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Outlook for International Oil Market

The Institute of Energy Economics, Japan

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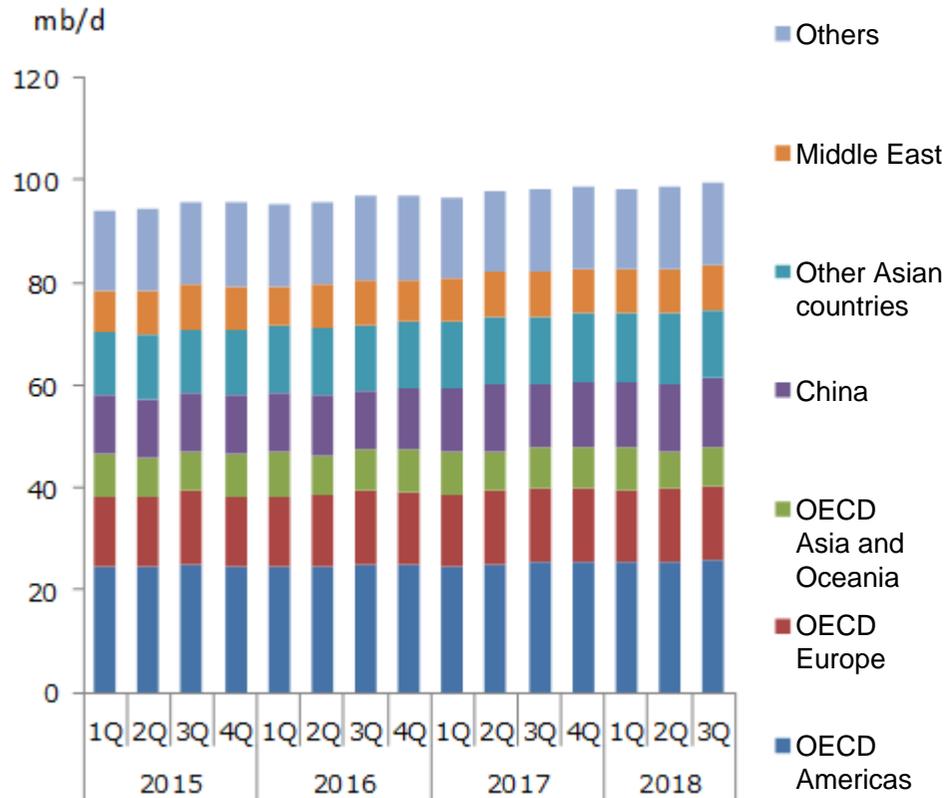
Researcher, Oil Information Center

Points of the report

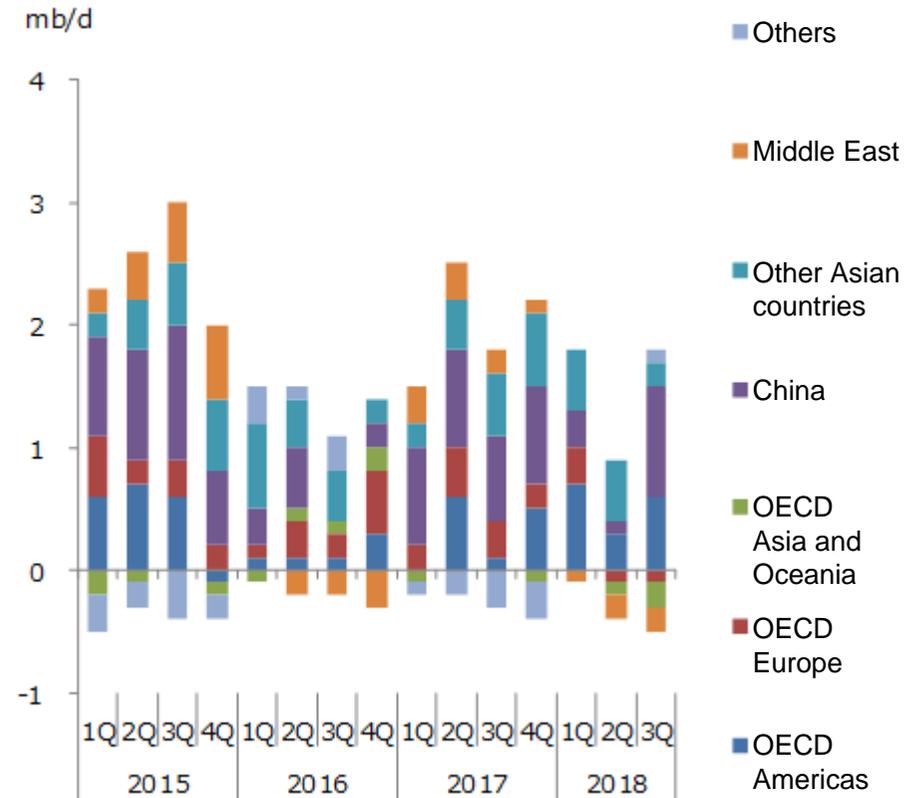
- ✓ In the first half of 2019, non-OPEC oil production expansion and a temporary recovery in Iranian oil production will contribute to loosening the supply-demand balance before demand exceeds supply after a waiver on Iran economic sanctions. Global oil demand will average 100.5 mb/d in 2019, up 1.3 mb/d from 2018. Supply will rise by 0.8 mb/d to 100.7 mb/d.
- ✓ The average international (Brent) crude oil price will stand at \$65/bbl in the first half of 2019 and at \$70/bbl in the second half.
- ✓ Major uncertainty factors include uncertain macroeconomic conditions (the U.S.-China trade war and emerging economies), Iranian crude oil exports after a waiver on Iran economic sanctions, geopolitical risks and oil supply disruptions.
- ✓ While Japan's fuel oil demand in 3Q 2018 declined by 2.6% year on year to 350,000 kl, oil refineries' capacity utilization rate remained as high as 88%.
- ✓ The Japanese oil industry's biggest challenge will be responses to the International Maritime Organization's tighter shipping fuel regulations kicking in from 2020. The tighter regulations are expected to bring about a supply surplus for high-sulfur fuel oil C and a wider gap between heavy and light crude oil prices.

Oil demand

Demand



Demand changes (year on year)

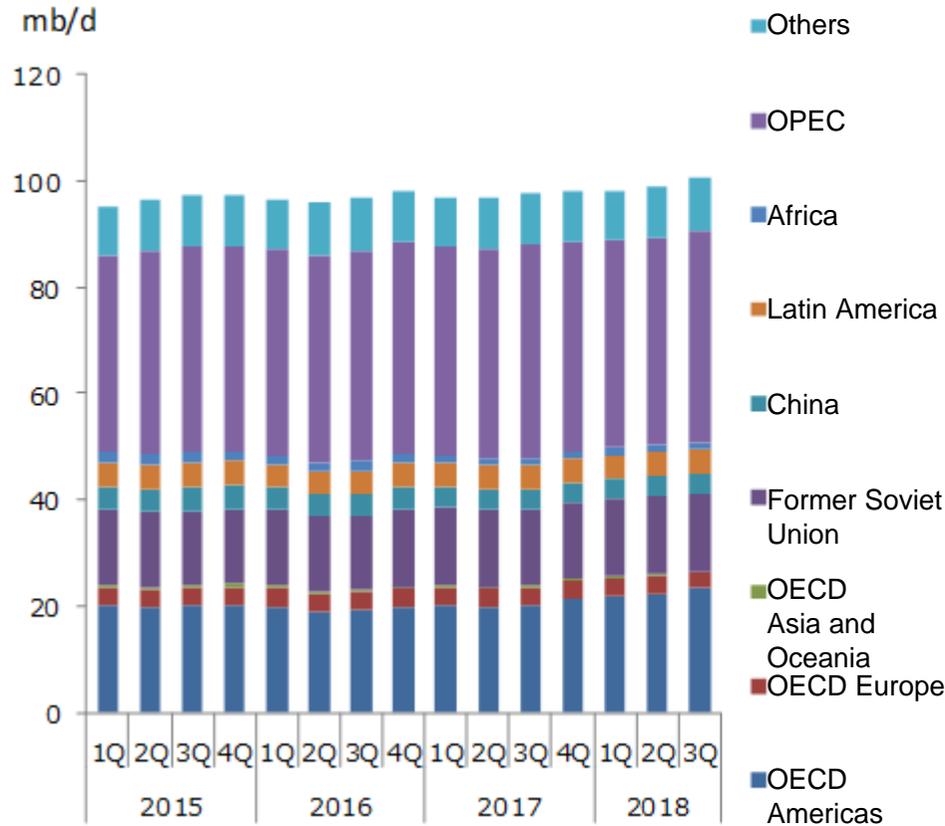


Source: IEA "Oil Market Report"

