



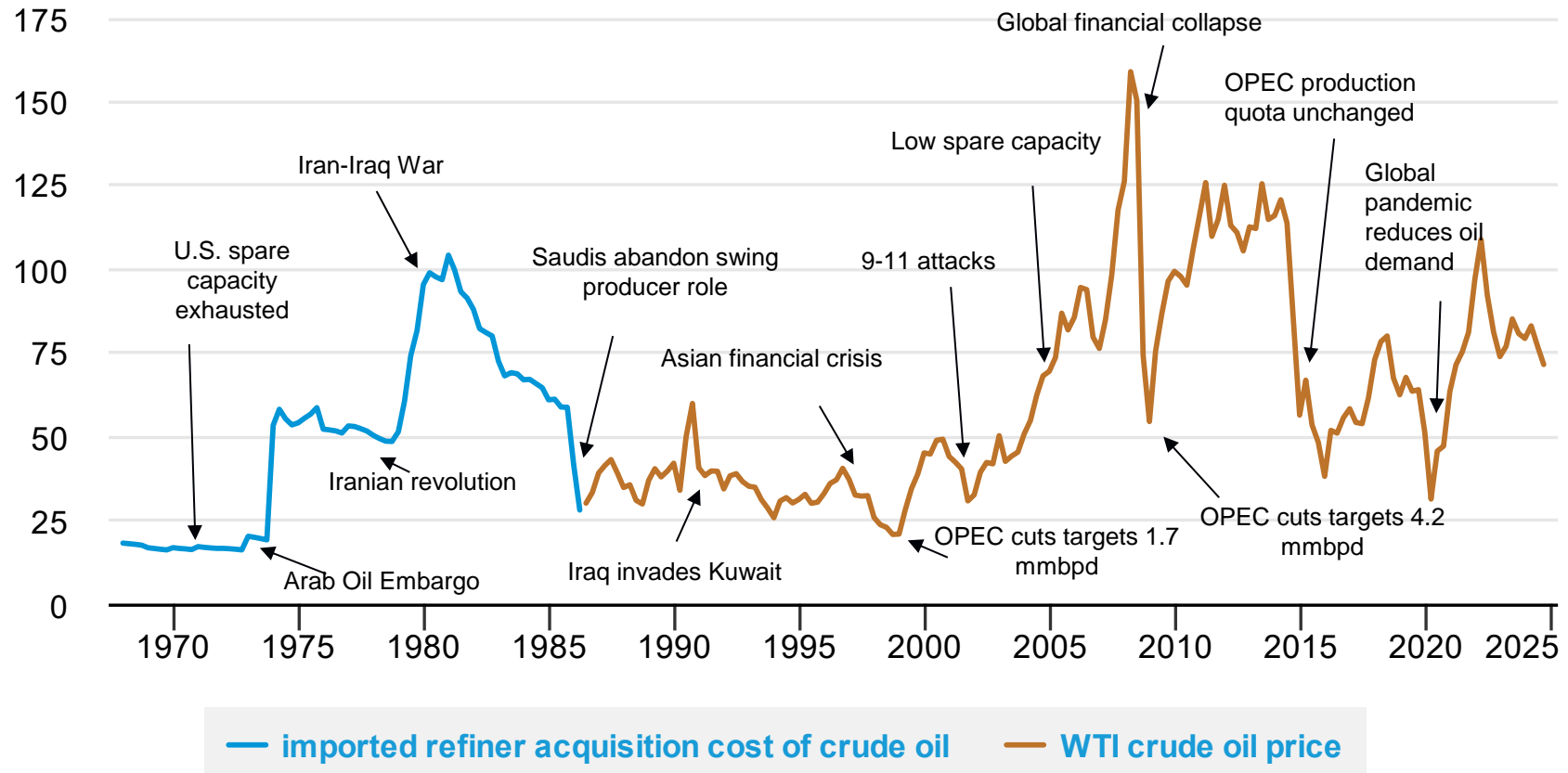
# What drives crude oil prices?

