

Volume warfare in the oil market

Saudi Arabia, Russia, the United States and the balance of power

JOHN KEMP

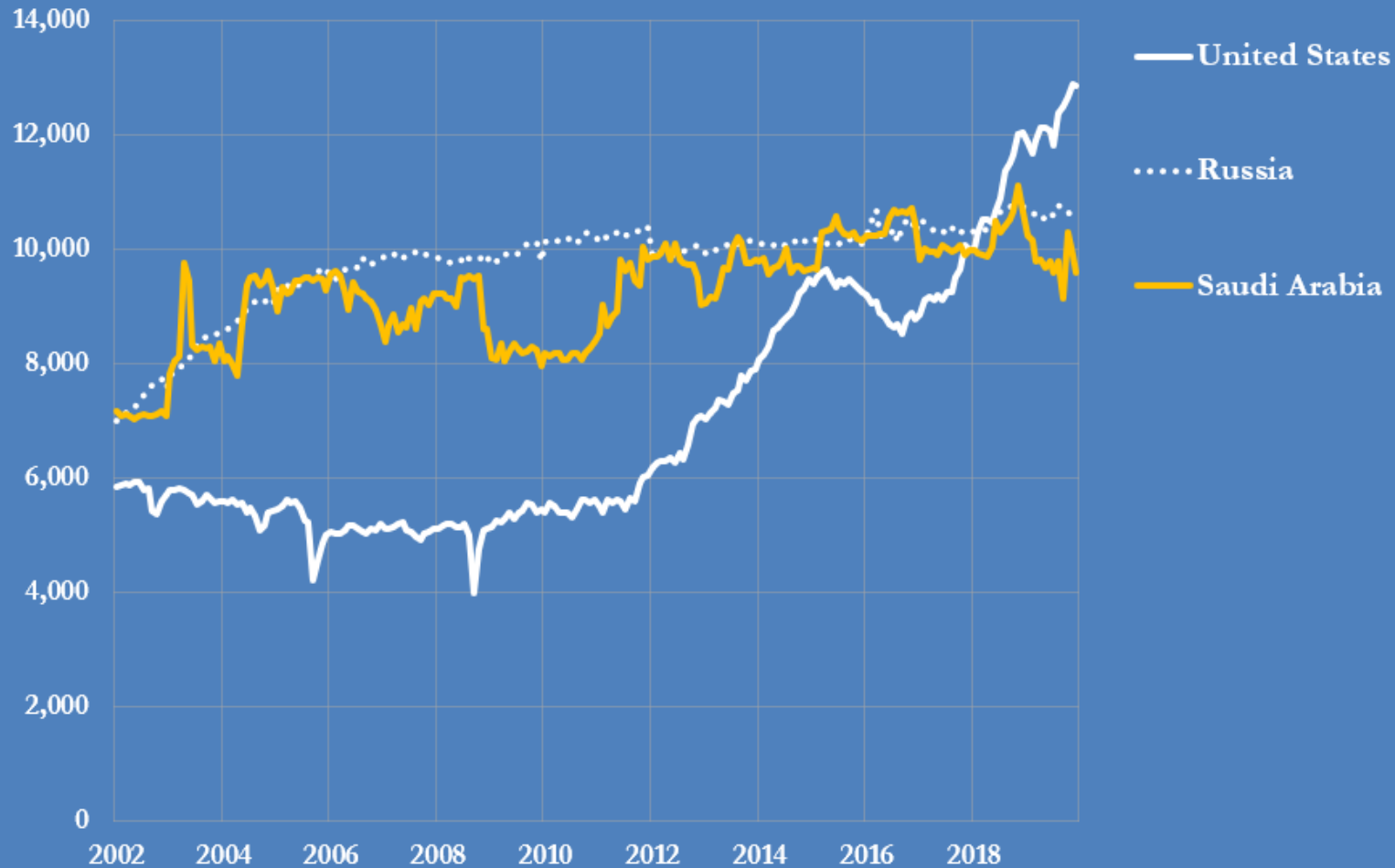
REUTERS

11 Mar 2020

Saudi Arabia and Russia have lost market share to the United States

U.S. output has doubled since 2011, while Saudi and Russia output has stagnated

Global crude oil output by top three producers, 2002-2019
000 b/d, monthly



U.S. shale sector has become marginal supplier to the global market
 Shale has captured all incremental global consumption when Brent >\$70 per barrel