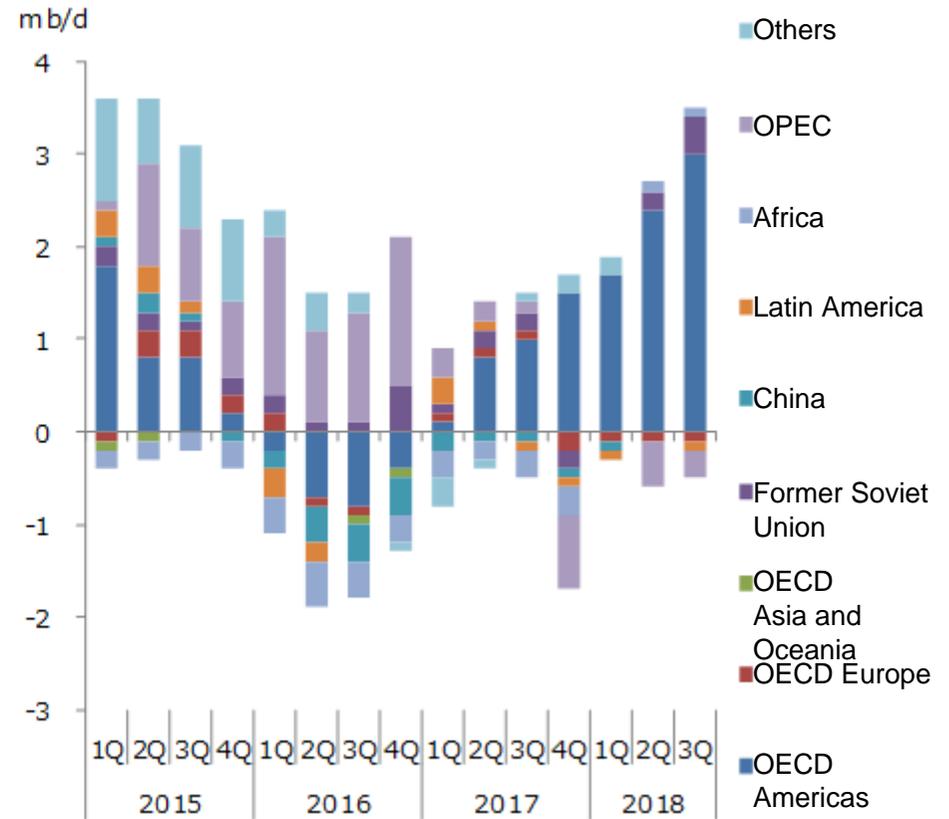
- Oil demand in 3Q 2018 increased by 1.3 mb/d or 1.3% year on year to 99.6 mb/d.
- Oil demand, though being robust mainly in Asia, has downside risks due to macroeconomic risks.

Oil supply

Production



Production changes (year on year)

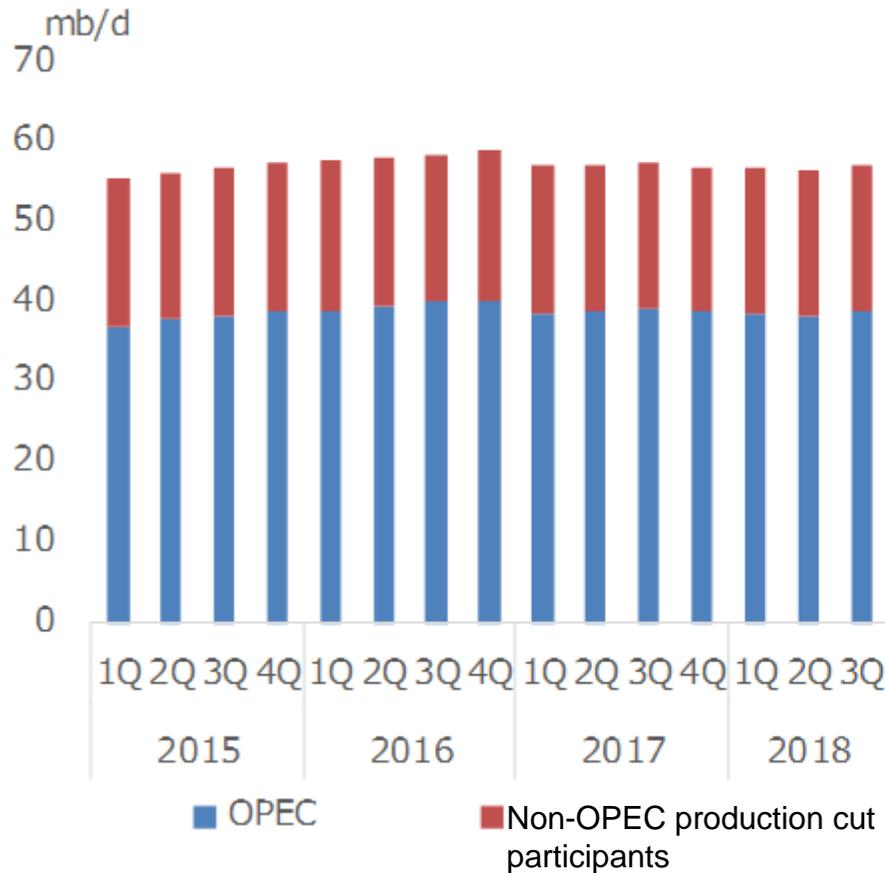


Source: IEA "Oil Market Report"

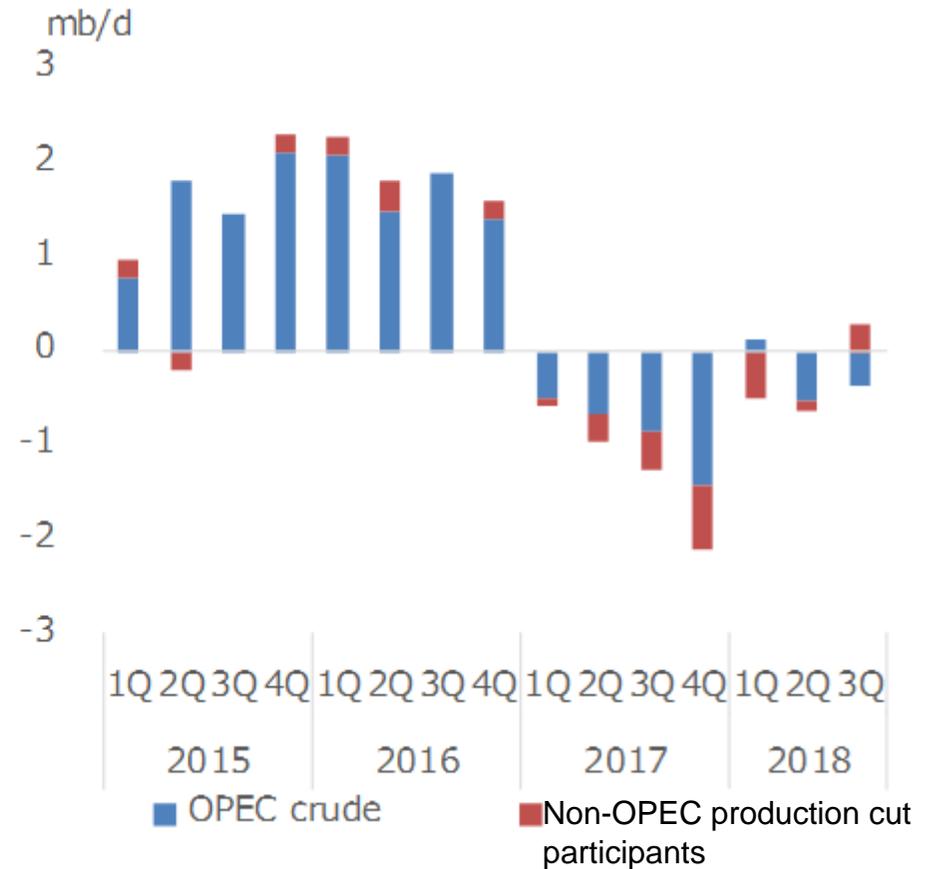
- Production in 3Q 2018 increased by 3 mb/d or 3.1% year on year to 100.9 mb/d.
- While a joint oil production cut by the OPEC-plus countries was eased after a June OPEC meeting, the OECD Americas including the United States expanded production rapidly.

OPEC-plus joint production cut

Production



Production changes (year on year)



Sources: IEA “Oil Market Report,” OPEC “Monthly Oil Market Report”

- Production in 3Q 2018 increased by 0.81 mb/d or 1.4% from the previous quarter to 57.42 mb/d.
- Even after an agreement to ease the joint production cut, the OPEC rate of compliance with the production cut was as high as 104% in October.