*An analysis of 7 factors that influence oil markets, with chart data updated monthly and quarterly*

*January 14, 2024 / Washington, DC*

# Crude oil prices react to a variety of geopolitical and economic events

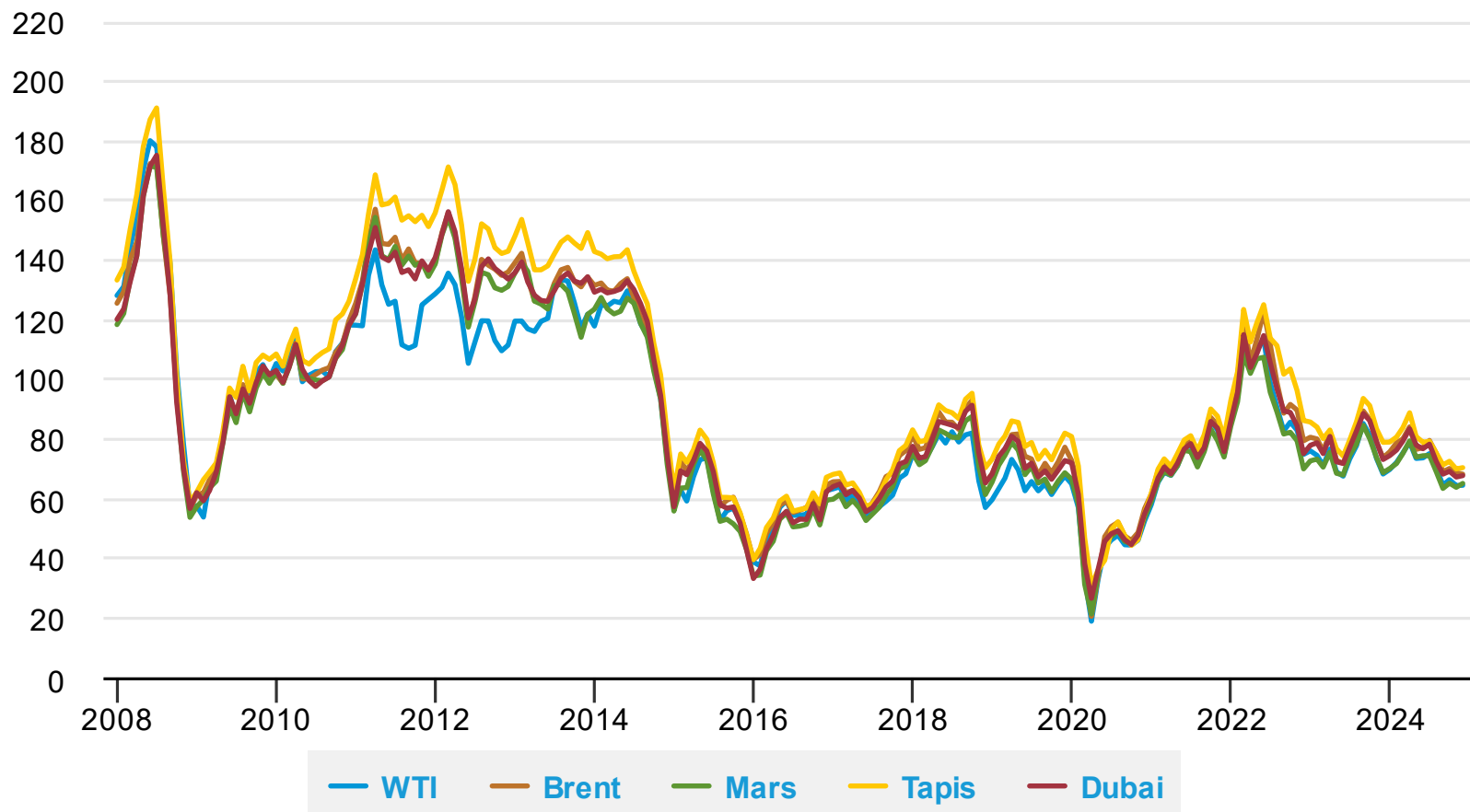
\$/b (real 2022 dollars)