Global oil consumption and production, 2012-2019

Incremental million barrels per day

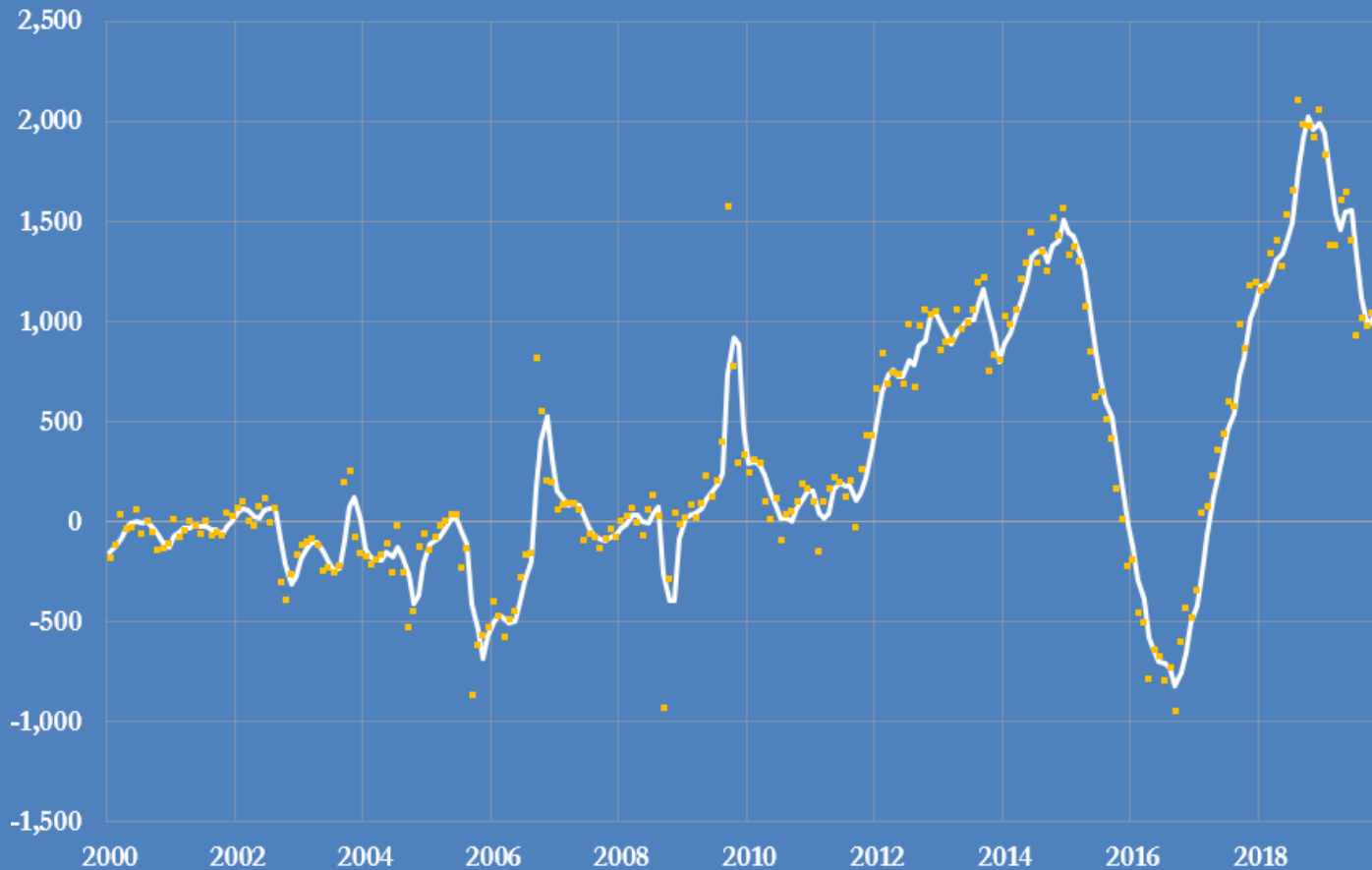
	Global oil consumption	U.S. crude production	L48 crude production ex Gulf	U.S. supplies all global incremental consumption?
2012	1.0	0.9	0.9	<i>NO</i>
2013	1.6	1.0	1.0	<i>NO</i>
2014	0.9	1.3	1.2	<i>YES</i>
2015	1.9	0.7	0.5	NO
2016	1.7	-0.6	-0.7	NO
2017	1.7	0.5	0.4	NO
2018	1.4	1.6	1.6	<i>YES</i>
2019	0.8	1.2	1.1	<i>YES</i>

Sources: BP Statistical Review of World Energy, U.S. Energy Information Administration
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U.S. shale production has recorded fastest increase anywhere in history
Second shale boom (2017-2019) was adding +2 million b/d per year at its peak

U.S. crude oil production, 2000-2019

Increase compared with prior year, monthly and 3-mth average, 000 b/d



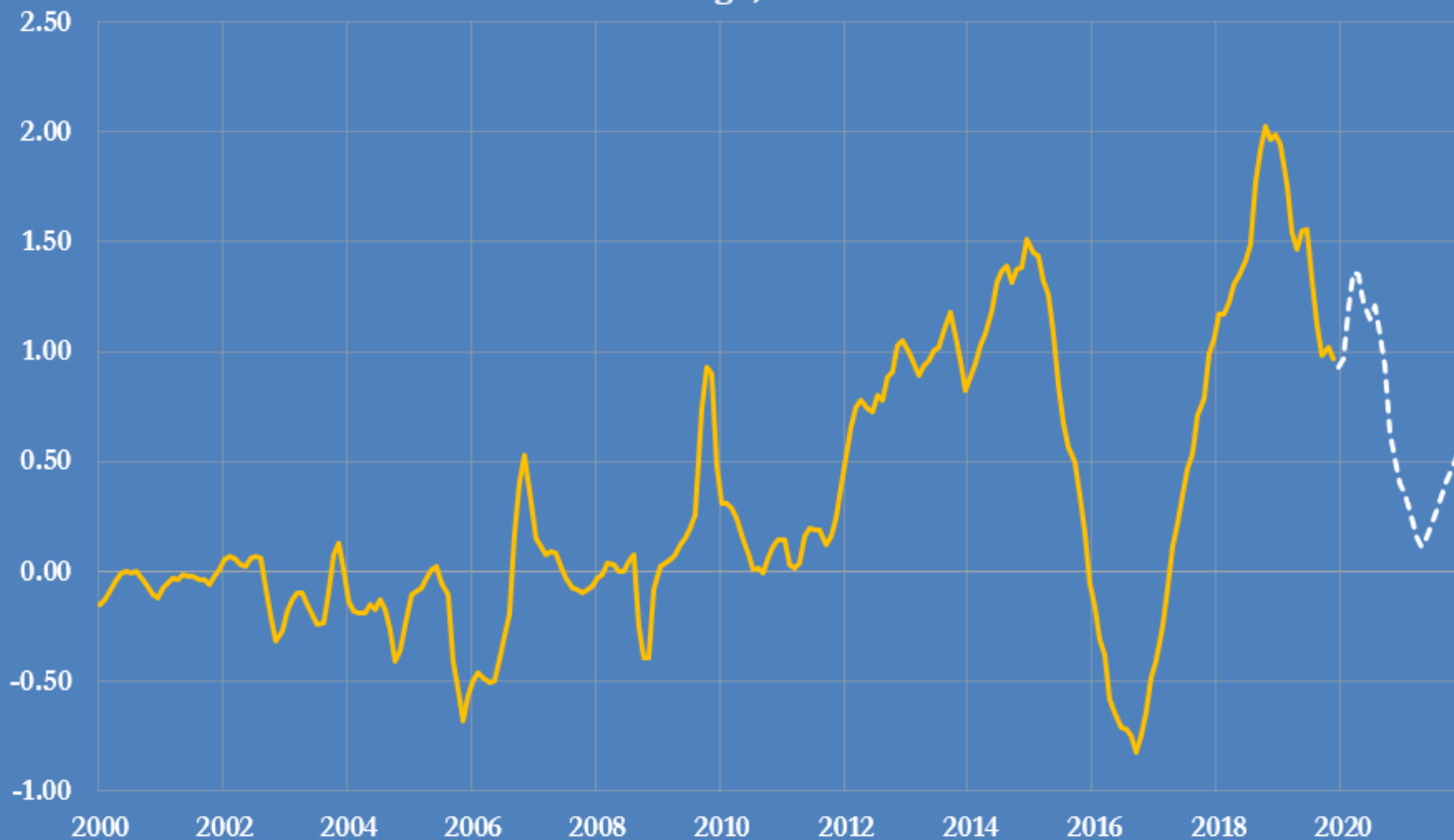
Source: U.S. Energy Information Administration

