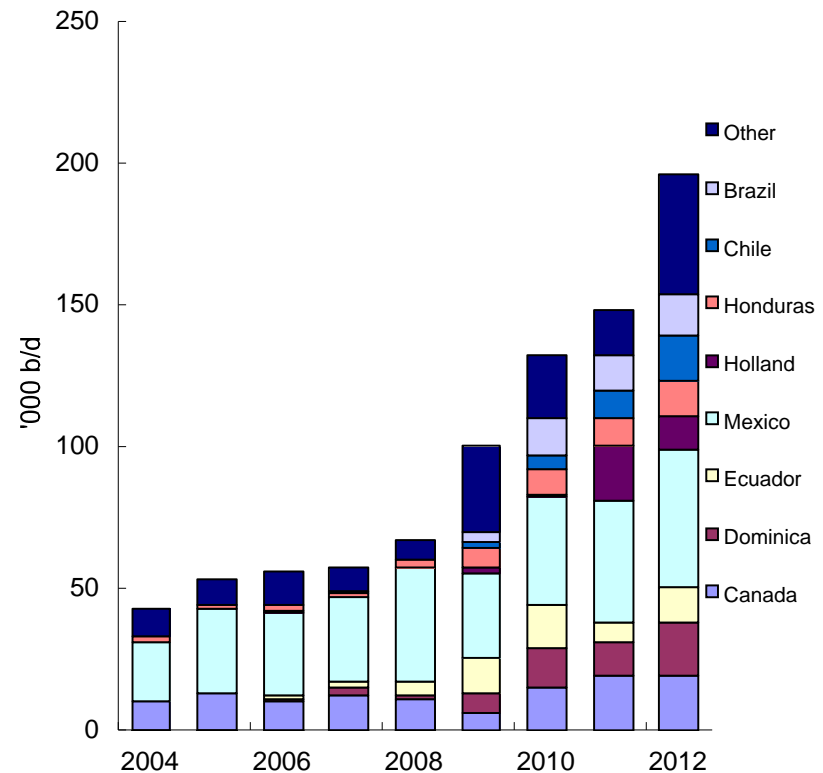


- US refining industry has made a comeback with the help of cheaper feed stock (crude oil) and refinery fuel (natural gas)
 - Exports for South America are growing, and will be so for Asia in the future. Japan's imports of American naphtha in fact are growing
- With the increase in production of domestic NGL, LPG exports are also increasing
 - While South America is the main export destination, 460,000 tonnes were exported to Japan in 2012 (3% of Japan's total imports)

Exports of US petroleum products (annual)



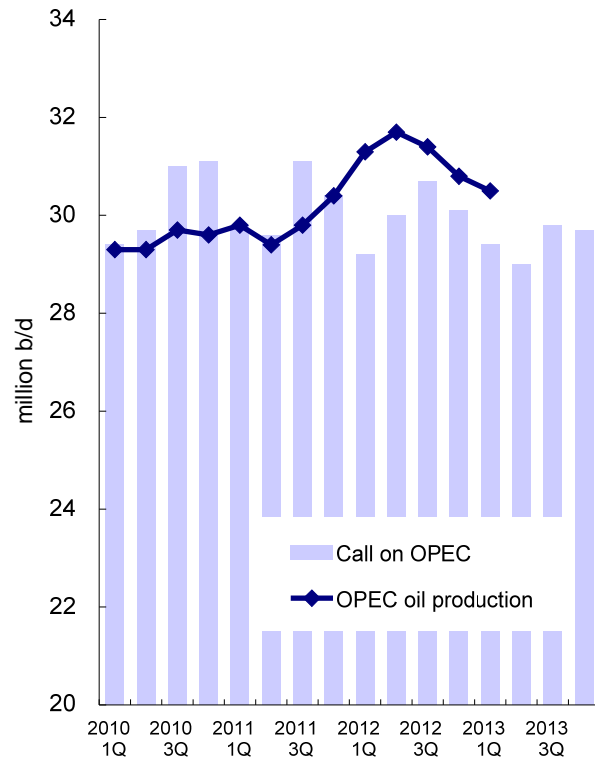
Exports of US LPG (annual)