Data sources: U.S. Energy Information Administration, Refinitiv An LSEG Business

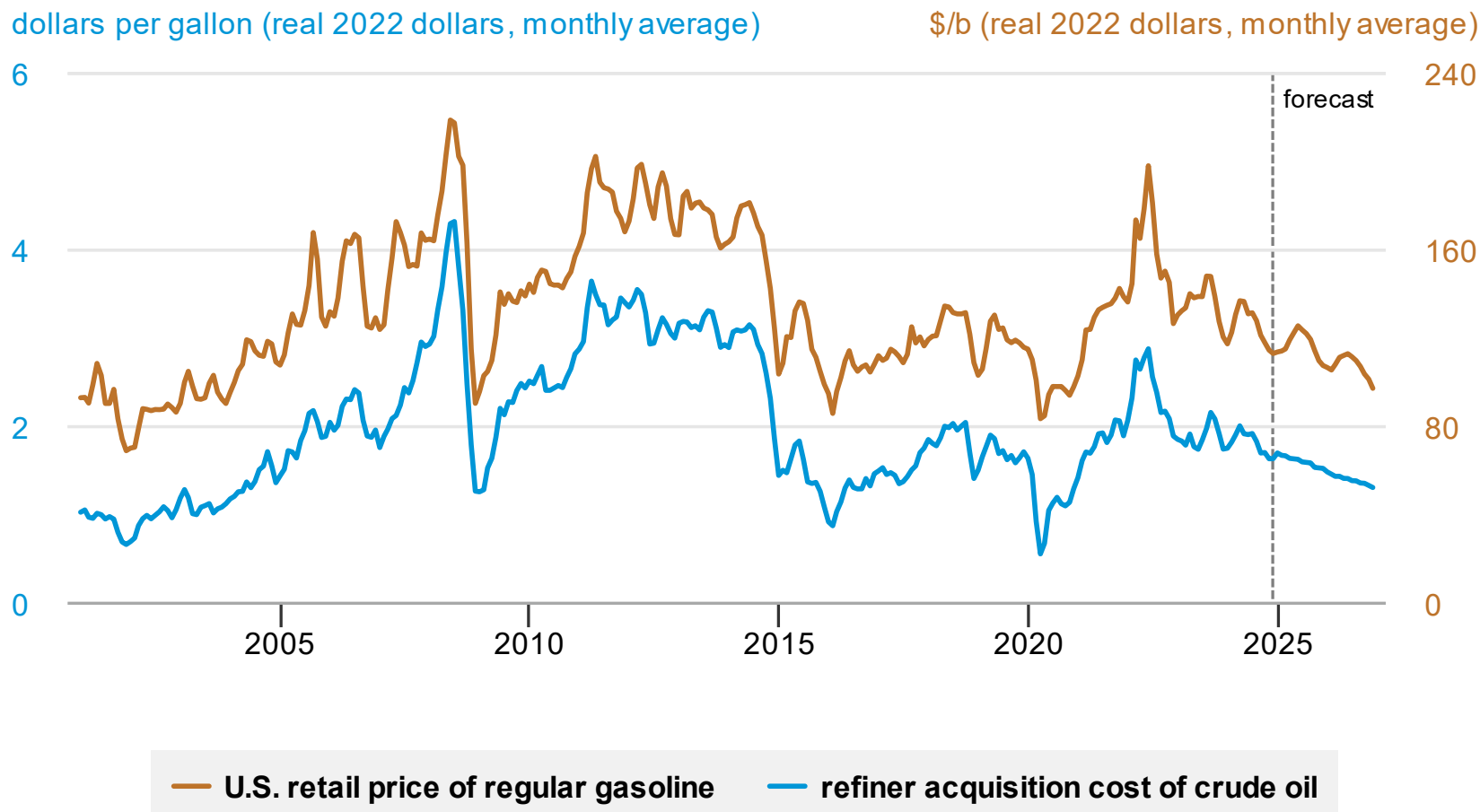
## World oil prices move together due to arbitrage

\$/b (real 2022 dollars, monthly average)