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U.S. oil production growth forecast to slow even before outbreak of volume war

Growth predicted to slow to +0.4 million b/d by Q4 2020 and +0.6 million by Q4 2021

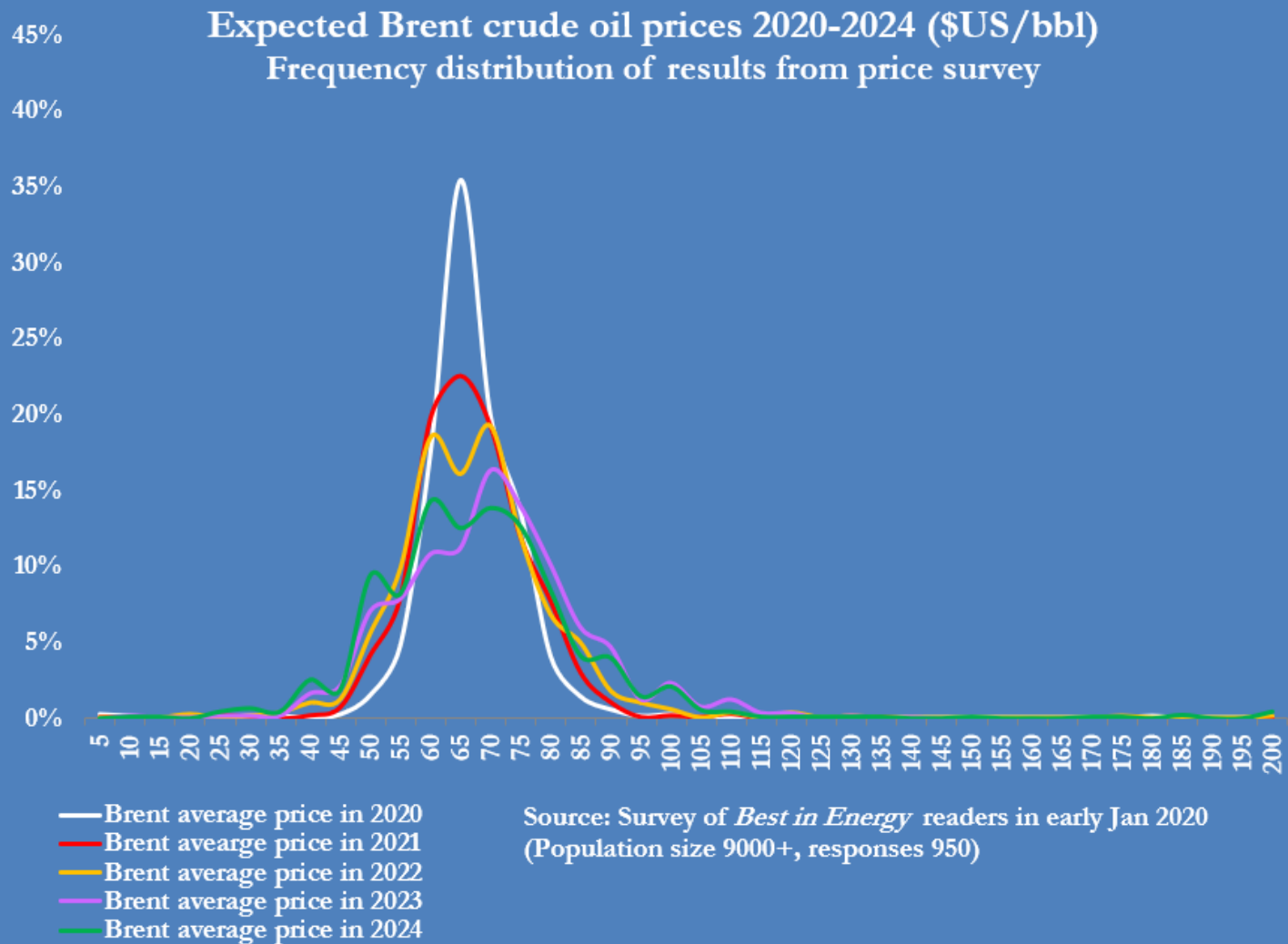
U.S. crude oil production, 2000-2021
million b/d, change from prior year,
three-month average, actual and forecast



Source: U.S. Energy Information Administration ("Short-Term Energy Outlook", Jan 2020)
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Oil prices expected to remain anchored around \$65 per barrel through 2024