OPEC Production Remains above Call on OPEC

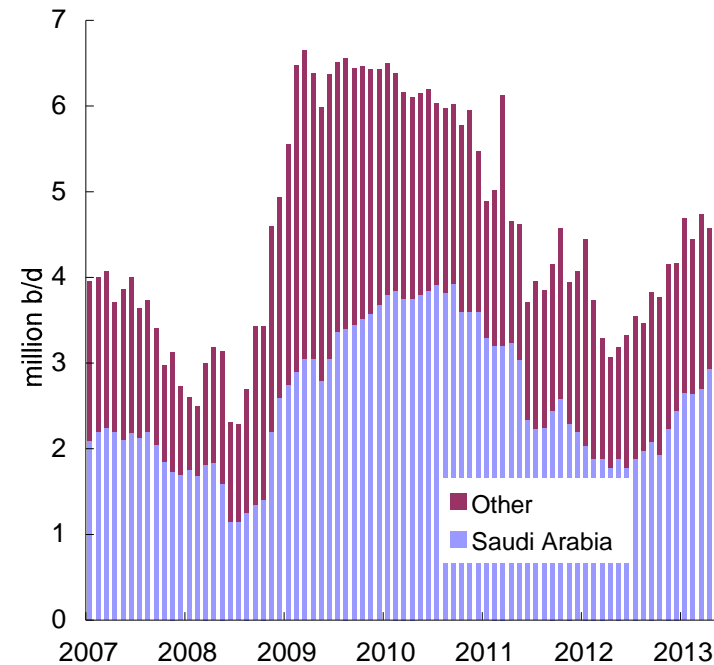
- The supply-demand balance has been easing, with OPEC’s crude oil production remaining above the Call on OPEC (necessary OPEC production) for over one year since 2012
- Spare capacity is expanding
- OPEC’s future production policy amid easing demand must be monitored carefully

Call on OPEC & OPEC’s production (monthly)



All rights reserved.

OPEC’s excess production capacity (monthly)