Data sources: Bloomberg, Refinitiv An LSEG Business

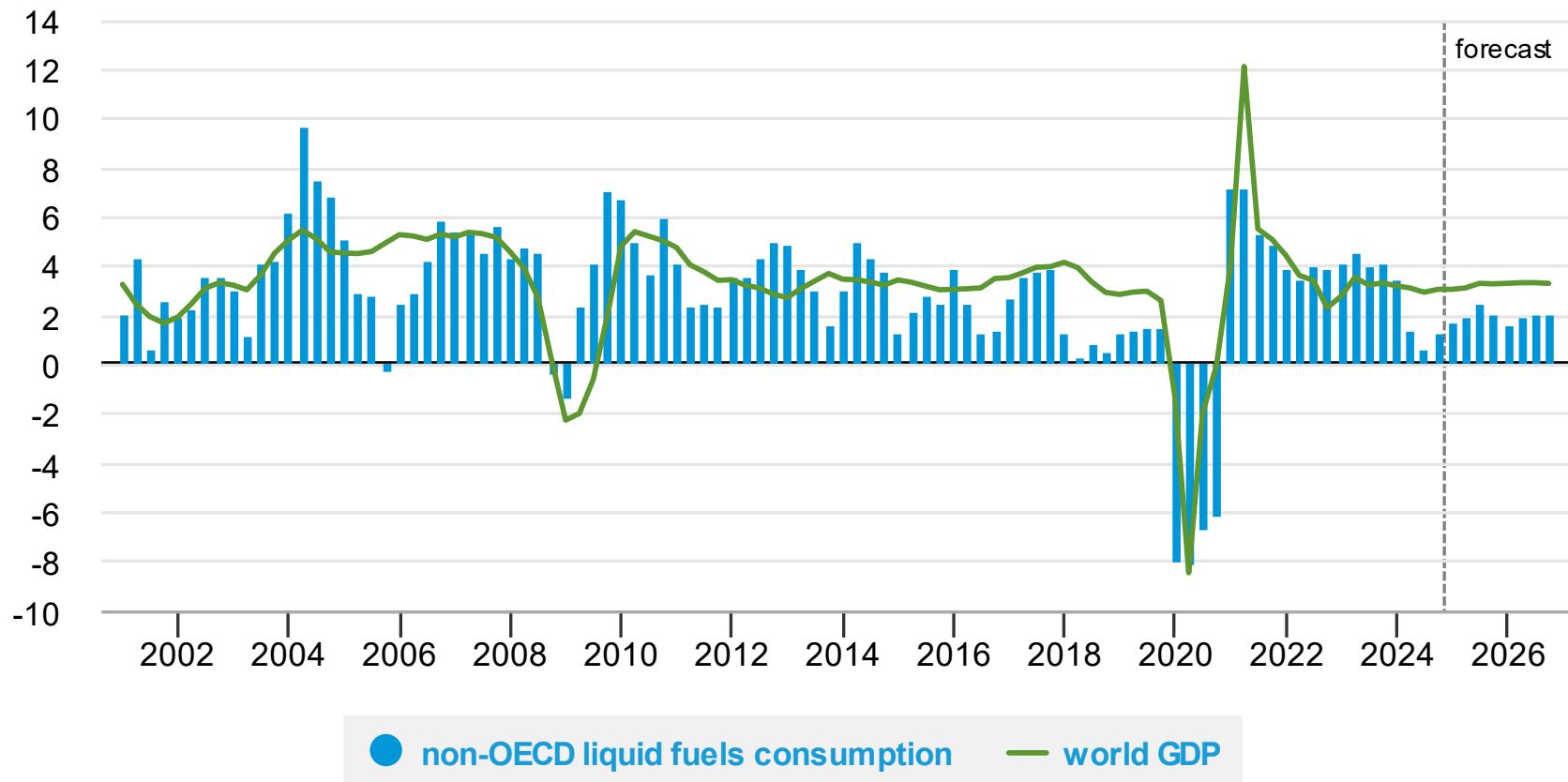
# Crude oil prices are the primary driver of petroleum product prices