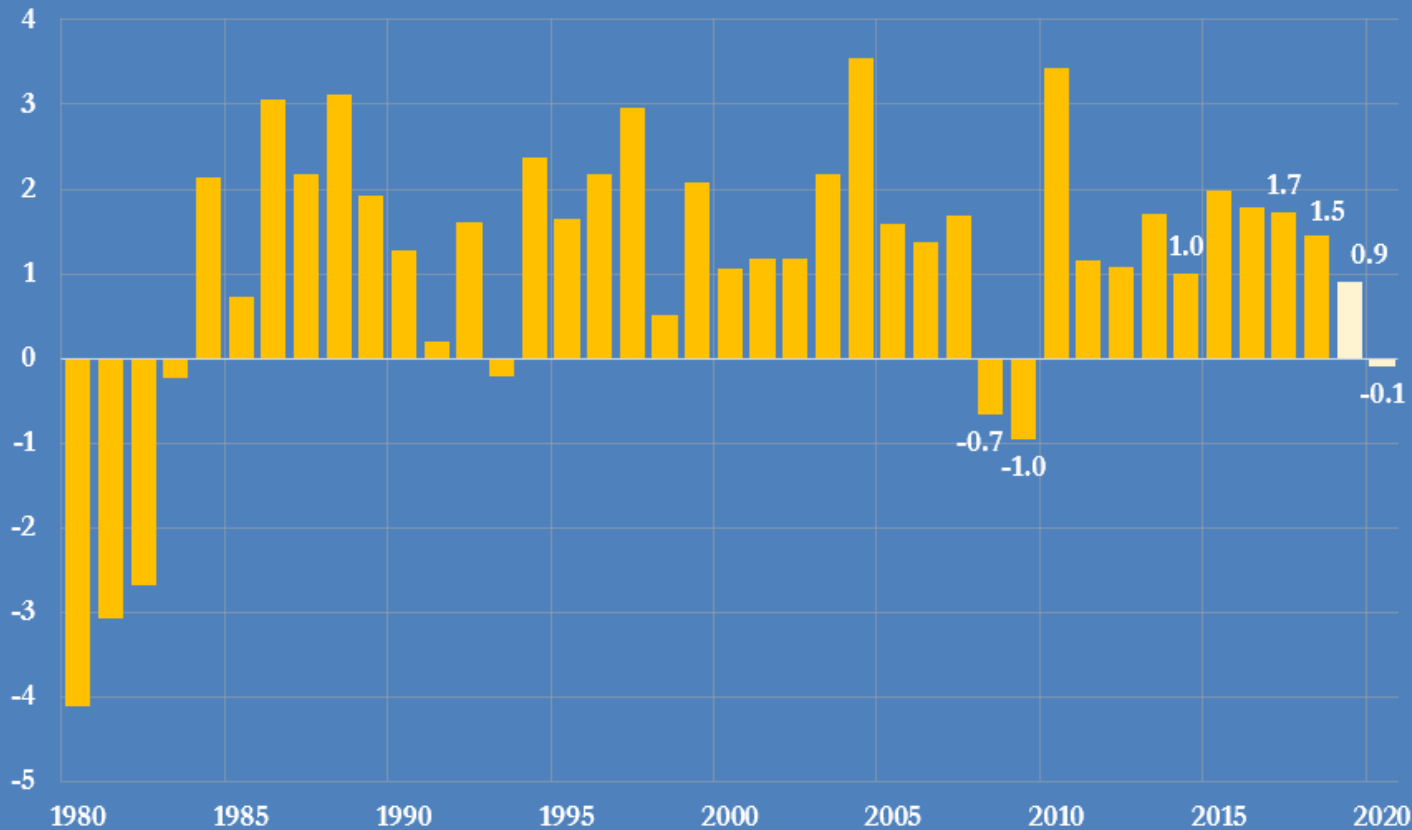
U.S. shale acts as price maker, but cyclical volatility around average level



Global oil consumption hit by trade war in 2019 and now coronavirus in 2020

Consumption growth well below long-term trend of 1.4% per year in both years

World oil consumption growth, 1980-2020
annual percent change, estimated for 2019, forecast for 2020



Source: *BP Statistical Review of World Energy 2019*

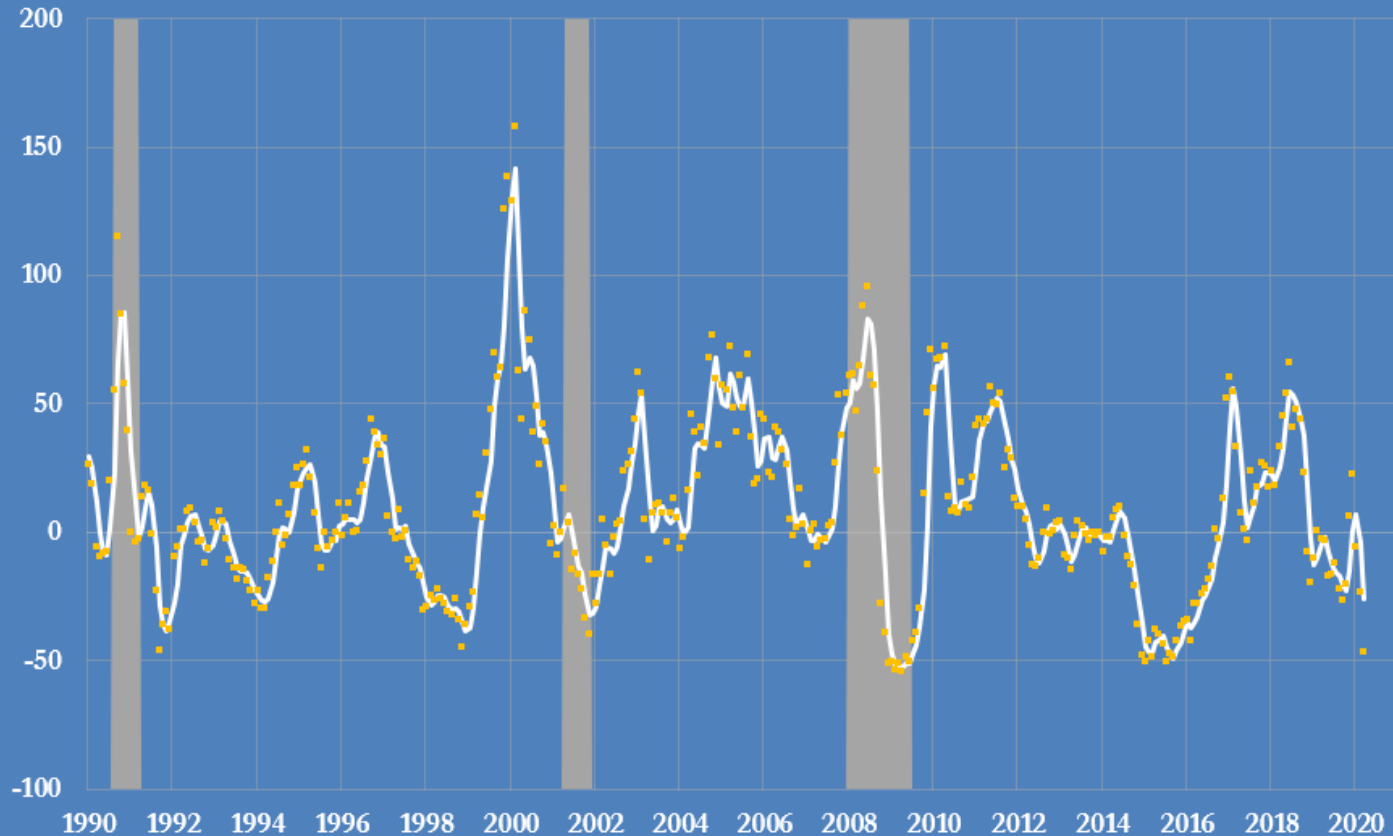
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Oil prices decline in response to deteriorating economic outlook