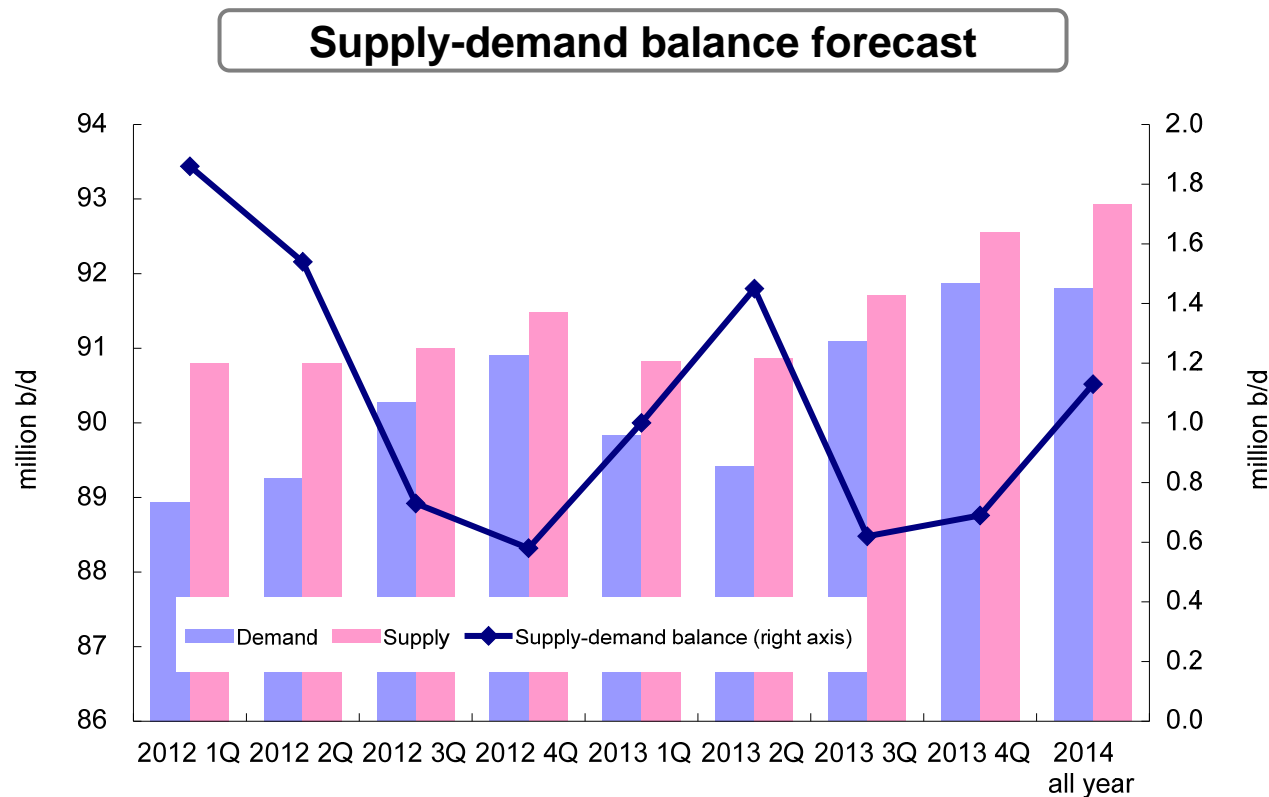


Source: IEA

Source: IEA

Supply-Demand Balance for the Near Future

- Assuming that OPEC maintains its production, the supply-demand balance will remain loose (supply will remain higher than demand) in the near future.

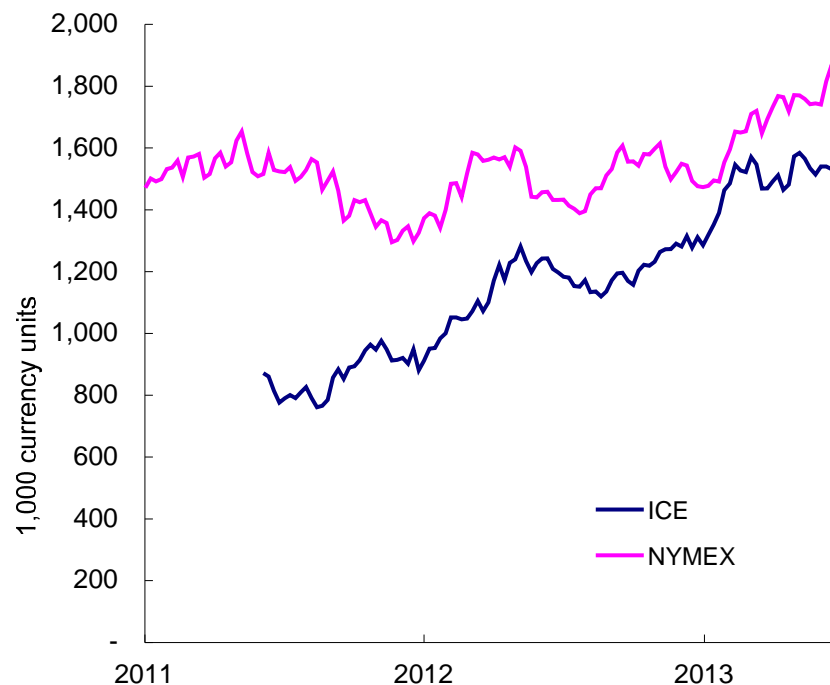


Crude Oil Futures Trading Continues to Boom

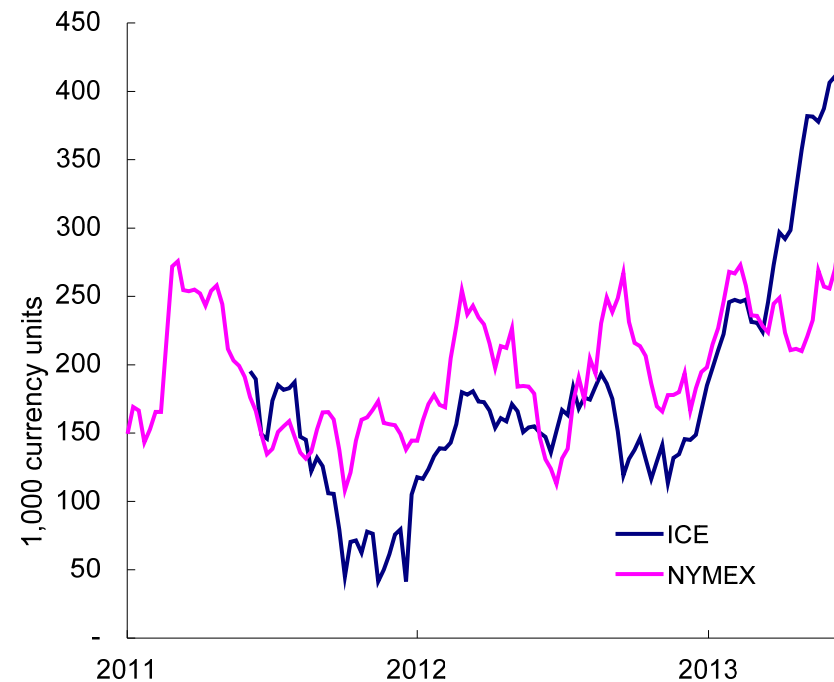
- Futures trading continues to boom while the supply-demand balance continues to ease
 - Open interest is at record-high levels
- Net long positions by non-oil companies have recently been increasing