Data source: Short-Term Energy Outlook

# Economic growth has a strong impact on oil consumption

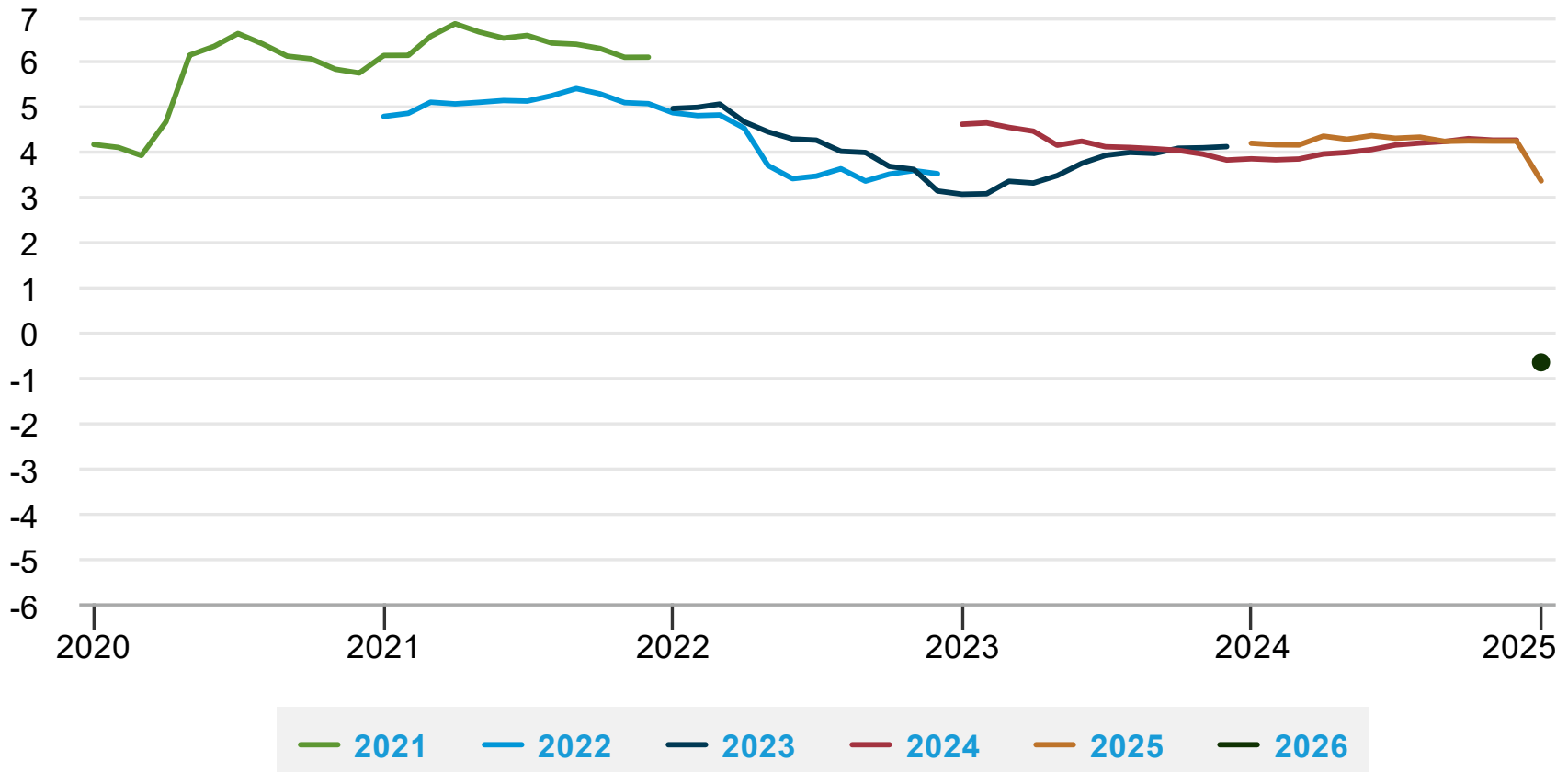
% change (year-on-year)