Decline consistent with synchronized global economic slowdown or recession

Brent spot price, 1990-2020

Percent change from year earlier, monthly and 3-month average
NBER U.S. recession dates shown

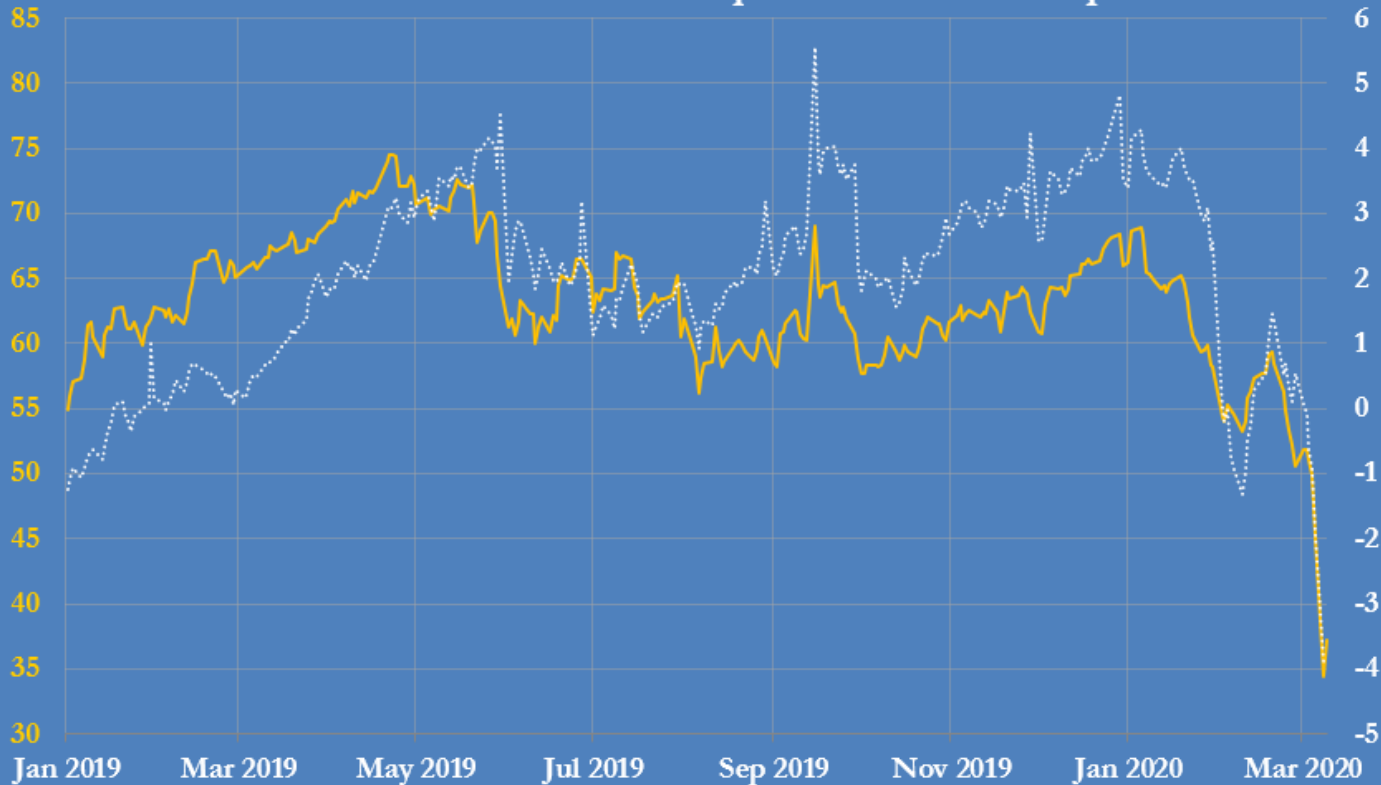


Source: ICE Futures Europe, National Bureau of Economic Research

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Spot prices and calendar spreads have been sliding since the start of the year Coronavirus weighing on market even before volume war

Cyclical indicators in the oil market, 2019-2020
Brent crude: front-month futures prices and calendar spreads



— L-axis: Brent front-month futures price (U.S./bbl)