OPEC meeting and OPEC and non-OPEC ministerial meeting

Developments in 2nd half of 2018

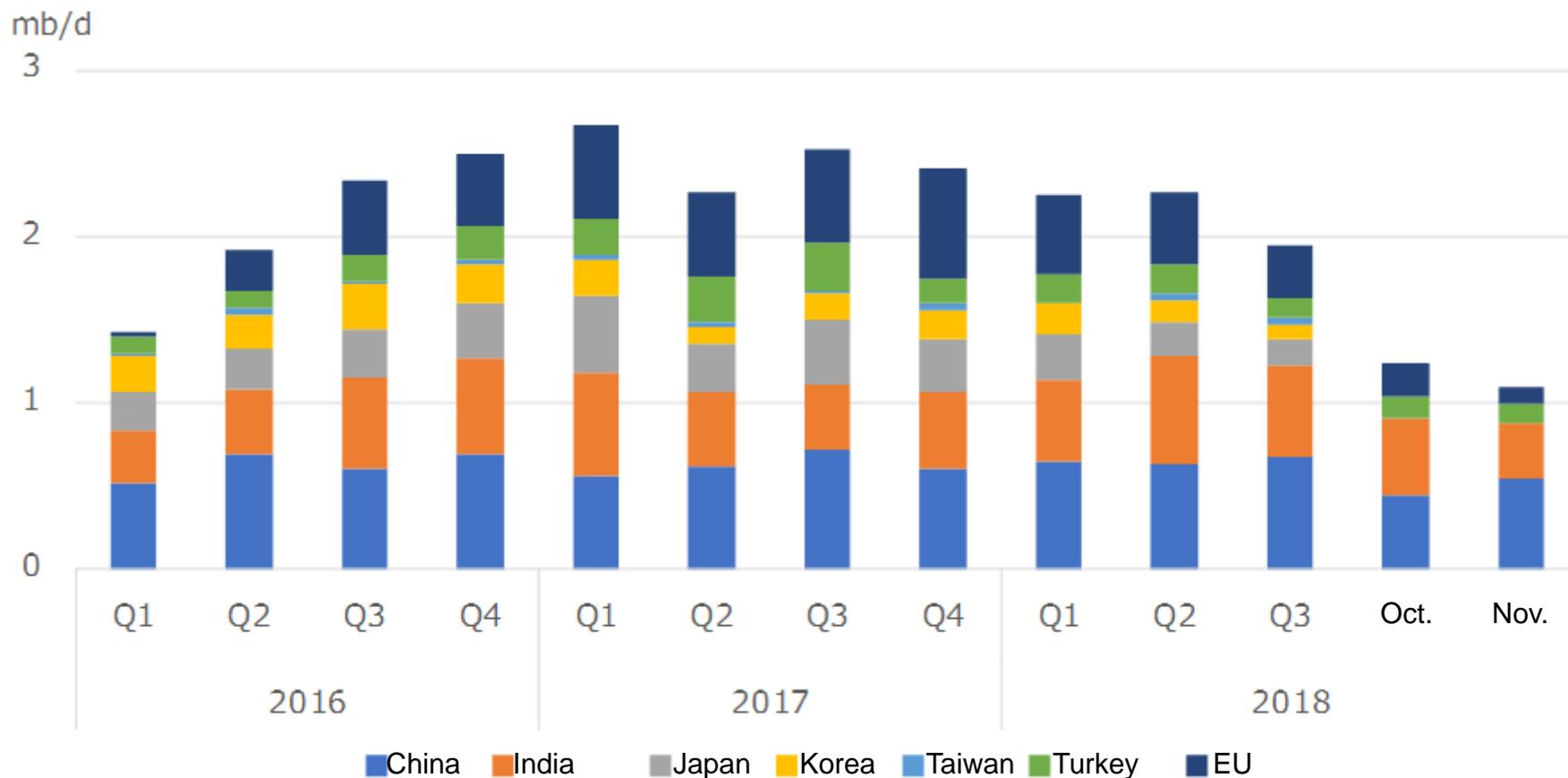


Sources: OPEC "Oil Market Report,"
IEA "Oil 2018"

June	22-23	Deciding to effectively ease the oil production cut
September	23	Giving up on a production increase
November	6	A waiver on Iran oil embargo announced for 8 countries
December	1	Saudi Arabia and Russia agree to maintain the OPEC-plus framework
	3	Qatar offers to secede from OPEC
	6-7	Agreeing on a production cut

- Agreeing to cut production by 1.2 mb/d from October 2018 for six months from January 2019.
- While country-by-country quotas were not published, Saudi Arabia and Russia offered to lead the production cut.
- The production cut would be reviewed in April 2019.
- Any production cut after June 2019 may depend on the Iran oil embargo.

Iranian oil exports

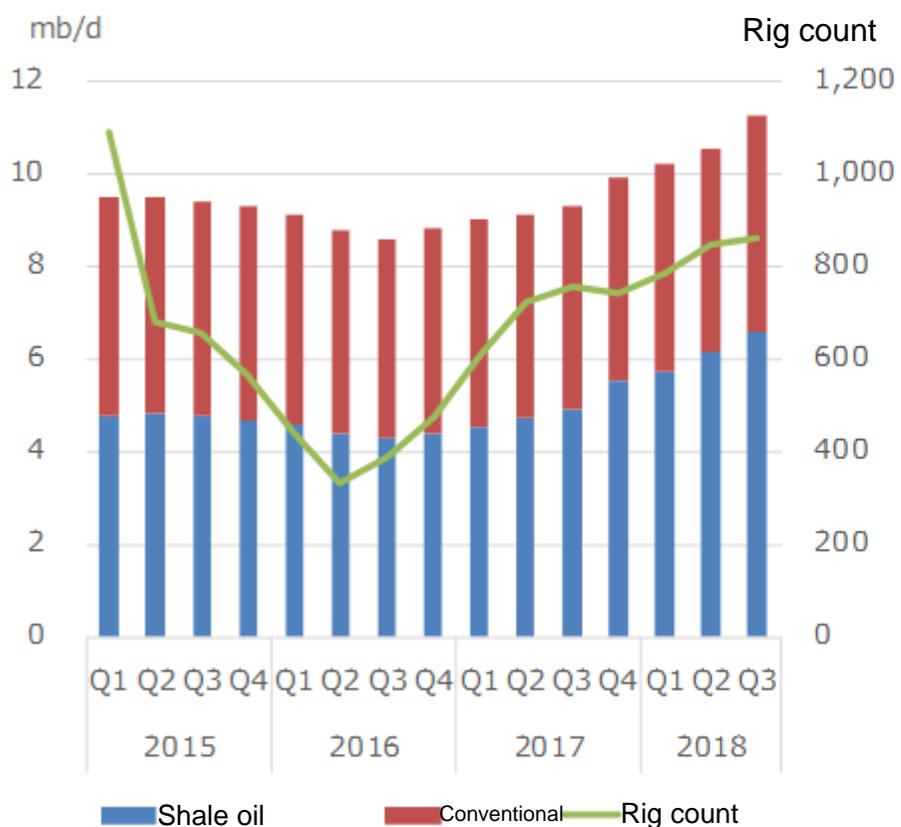


Sources: Trade Statistics, MEES

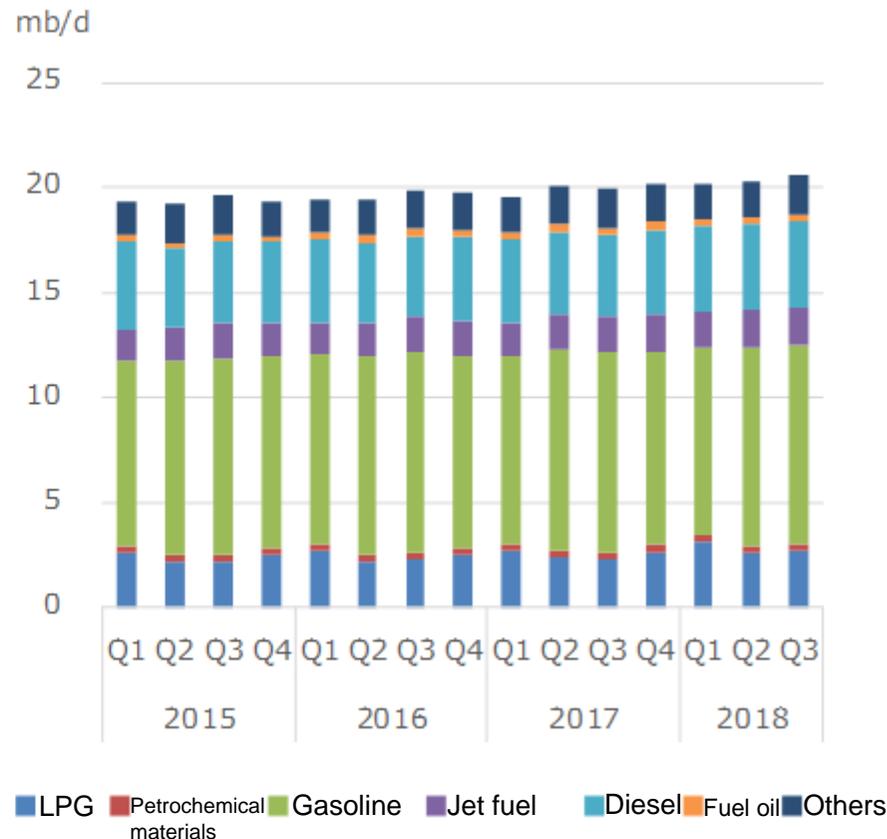
- The Trump administration offered a 180-day waiver on the Iran oil embargo for eight countries including Japan, China and Korea.
- Iranian exports, though rising back temporarily, may fall to around 0.7 mb/d in late 2019 without the extension of the waiver or a U.S.-Iran nuclear deal.