Data sources: U.S. Energy Information Administration, Oxford Economics

# Changes in expectations of economic growth can affect oil prices

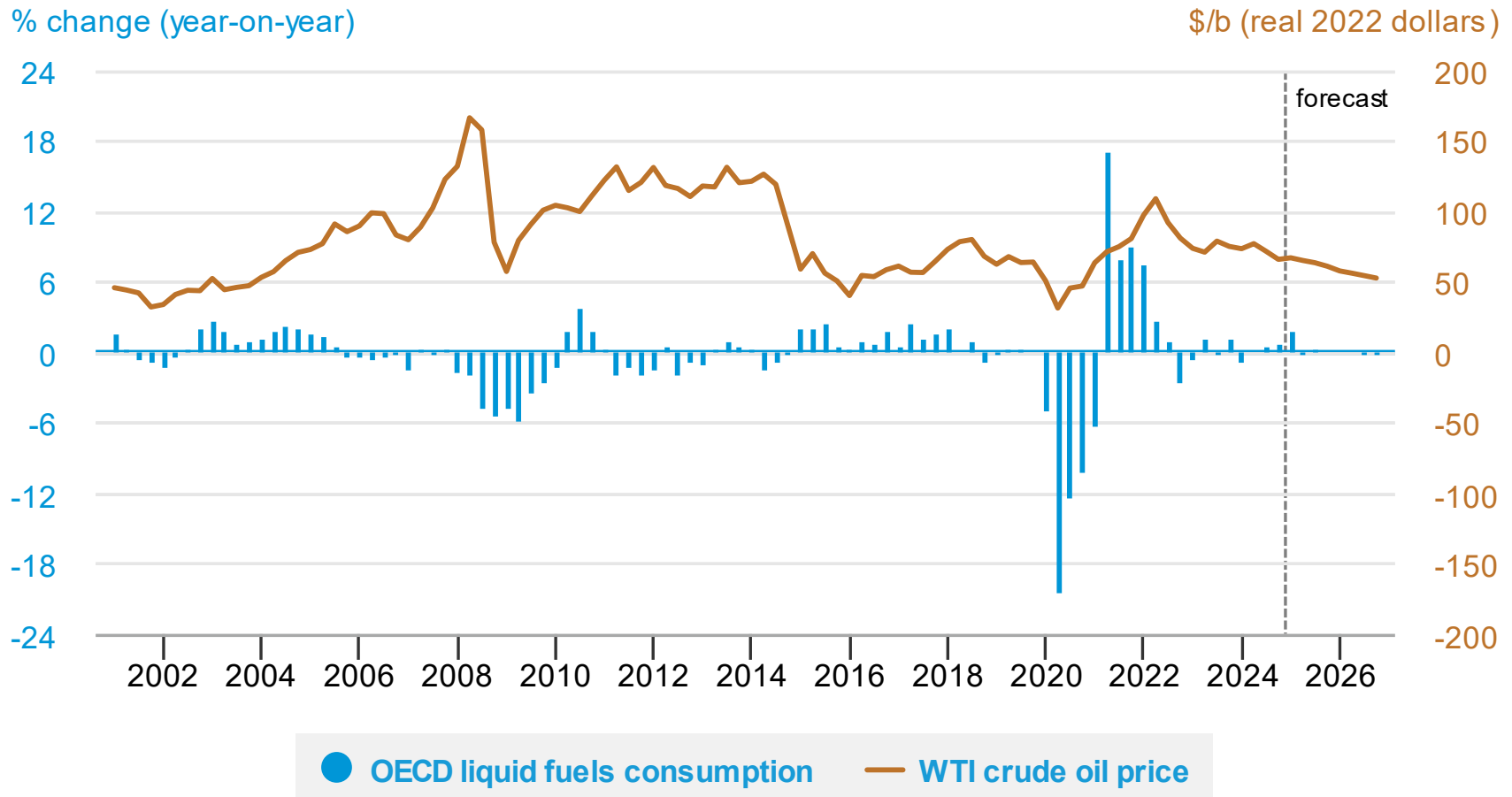
% GDP growth in non-OECD countries (annual expectations)



Note: Starting in January of each year, each line shows the expected forecast of GDP growth for the specified calendar year, which tends to move toward the actual realized growth outcome as the year progresses. Expectations continue to evolve into the next calendar year as revised GDP data become available (e.g., 2021 GDP expectations are revised even during 2022).