Note: "Net long position" is the value obtained by subtracting all selling positions (short) from all buying positions (long) in the futures market.

Trends of open interest in NYMEX, ICE (weekly)



Net long positions by non-oil companies in NYMEX, ICE (weekly)



Recent Financial Regulations in Europe and the US

- As agreed by the G20, to improve the transparency of OTC derivatives transactions and to control excessive speculation, each country is upgrading its laws that require clearing by the central counterparty (CCP) and reporting to an organization that stores transaction data.
- However, progress varies between the countries. Even in the US which is taking the lead, the rules for implementing the law are delayed.

Current situation of regulations on OTC derivative transactions

	Trends/current situation
US	<p><u>Dodd-Frank Act</u></p> <ul style="list-style-type: none"> ■ Rules on obligations to clear derivative transactions at the central counterparty (CCP) and report derivative transactions not cleared by the CCP have mostly been stipulated. ■ Final rules on the important definitions concerning derivatives are complete. ■ Final rules on the cross-border application of assets and margin requirements and derivative rules on derivative dealers are outstanding. ■ Regarding position limit, CFTC appealed to a higher court on November 15, 2012 against the DC district court's decision on September 28, 2012 which ruled that position controls are not valid. <p>Recent development:</p> <ul style="list-style-type: none"> ■ On May 16, CFTC approved the rules on the swap execution facility, and released them on June 4.
EU	<p><u>EMIR (European Markets Infrastructure Regulation)</u></p> <ul style="list-style-type: none"> ■ The regulation was adopted in July 2012, and put into effect on August 16. In December 2012, the European Commission adopted nine technical standards that complement the regulation. ■ Clearing certain OTC derivatives transactions in CCP, and reporting the transaction information to an organization that stores transaction data. <p><u>MiFID II (Markets in Financial Instruments Directive)</u></p> <ul style="list-style-type: none"> ■ Released as a draft revision to MiFID (put into effect in November 2007) on October 20, 2011. ■ Requires OTC derivatives transactions to be made at the exchange, and places position controls on commodity derivatives for crude oil and grains.

Iran Situation

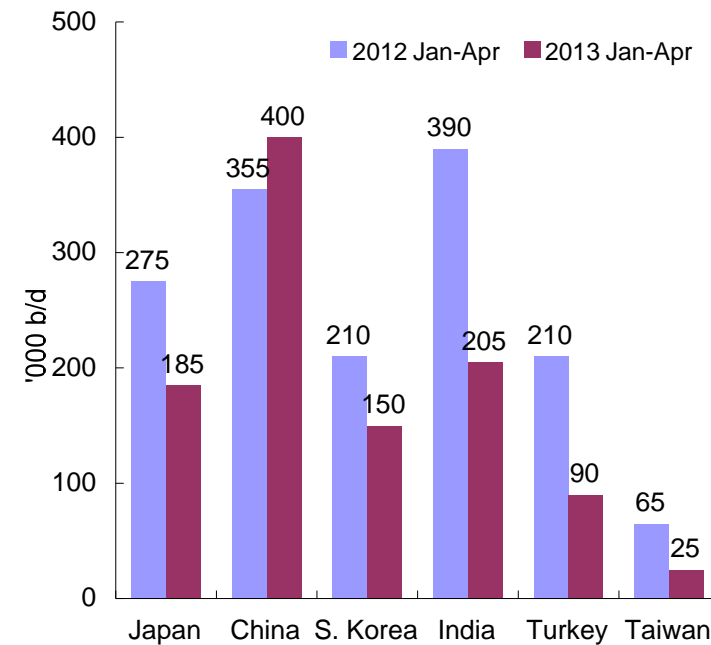
- On June 14, 2013, center-right politician Hassan Rouhani was elected as the next president.
 - Tensions may ease between Iran and the West, though dramatic progress in the nuclear talks is less likely.
- A fall in exports due to stricter economic sanctions seems to have been mostly factored in by the market.
- However, the situation remains uncertain as Iran continues to enrich uranium.