U.S. oil supply and demand

Production and rig count



Demand by product

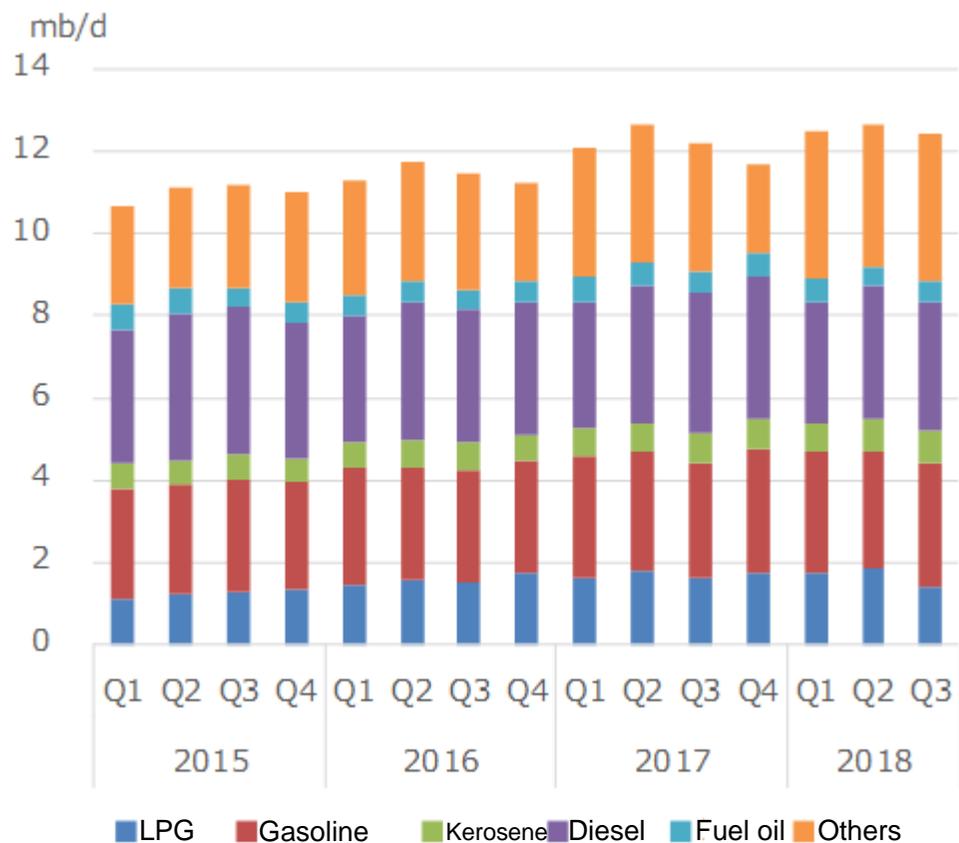


Sources: EIA statistics, Baker Hughes “North America Rig Count”

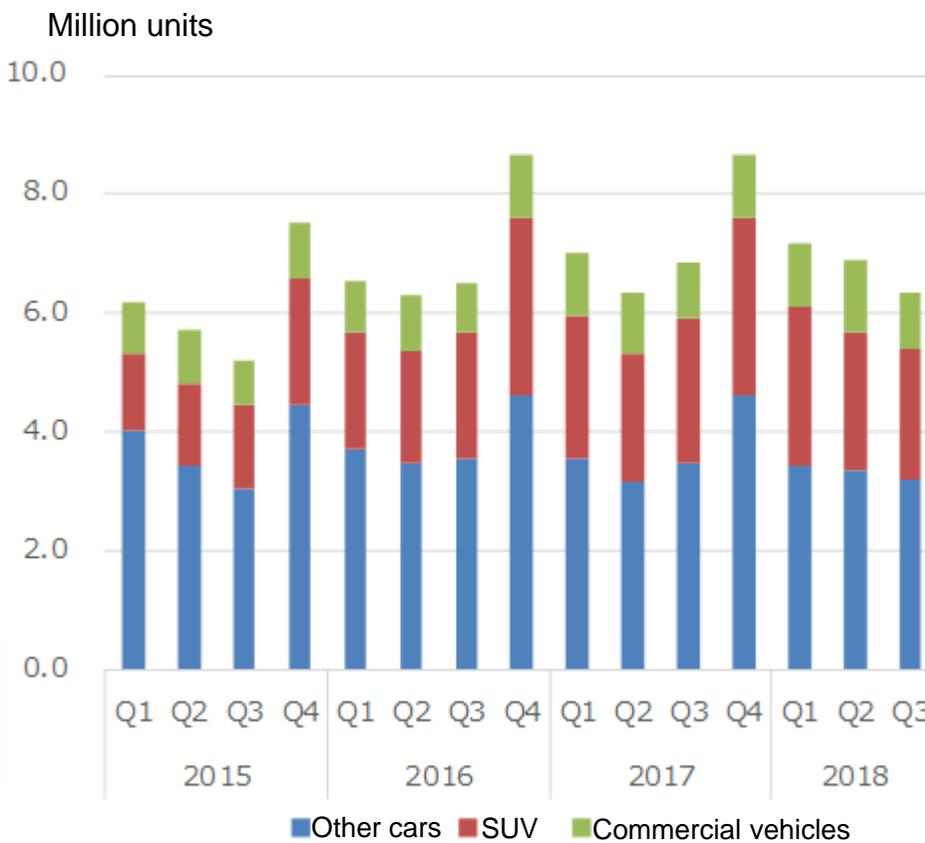
- Production in 3Q 2018 increased by 1.8 mb/d or 20.7% year on year to 11.3 mb/d, while demand rose by 1 mb/d or 3.1% to 20.6 mb/d.
- The EIA has forecast a production increase of 1.2 mb/d from 2018 to 2019.

China's oil demand

Demand by product



New vehicle sales

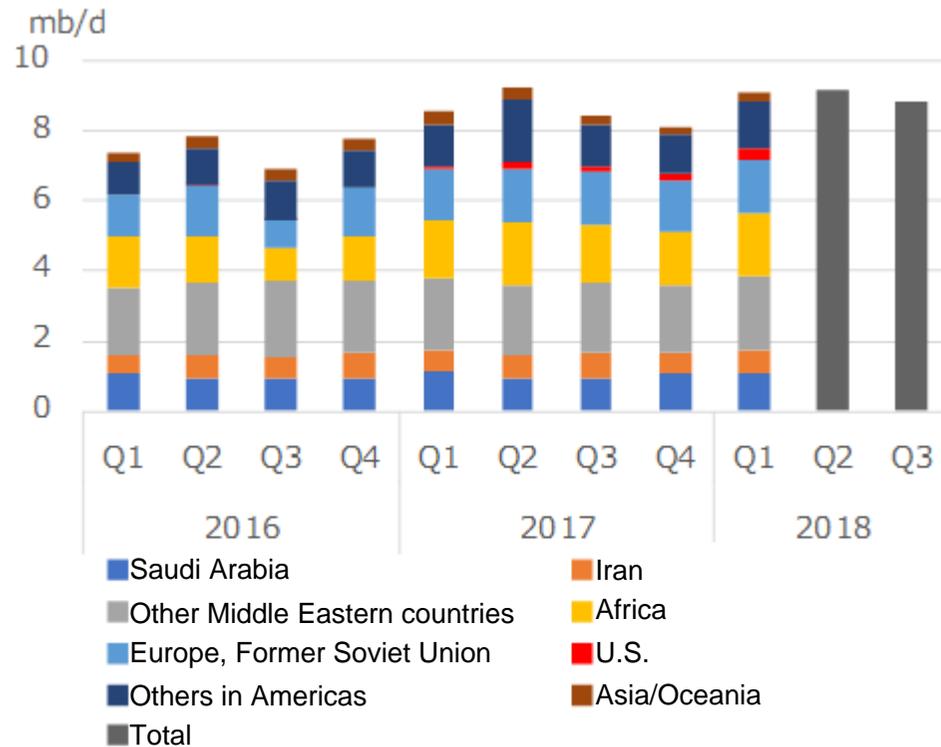


Sources: APEC "EGEDA Database," China Association of Automobile Manufacturers statistics