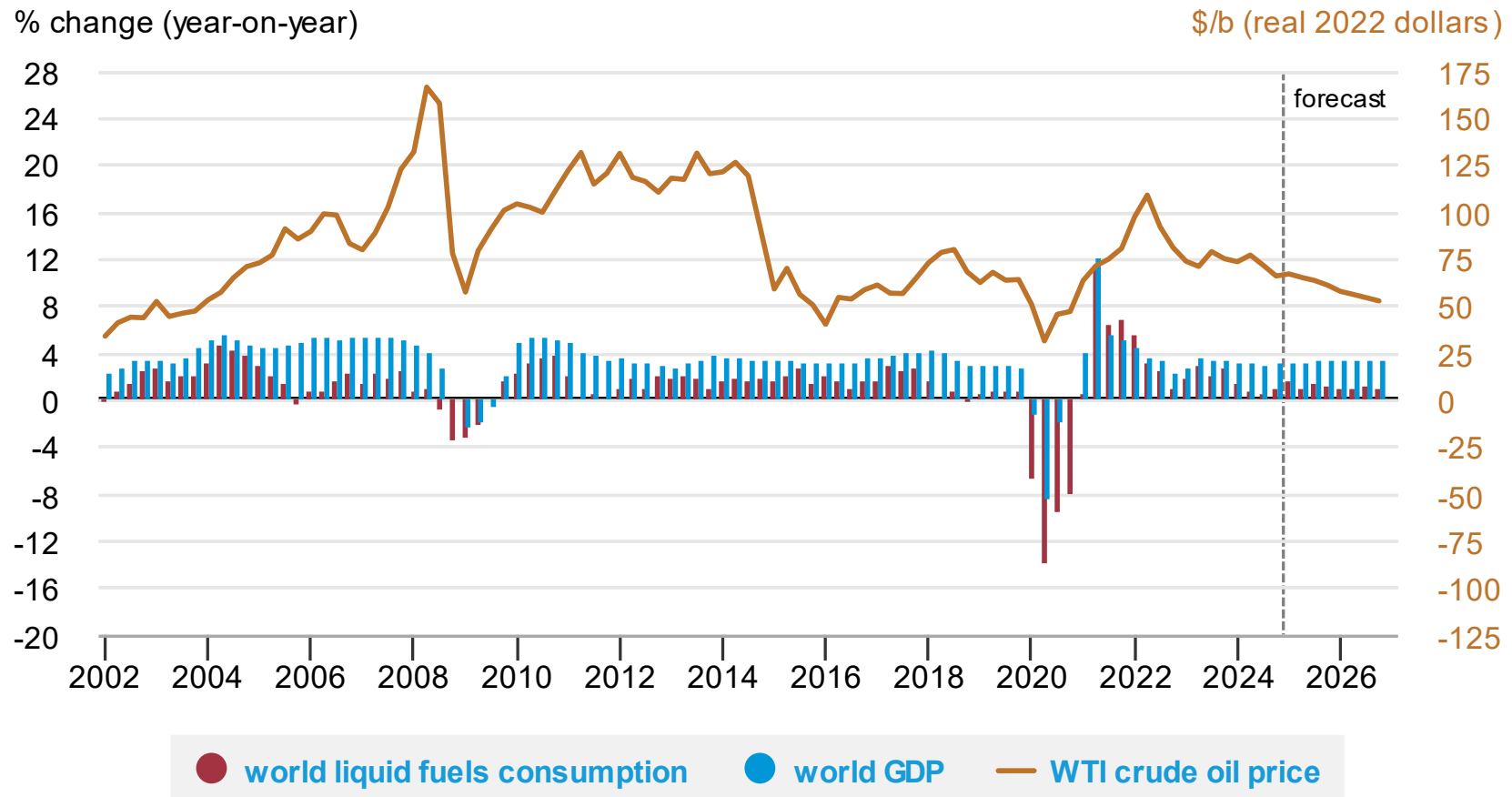
Data source: Oxford Economics

# In OECD countries, price increases have