Profile of Hassan Rouhani, the new President

- ✓ Born in 1948 (now aged 64)
- ✓ Graduated from University of Tehran and the graduate school of Glasgow Caledonian University
- ✓ Elected as a member of the first Iranian parliament in 1980, and served 5 terms (20 years) thereafter
- ✓ Recognized as a “moderate reformist” among the candidates
- ✓ Long involved in government security
 - 1981 Head of Department of Defense
 - 1991 Member of Expediency Discernment Council
 - 2003-05 Led the nuclear negotiations under the Khatami administration
- ✓ Good rapport with the Supreme Leader Ali Hosseini Khamenei



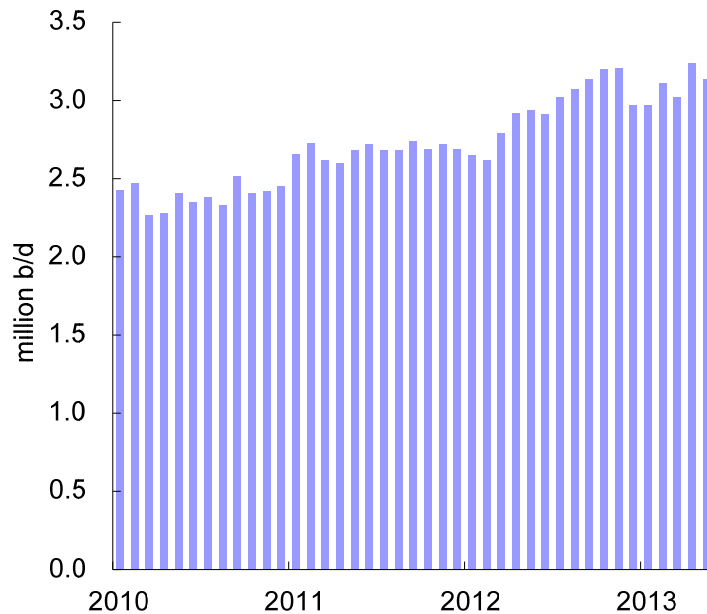
Iran's oil exports by destination



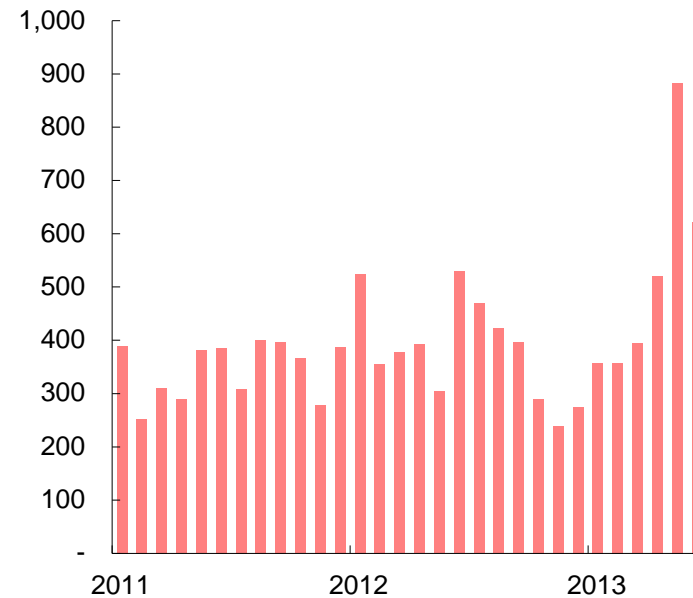
Iraq Situation

- Production has been growing, but its speed has slowed down.
 - Restrictions in infrastructure are emerging
 - Exports from the Kurdish area have been stopped since February 2013 due to disputes with the Baghdad central government over the distribution of profits
- From May 2013, major terrorist attacks have increased, mainly in Baghdad