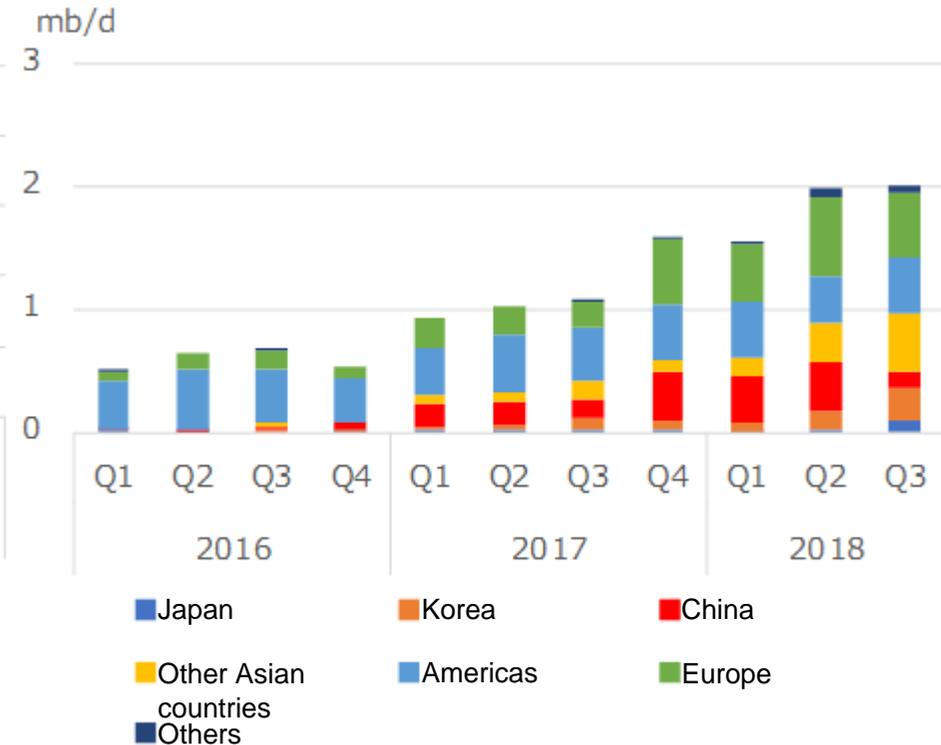
- Demand in 3Q 2018 increased by 0.2 mb/d or 1.7% year on year to 12.4 mb/d. New vehicle sales decreased by 0.5 million units or 7.5% to 6.3 million units.
- Demand growth will slow down on economic growth deceleration.

U.S.-China trade war and bilateral crude oil trade

China's crude oil imports



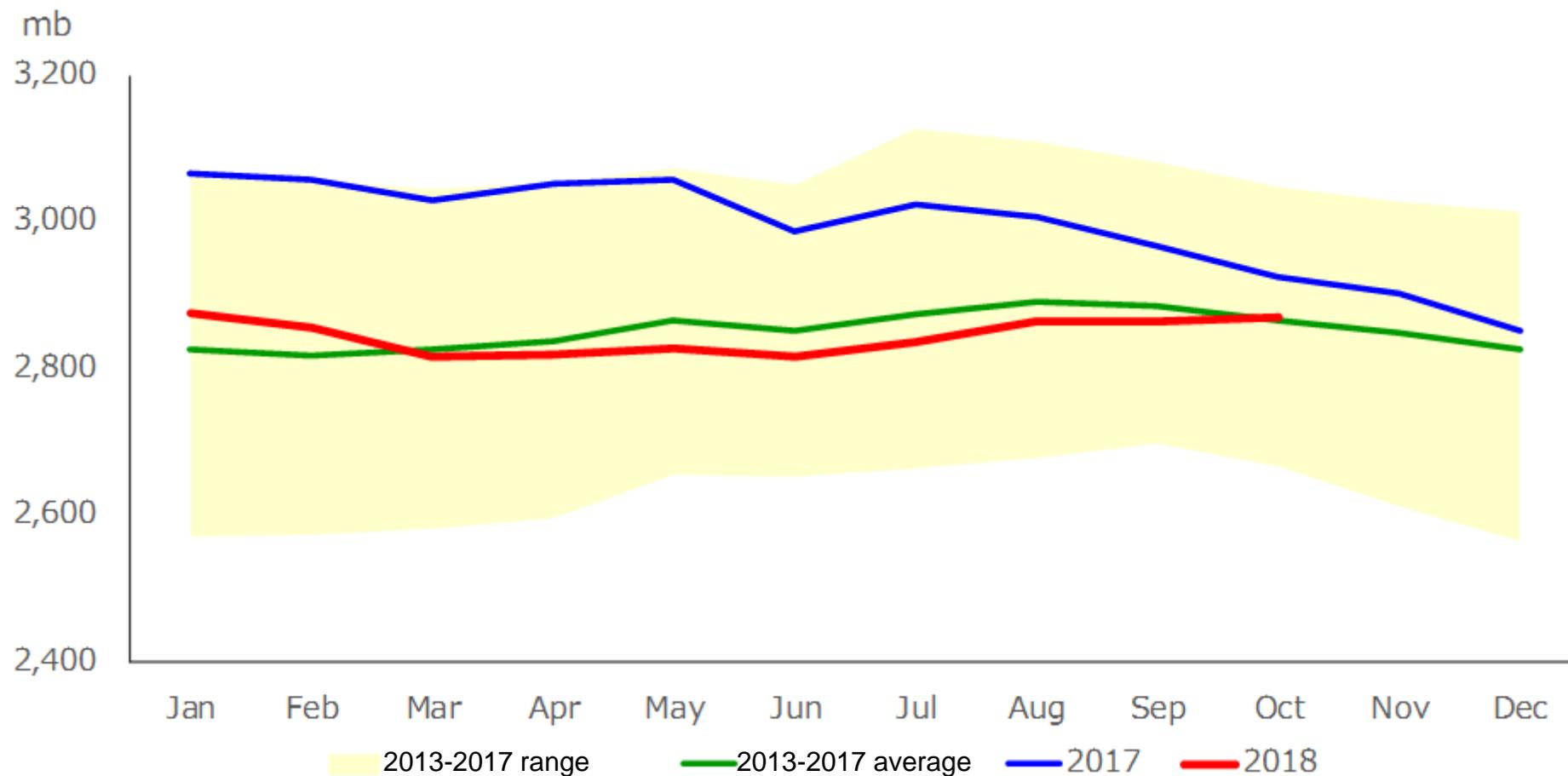
U.S. crude oil exports



Sources: EIA statistics, China OGP, OPEC statistics

- The impact of the U.S.-China trade war on oil supply and demand has so far been limited. U.S. crude oil accounted for 4% of China's crude oil imports in 1Q 2018, while exports to China commanded 19% of U.S. crude oil exports in 2Q 2018. China is switching from the United States to other oil producing countries while the United States is switching from China to other oil importers. The impact of the U.S.-China trade war has thus so far been limited.
- If global economic risks grow more serious, however, downside risks may emerge for oil demand and prices.

Inventories

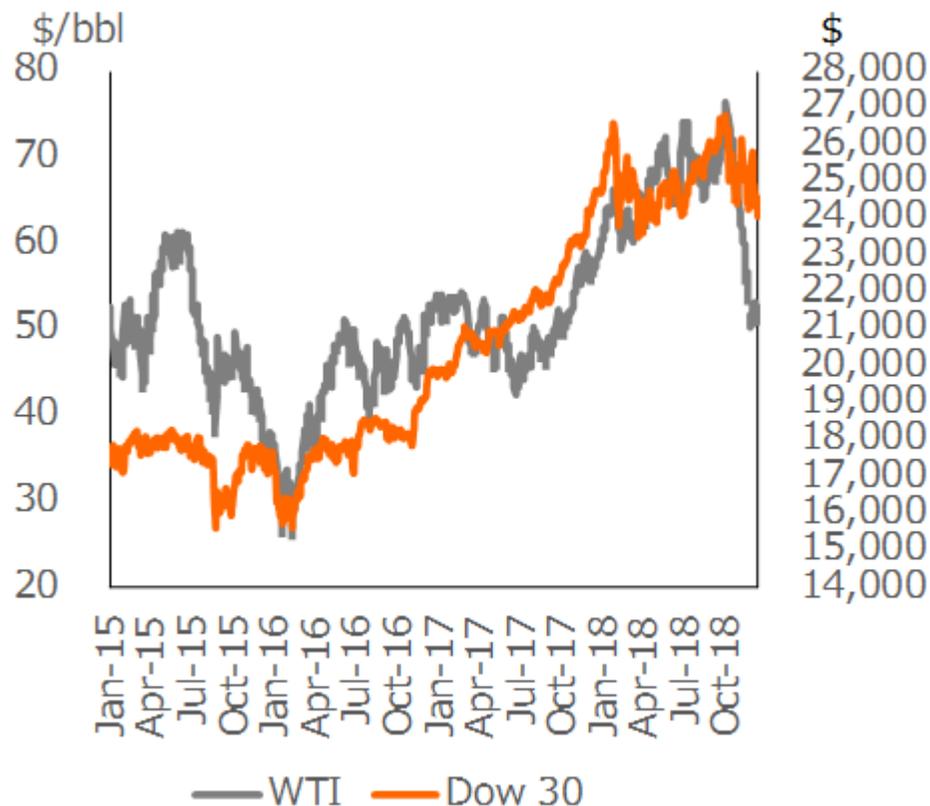


Source: IEA "Oil Market Report"

