

Oil prices in 2018/19

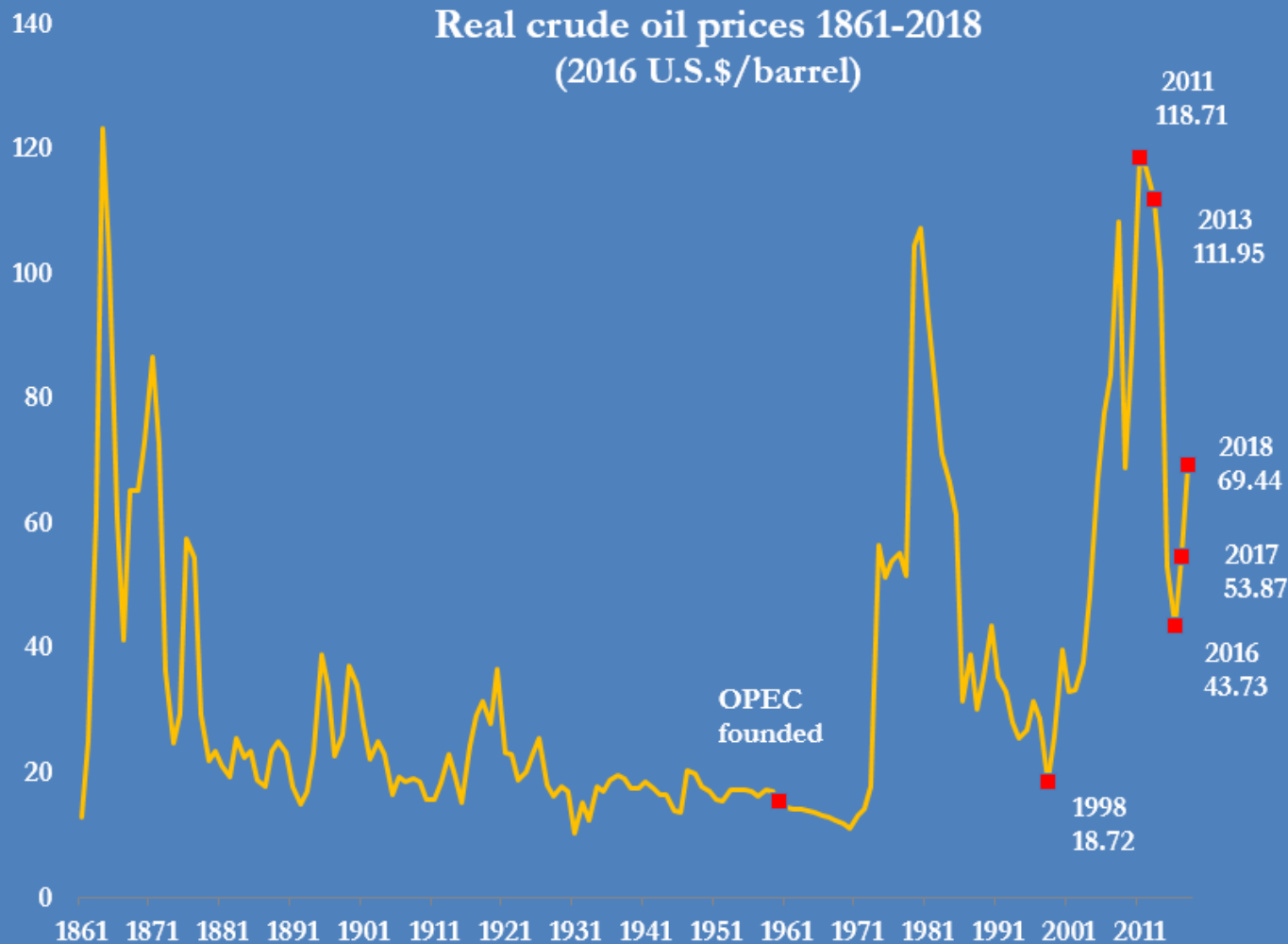
Next stage in the cycle

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REUTERS

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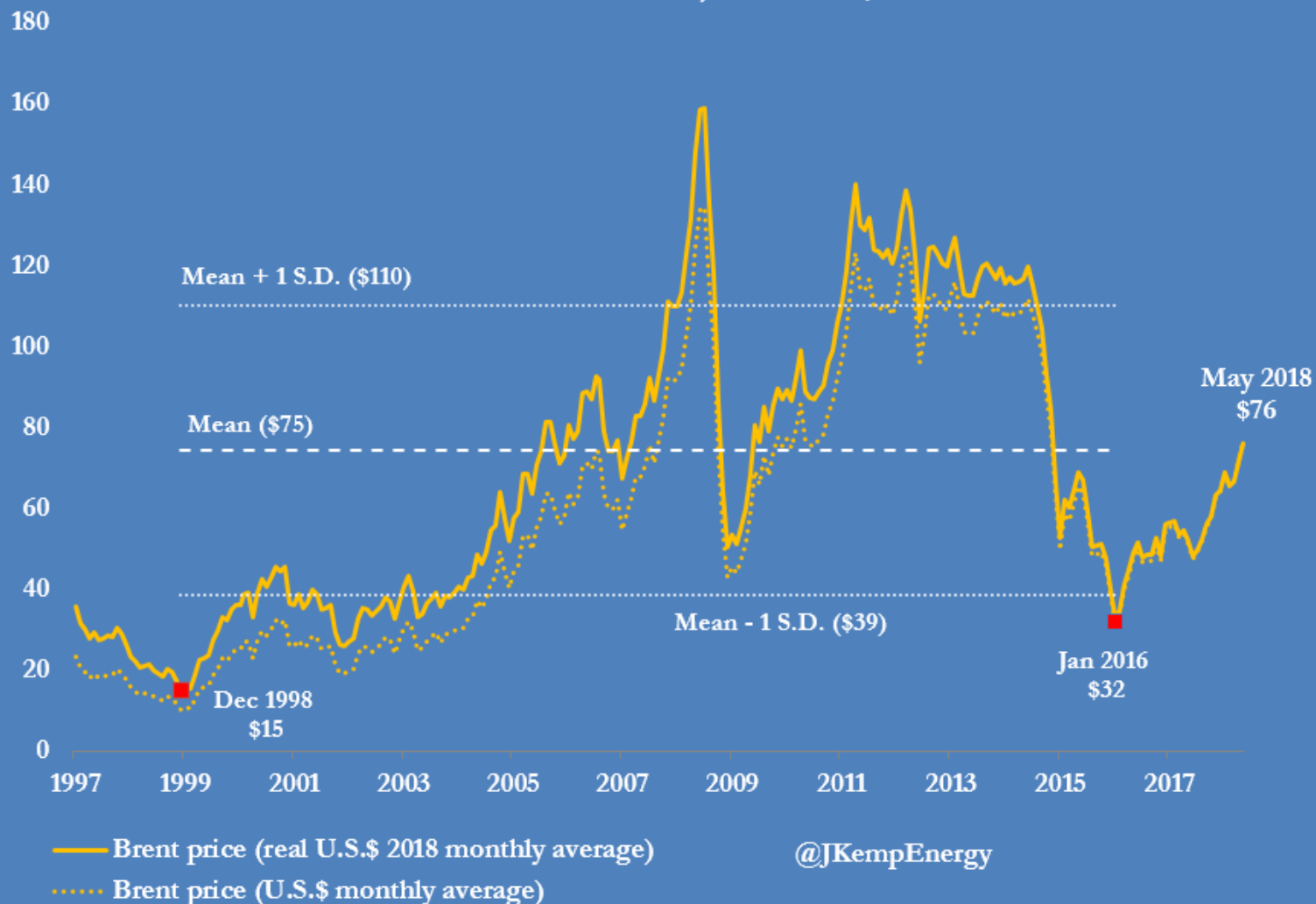
Long boom, wrenching slump, now back to boom



Source: *BP Statistical Review of World Energy 2017* Reuters calculations for 2017 and 2018
@JKempEnergy

Real oil prices again in the upper half of the cycle

Brent crude price
One complete price cycle (1998-2016)
Front-month futures, real U.S.\$/bbl



Oil market fundamentals: the cycle goes on

Oil industry has always been subject to **deep and prolonged cycles** of boom and bust and there is no reason to think the future will be any different

Cyclical behaviour is the distinguishing characteristic of oil markets and prices and rooted in the industry's structure

- Low price elasticity of supply and demand
- Backward-looking expectations and behaviour
- Positive and negative feedback mechanisms
- Complex adaptive systems

Multiple markets for crude, fuels, refining, services, engineering, construction, drilling, skilled labour, raw materials etc

Each market subject to its own feedback mechanisms, operating at different speeds and timescales, with constantly changing balances between supply and demand

Balancing “the oil market” actually means balancing all these markets simultaneously

Oil market is never really “balanced” or in equilibrium except accidentally and not for very long

Feedback mechanisms operate in oil markets and can delay as well as accelerate process of adjustment

Oil industry is characterised by a multiple feedback loops



Negative feedback loops dampen impact of an initial change and are therefore stabilising and promote rapid return to “equilibrium”

Positive feedback loops amplify the impact of an initial change and are therefore destabilising and delay return to “equilibrium”

Feedback concept was popularised by communications experts at Bell Telephone Laboratory in the 1920s

Long (implicit) history in economics: Adam Smith’s “invisible hand” and David Hume’s “price-specie-flow” mechanism are both instances of negative feedback loops

Examples of feedback mechanisms acting on oil supply and demand

Positive feedback deepened slump, now accelerating rebound

	Supply-side	Demand-side
Negative feedback mechanisms (promote return to balance)	Capital budgets Cash flow Equity finance Debt finance	Fuel switching Fuel efficiency Energy conservation policy GDP impact in oil-consuming countries
Positive feedback mechanisms (delay return to balance)	Producers' revenue needs Labour costs Raw material costs Services contract adjustments Fiscal terms (taxes and royalties)	GDP impact in oil-producing countries Fuel consumption within the oil industry (drilling, refining, transportation) Fuel consumption throughout the oil supply chain (service companies and other suppliers)