Trend of oil production in Iraq (monthly)



Civilian casualties in Iraq due to terrorism (monthly)



Other Geopolitical Risks

- In addition to Iran and Iraq, there are numerous factors in the Middle East and North Africa that could impact the crude oil market

Turkey

- In May 2013, protests against the development of a park in the New City of Istanbul spread via SNS. s.
- Prime Minister Erdogan maintained a firm stance against the protesters, intensifying the confrontation.
- There were 2.5 million protesters in total, of which 4,900 were detained and 4,000, including 600 policemen, were injured.

Syria

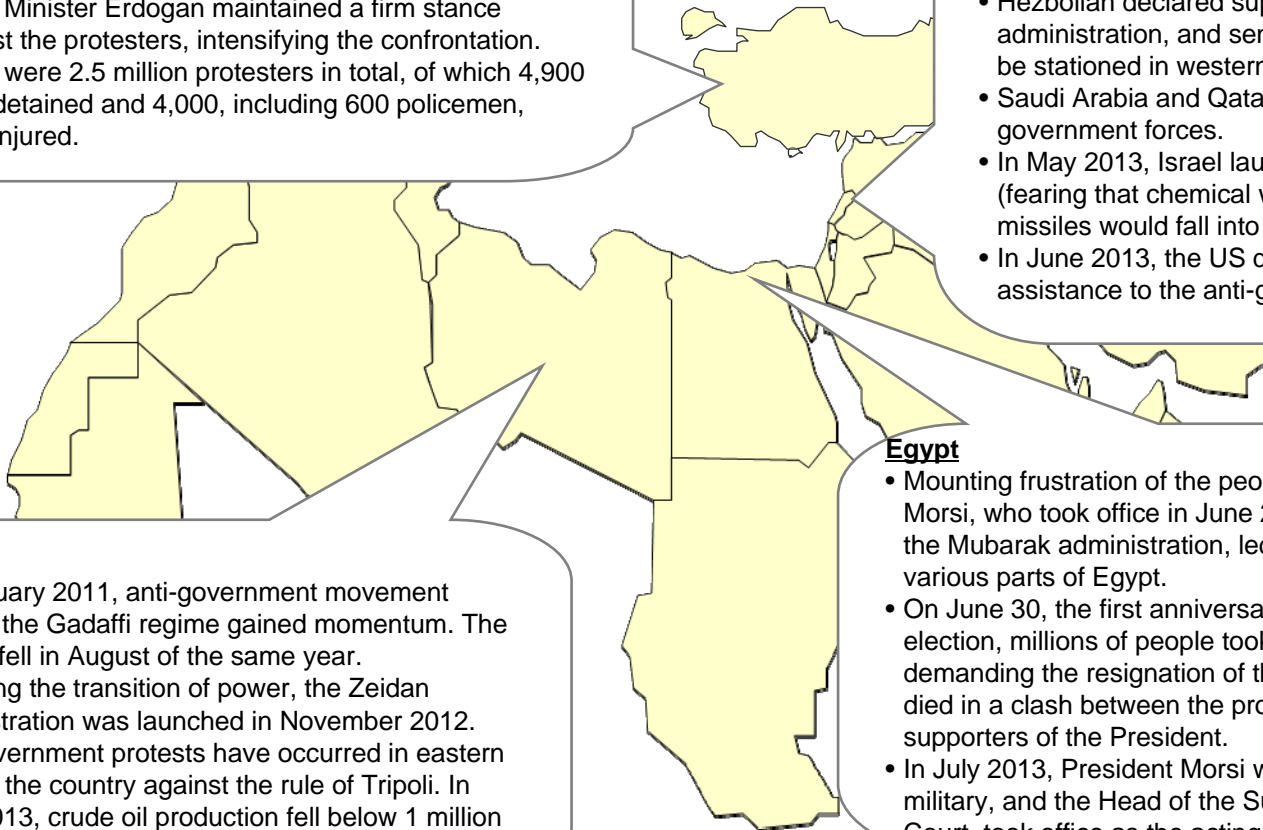
- Since March 2011, anti-government rallies have spread to the entire country. A crackdown by the Assad administration led to civil war.
- Hezbollah declared support for the Assad administration, and sent several thousand men to be stationed in western Syria.
- Saudi Arabia and Qatar are supporting the anti-government forces.
- In May 2013, Israel launched an air strike on Syria (fearing that chemical weapons and Iranian missiles would fall into the hands of Hezbollah).
- In June 2013, the US decided to provide military assistance to the anti-government forces.