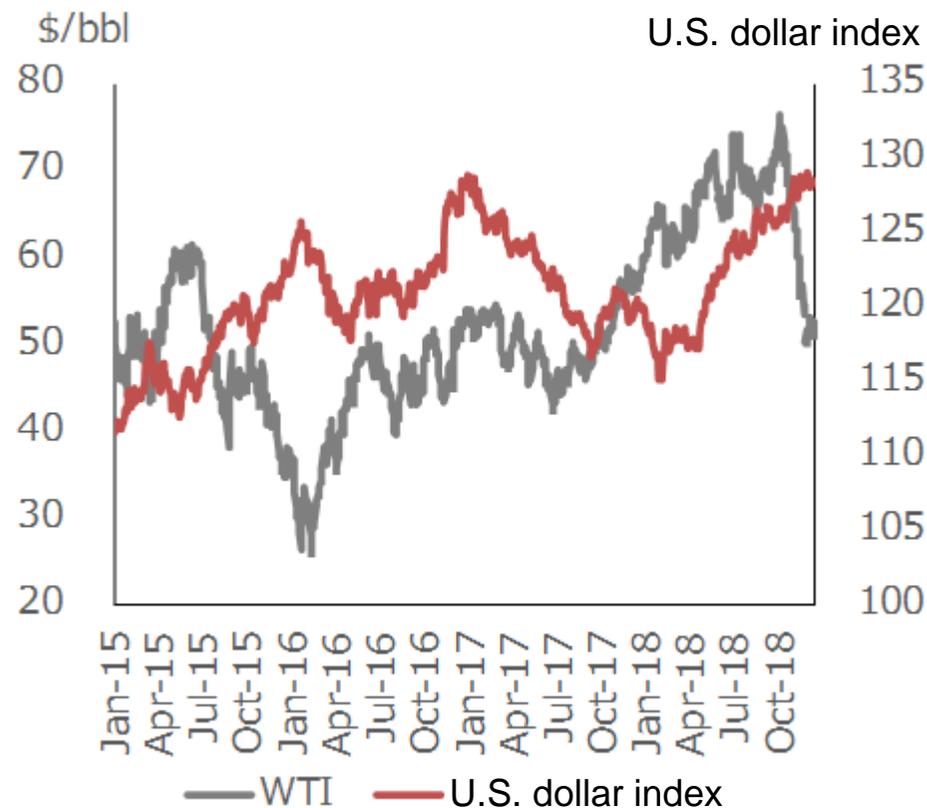
- OECD commercial oil inventories in October 2018 increased close to the average for the past five years.
- Despite the joint oil production cut, inventories may fail to decline in the first half of 2019 depending on U.S. oil production expansion and Iranian oil export growth.

Financial markets

Oil and stock prices



Oil price and exchange rate



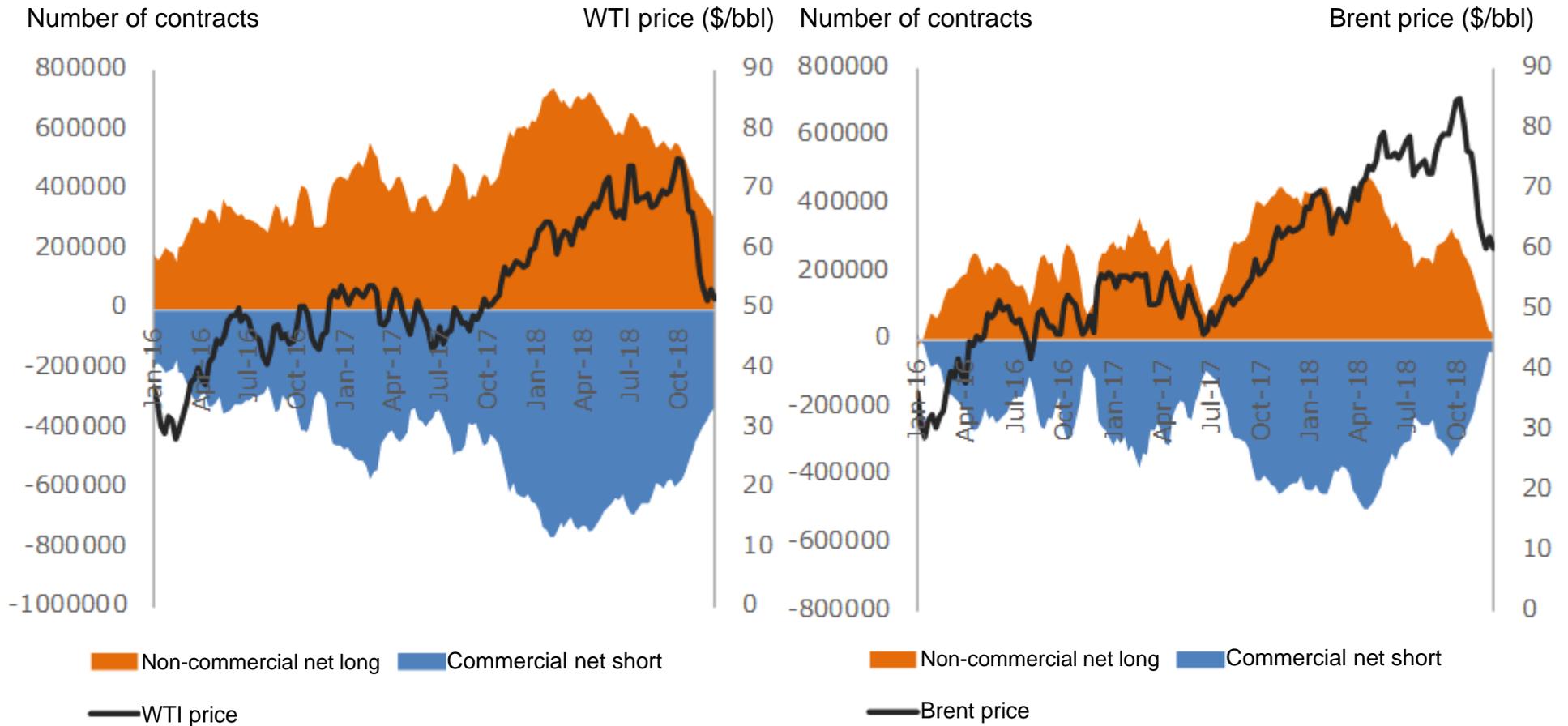
Source: FRB

- U.S. stock prices have seesawed since October as market participants have been concerned about economic deceleration through long-term interest rate hikes and the U.S.-China trade war.
- The U.S. dollar will remain high on U.S. interest rate hikes.