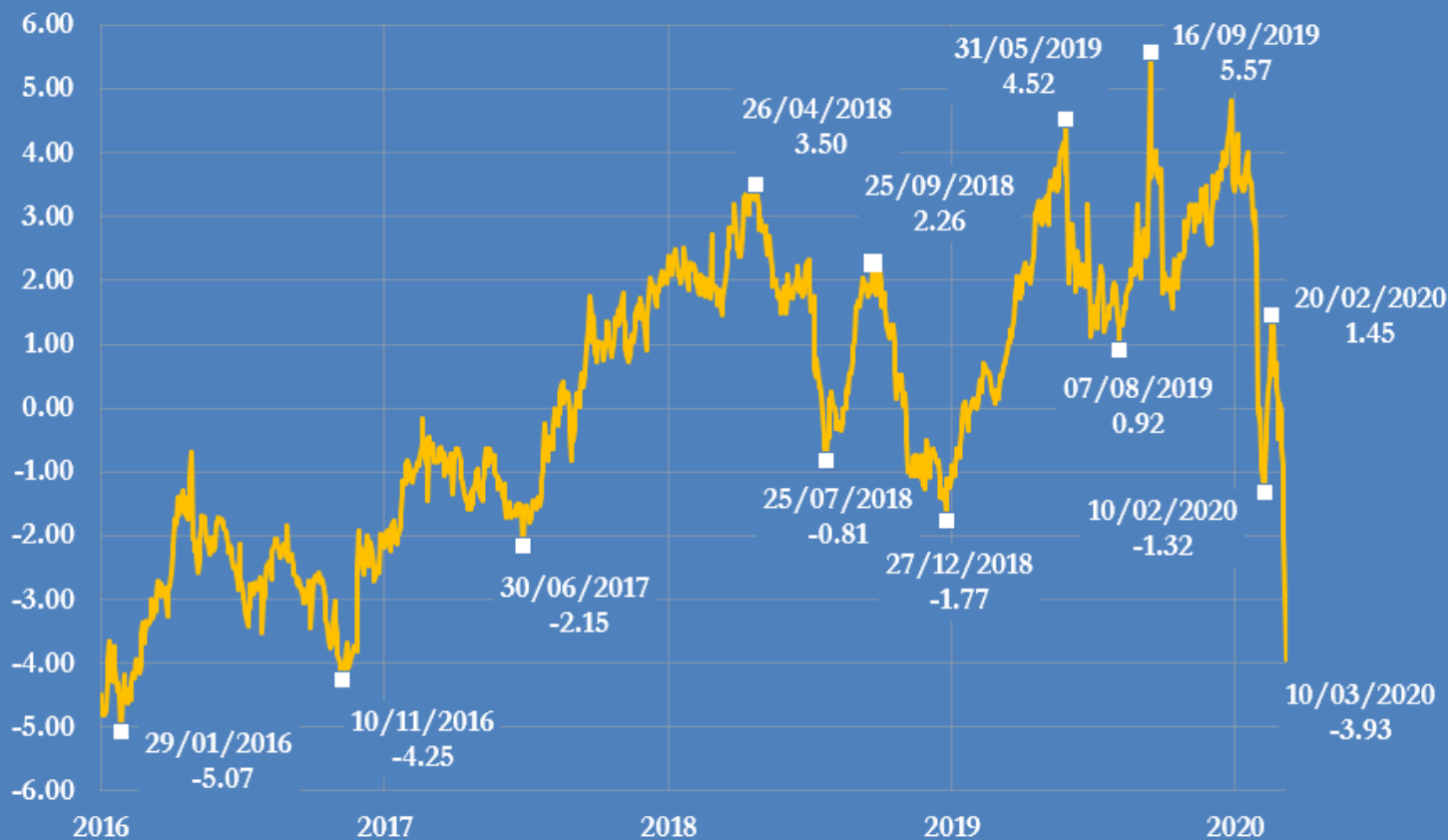
..... R-axis: Brent six-month calendar spread (U.S./bbl)

Both series are averaged over 30 trading days to smooth short-term volatility

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Brent spreads plunged after OPEC+ failed to agree on further output restraint Saudi Arabia and Russia subsequently threaten to increase production

Shape of the futures price curve in Brent crude
Contango (-) or backwardation (+) from months 1 to 7 (US\$/bbl)



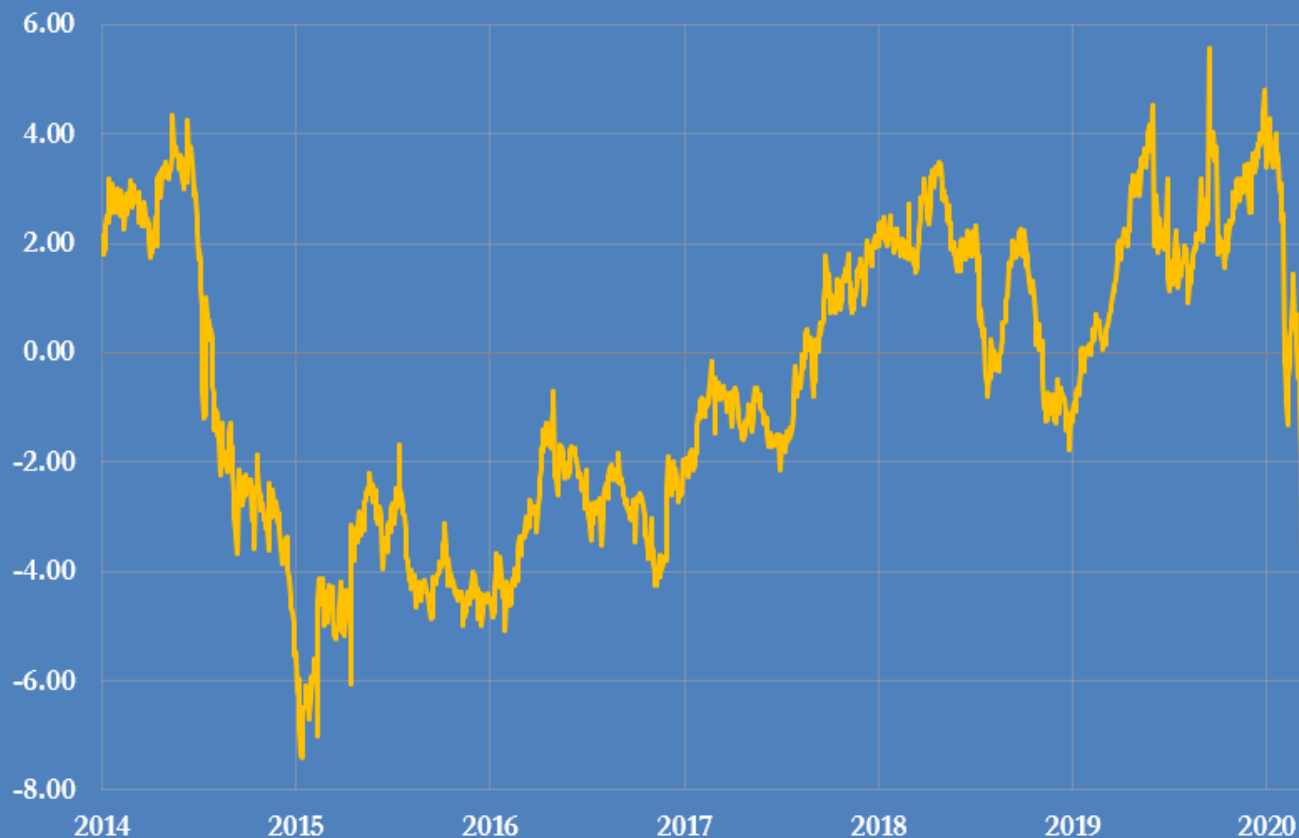
Price difference Brent month 1 and month 7 (U.S.\$/bbl)
Contango (-) or backwardation (+)