Libya

- In February 2011, anti-government movement against the Gaddafi regime gained momentum. The regime fell in August of the same year.
- Following the transition of power, the Zeidan administration was launched in November 2012.
- Anti-government protests have occurred in eastern parts of the country against the rule of Tripoli. In June 2013, crude oil production fell below 1 million B/D due to protests against state-run oil facilities.

Egypt

- Mounting frustration of the people against President Morsi, who took office in June 2012 following the fall of the Mubarak administration, led to demonstrations in various parts of Egypt.
- On June 30, the first anniversary of President Morsi's election, millions of people took to the streets, demanding the resignation of the President. 4 people died in a clash between the protesters and the supporters of the President.
- In July 2013, President Morsi was dismissed by the military, and the Head of the Supreme Constitutional Court took office as the acting President.

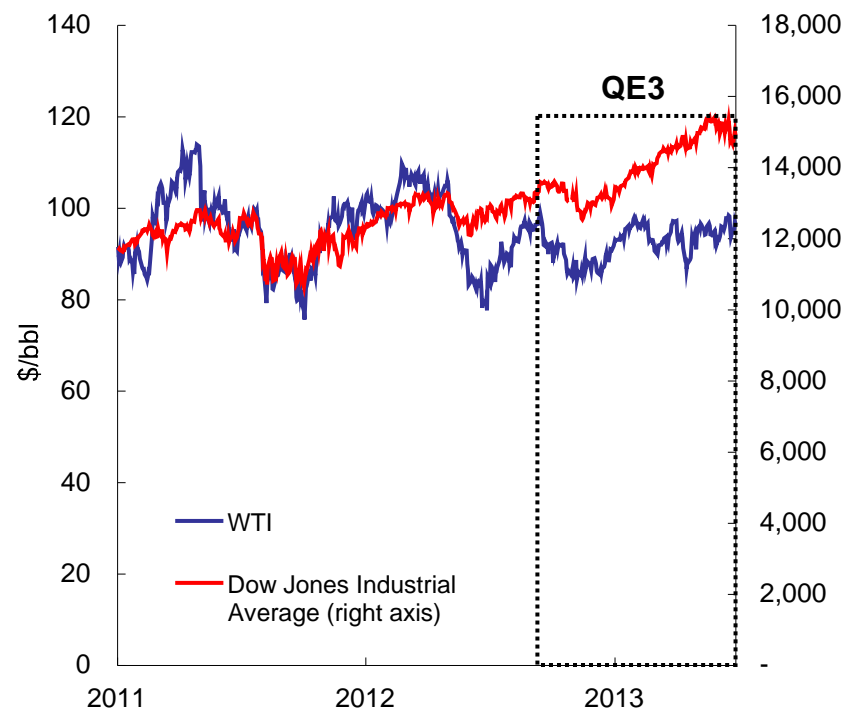


Exit from the Quantitative Easing Program 3 (QE3) and Oil Prices



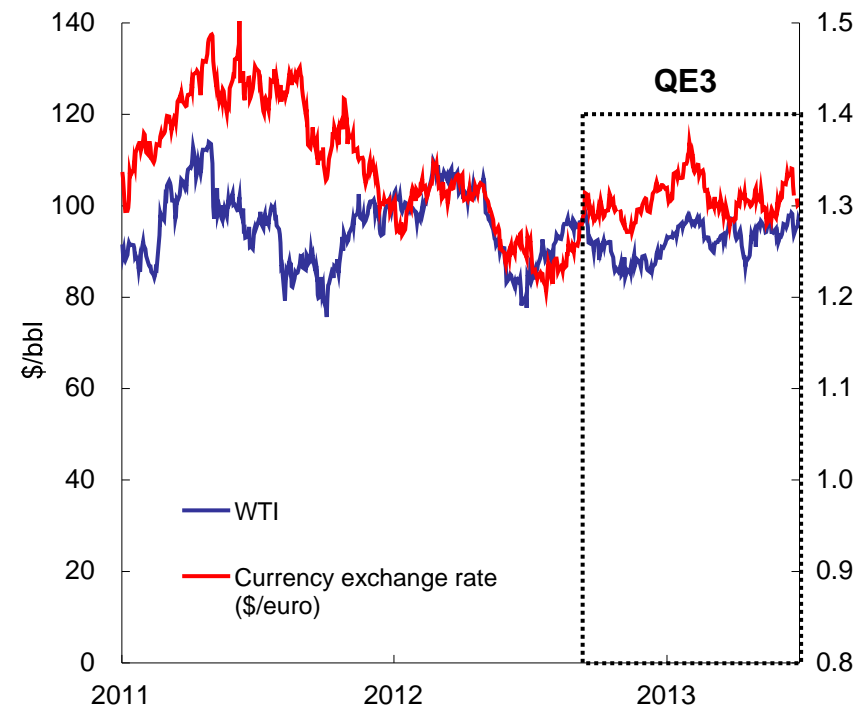
- Launched in September 2012, QE3 has been propping up oil futures prices by increasing money supply to the financial market, driving up share prices, weakening the US dollar, and fueling expectations of inflation.
- Recently, speculation over “tapering” and discontinuation of QE3 shook the commodities futures market. In the future, the direction of the “exit” strategy is likely to put downward pressure on oil prices.

Oil price (WTI) and stock prices (daily)