Futures positions

WTI

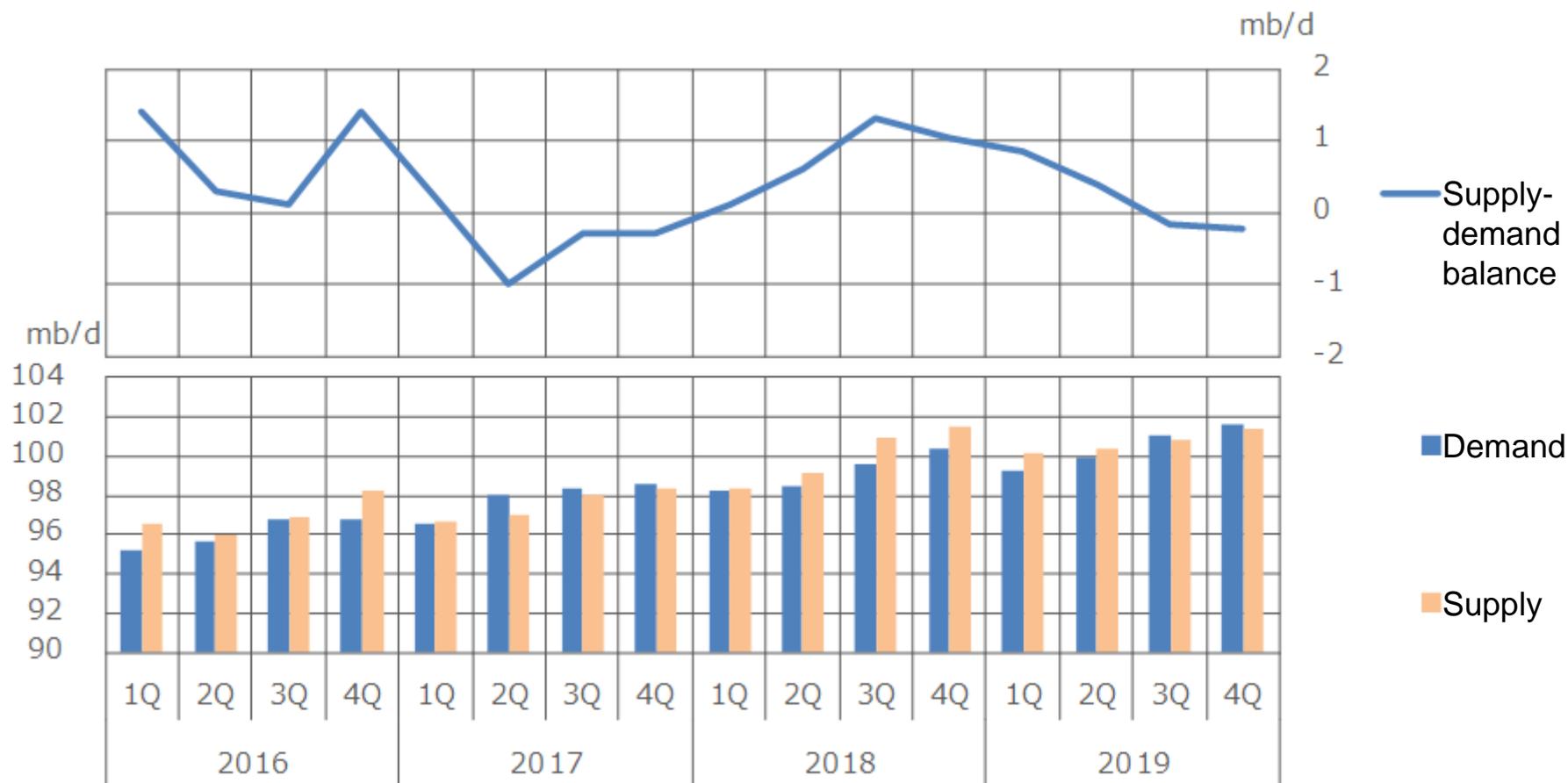
Brent



Sources: CFTC, ICE

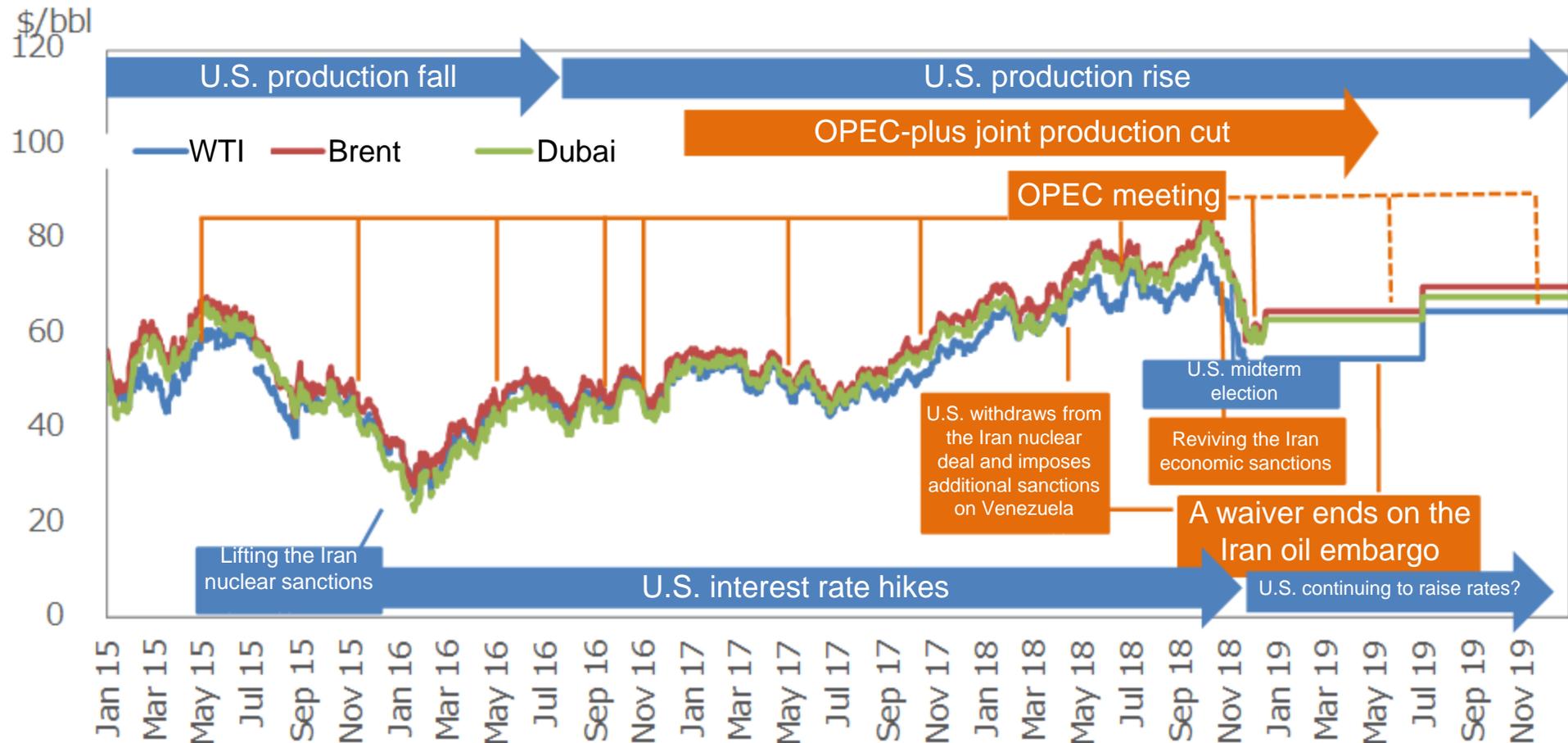
- Non-commercial net long positions have decreased rapidly since October to the early 2016 level for Brent.

Supply-demand balance outlook



- Global oil demand will average 100.5 mb/d in 2019, up 1.3 mb/d from 2018. Supply will rise by 0.8 mb/d to 100.7 mb/d.
- A temporary rise in Iranian oil production will contribute to easing the supply-demand balance in the first half of 2019 before demand exceeds supply after the temporary waiver on the Iran oil embargo.

Crude oil price outlook



- The average international (Brent) crude oil price will stand at \$65/bbl in the first half of 2019 and at \$70/bbl in the second half.
- Major uncertainty factors include uncertain macroeconomic conditions (the U.S.-China trade war and emerging economies), Iranian crude oil exports after a waiver on Iran economic sanctions, geopolitical risks and oil supply disruptions.

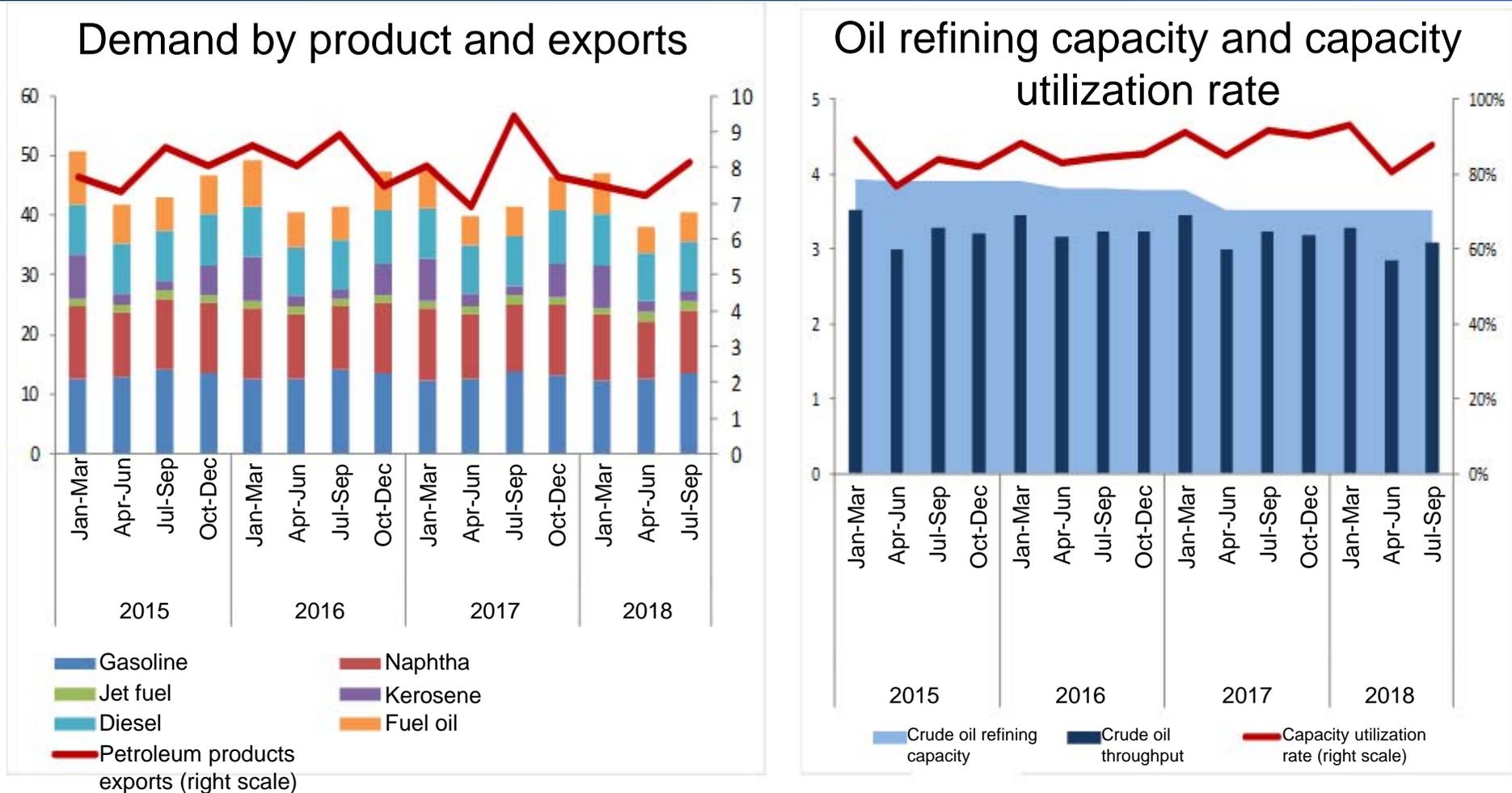
Low price case

Developments involving crude oil prices since October

October	10	The New York Dow Jones average loses 832 points
	23	Saudi Arabia emphasizes a plan to expand production
	2	October OPEC production reaches the highest level since November 2016
November	5	A temporary waiver is given on the Iran oil embargo for eight countries
	12	President Trump checks an OPEC production cut in his Twitter message
	13	The IEA lowers oil demand projections for 2018 and 2019
	4	The New York Dow Jones average loses 799 points
December	6-7	The OPEC-plus group decides on a joint production cut
	18	U.S. shale oil production hits a record high