Source: ICE Futures, @JKempEnergy

Oil traders anticipate significant over-production and large build in inventories

Brent calendar spread reverts to largest contango since Nov 2016 (before OPEC+ launched)

Shape of the futures price curve in Brent crude, 2014-2020
Contango (-) or backwardation (+) from months 1 to 7 (US\$/bbl)



Price difference Brent month 1 and month 7 (U.S.\$/bbl)
Contango (-) or backwardation (+)

Source: ICE Futures, @JKempEnergy

Brent calendar spread signaling large inventory build

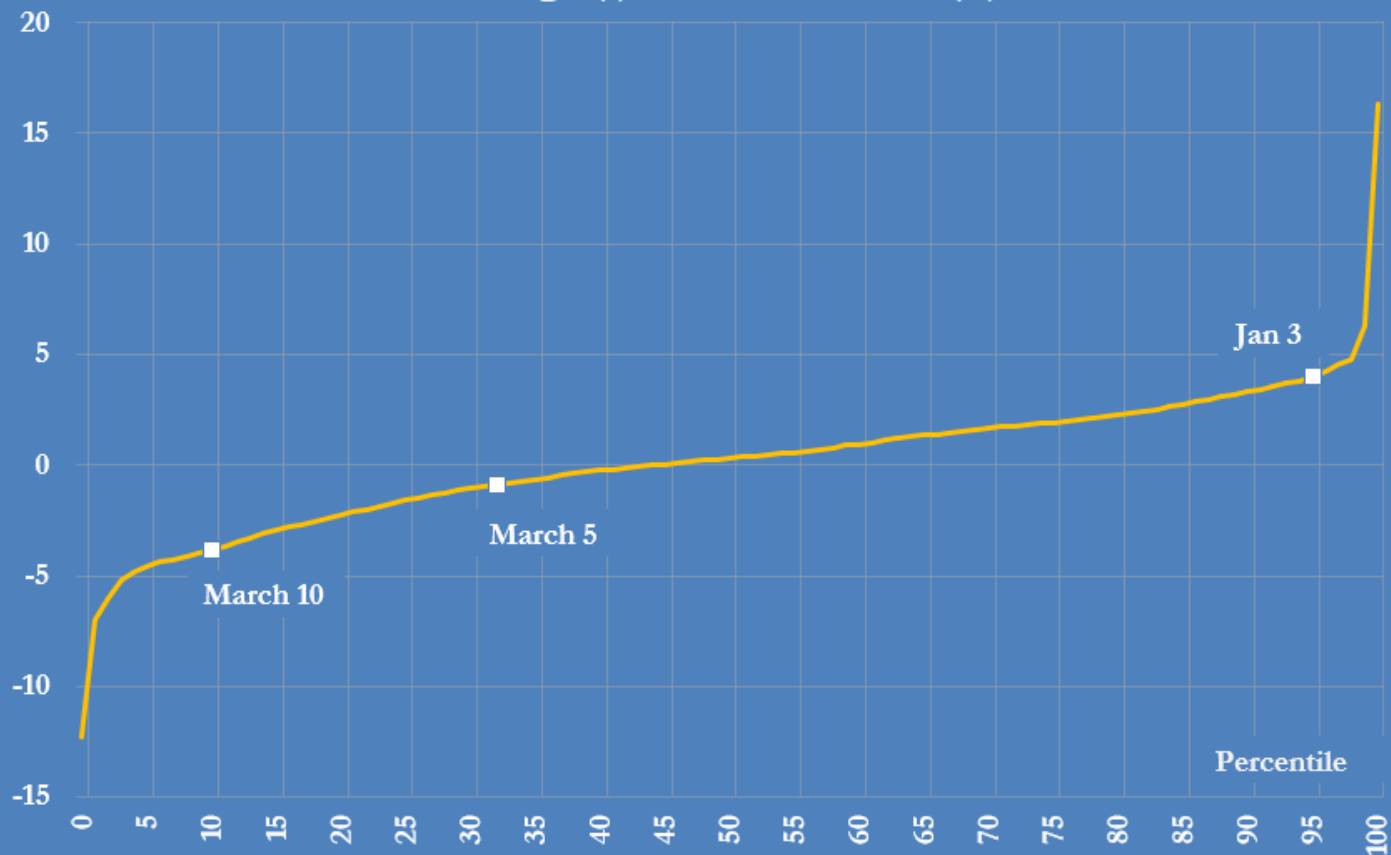
Six-month spread in 10th percentile for all trading days since 1990