Source: EIA他

Oil price (WTI) and exchange rate (daily)



Source: EIA; FRB; IEEJ

Contributors to the Rise and Fall of Future Oil Prices

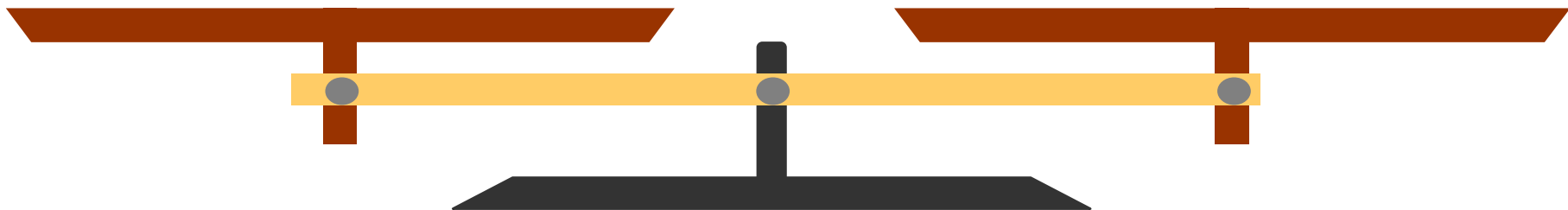
- In terms of supply and demand, factors causing the price to fall appear stronger. The focus is on the extent to which financial factors and risks prop up oil prices.

Factors for price rise

- ✓ Decrease in production and exports in Libya and Iraq due to deterioration of domestic politics
- ✓ Re-ignition and spread of anti-government rallies in the Middle East and North Africa
- ✓ Production cut by OPEC oil producers
- ✓ Production cutback in the North Sea oil fields
- ✓ Hurricane strikes in the US

Factors for price fall

- ✓ Slowdown of the economies of Europe and emerging countries, particularly China
- ✓ Early tapering and discontinuation of US's Quantitative Easing program (QE3)
- ✓ Production increase in North America continuing longer than expected
- ✓ OPEC maintaining the current production level



Forecast of Future Prices

- The forecasts for oil prices for July-December 2013 and throughout 2014 are as follows:

Price per barrel	July-December 2013	2014 (all year)
Brent	100 USD +/- 10 USD	95 USD +/- 10 USD
Dubai	98 USD +/- 10 USD	93 USD +/- 10 USD
WTI	95 USD +/- 10 USD	90 USD +/- 10 USD

- The average prices from January to June 2013 were \$108/bbl for Brent, \$104/bbl for Dubai and \$94/bbl for WTI.
- The price differences between the oil types are estimated based on the latest price differences.

Cooperators in compiling this document:
Ms Tomoko Matsumoto, Ms Asako Kuroiwa, Oil Group, Oil and Gas Unit