- Brent plunged from \$80/bbl on October 9 to \$56/bbl on December 18, reflecting weak market sentiment as well as concerns about oversupply through economic deceleration, U.S. production expansion and inventory growth.
- If the supply-demand balance loosens further on additional U.S. oil production expansion, a slack rate of compliance with the OPEC-plus joint oil production cut, a halt to a fall in Iranian oil exports and weak demand, Brent may average \$60/bbl in 2019.

Japanese demand trend

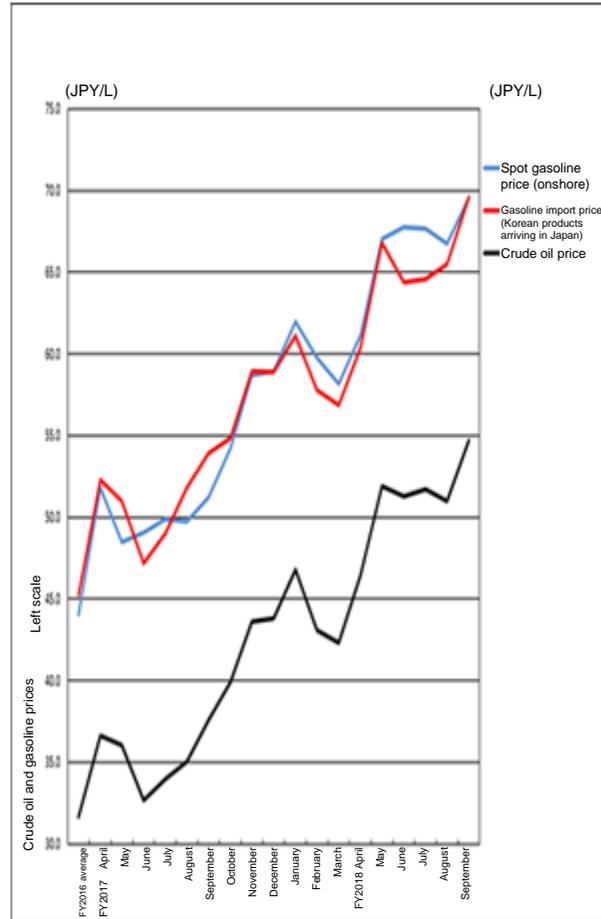
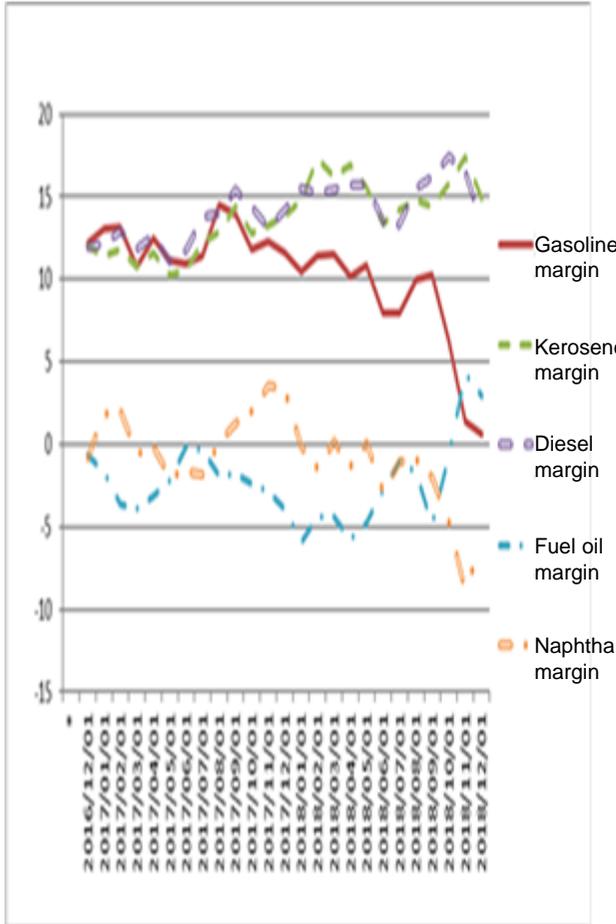


Sources: METI “Monthly Resources and Energy Statistics,” “METI Production Statistics”

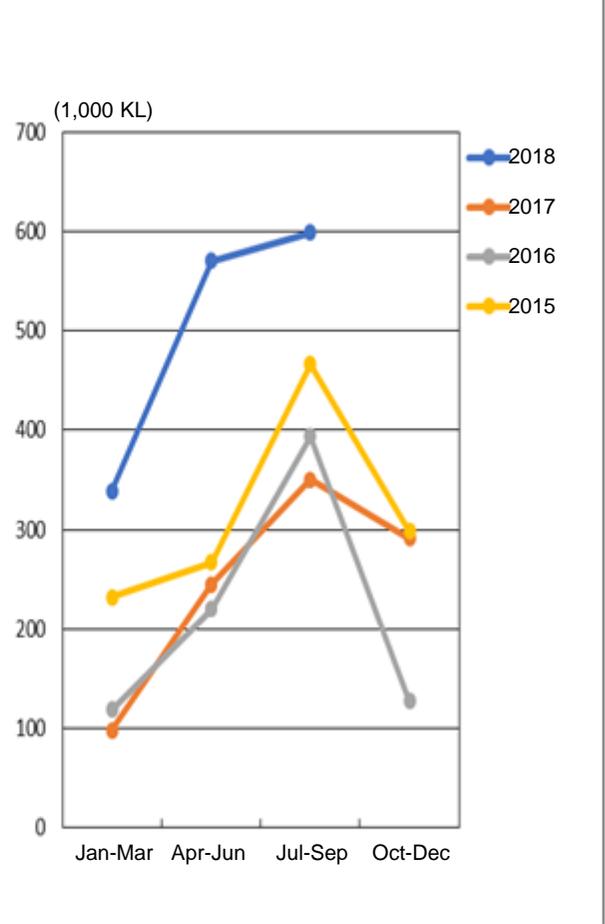
- Demand has continued a structural downtrend while exports have remained high
- As refining capacity has declined, the capacity utilization rate has remained as high as 80%

Singapore market conditions and upward pressure on gasoline imports

Singapore market product margin trends Japanese spot gasoline and import prices



Japan's quarterly gasoline imports



- In the Singapore market, gasoline prices have fallen since autumn 2017, with middle distillate prices rising.
- As gasoline import prices slipped below Japanese spot prices occasionally, upward pressure came on gasoline imports.

Short-term challenges for Japanese oil industry

- **Reponses to tighter IMO shipping fuel regulations**

【Regulations】

From January 2020, the sulfur content of shipping fuel will be limited to 0.5% or less worldwide.

(Compared with 3.7% at present for waters other than specified ones)

【Shippers' responses】

- ① Switching to lower-sulfur fuel oil
- ② Installing waste gas scrubbers
- ③ Using alternative fuels such as LNG

【Oil companies' responses】 Case ①

① Switching to lighter and lower-sulfur crude oil for procurement

- ② Using fuel blended with diesel for exports
 - ③ Introducing new equipment or expanding equipment
- 【Effects】 Full-fledged responses from 2nd half of 2019

- Expanding gaps between heavy and light crude prices and between high- and low-sulfur crude prices
- Rising middle distillate prices
- Emergence of surplus high-sulfur fuel oil

Prices may be finally determined by market function.

Costs for environmental measures should be shared fairly.

- **Enhancing disaster responses**

【2018 disasters】

Numerous disasters including February heavy snow in Fukui, July heavy rains in western Japan and the September Hokkaido Eastern Iburi earthquake

【Response conditions】

While responses were taken relatively quickly, some service stations were sold out due to transportation problems and fictitious demand

【 Measures to enhance the resilience of fuel supply】

① Enhancing infrastructures' resilience to disasters

Maintaining shipping functions, development base service stations for residents

② Enhancing key infrastructures' self-defense capabilities

Requesting users to stockpile fuel, filling campaigns

③ Enhancing information collection and communications

Sending service station business information