Brent calendar spread from month 1 to month 7

Percentiles 1990-2020, US\$ per barrel

Contango (-) or backwardation (+)

U.S.\$/bbl



Source: ICE Futures Europe

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Strategic choices for Saudi Arabia and Russia

Protect prices or defend market share

Russia's strategy

- Stop erosion of market share
- Allow prices to fall in response to coronavirus
- Eliminate oversupply via price adjustment
- Force further slowdown in U.S. shale
- Incentivise faster consumption growth
- Permit long-term expansion of Russia output

Saudi Arabia's strategy

- Stop erosion of prices
- Accept further (temporary?) loss of market share
- Eliminate oversupply via OPEC⁺ output adjustment
- Extend and deepen OPEC⁺ production restraints
- Maximize short-term oil revenues

Volume warfare breaks out after OPEC⁺ fails to agree on deeper cuts
Other outcomes were possible but Saudi Arabia and Russia elected for volume war

Russia elects to end production controls rather than deepen them, preserves ability to raise output , force further reduction in shale production and defence market share

Saudi Arabia opts to go into punishment mode and communicates maximum pain strategy to market

- Signals flat out production
- Supply extra oil from stocks
- Increase maximum capacity

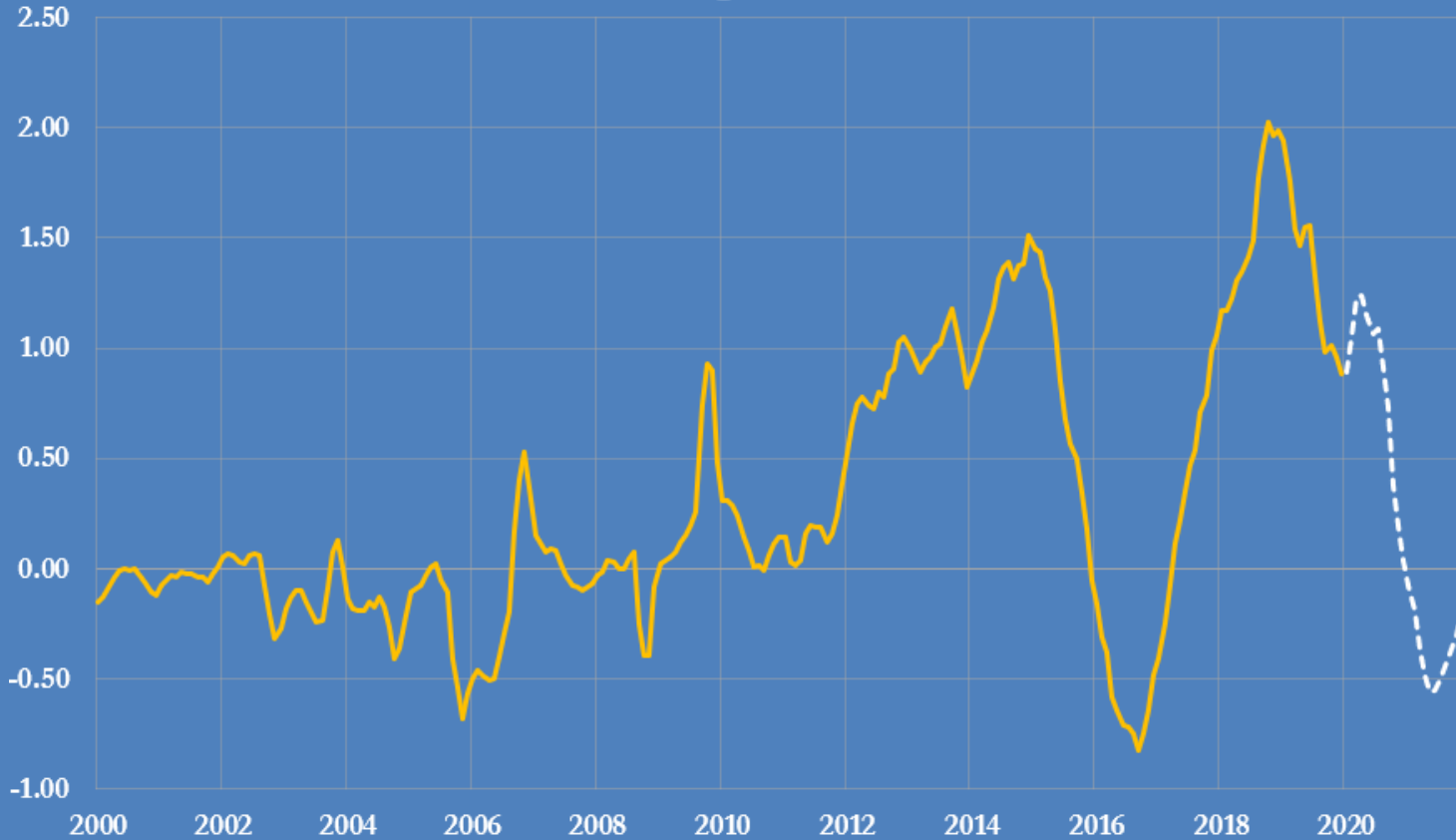
Escalate-to-negotiate strategy

- Attempt to engineer short-term crisis
- Force Russia to negotiate
- Force White House to intervene
- Avoid protracted period of low prices

U.S. oil production forecasts revised down as a result of lower prices

Production expected to be roughly flat year-on-year in Q4 2020 and 2021

U.S. crude oil production, 2000-2021
million b/d, change from prior year,
three-month average, actual and forecast



Source: U.S. Energy Information Administration ("Short-Term Energy Outlook", Mar 2020)
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Volume warfare

Strategy and outcomes similar to analysis of armed conflict

Volume warfare usually breaks out because one side or both miscalculates resolve or capacity to absorb pain, its own or others

Top policymakers sometimes opt to fight rather than appear weak in front of domestic and international audiences

Volume warfare tests resilience – willingness and ability to absorb short-term financial pain to protect long-term interests

Volume warfare establishes new balance of power or re-establishes deterrence among major producers