coincided with lower consumption



Data source: Short-Term Energy Outlook

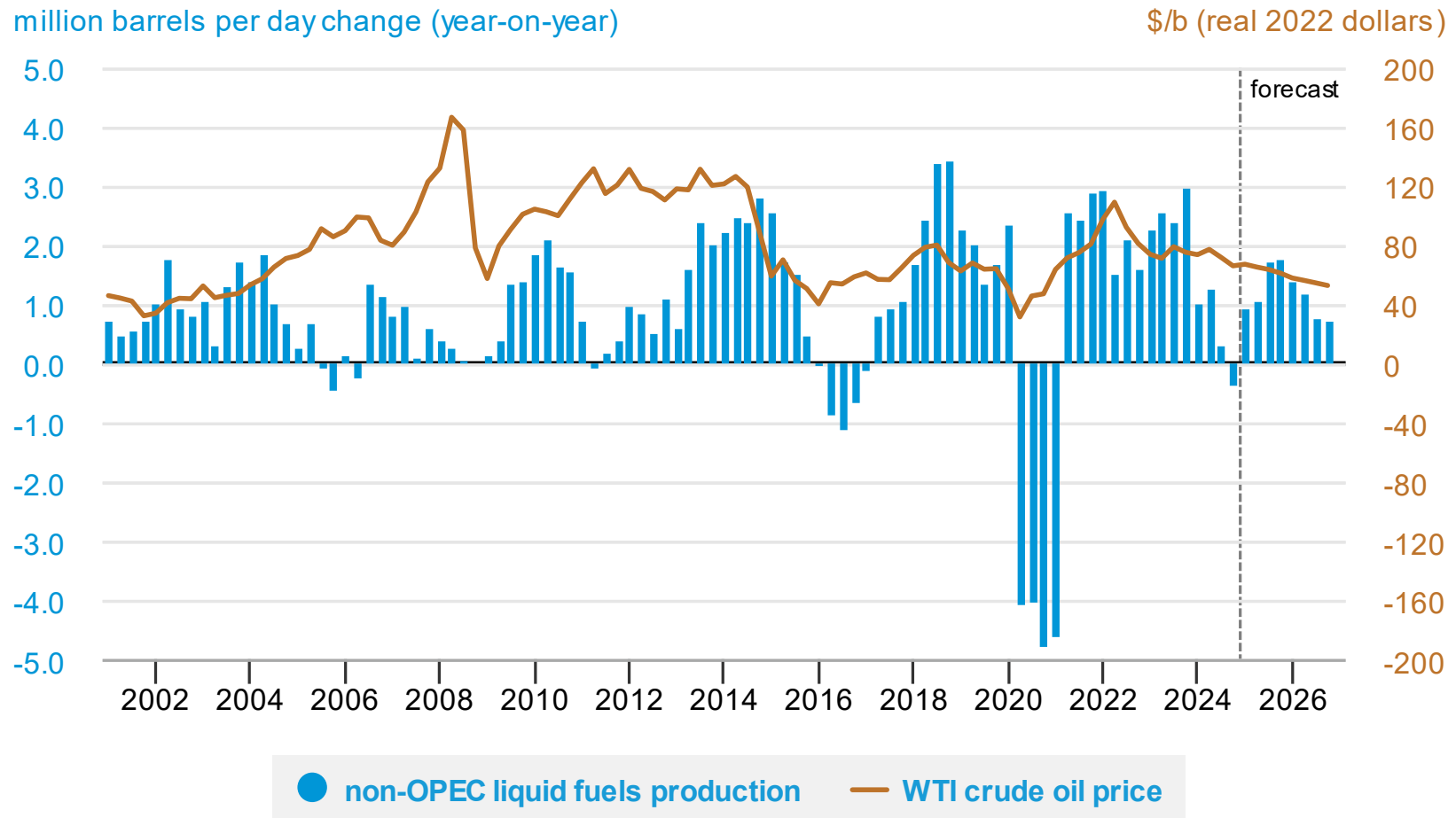
# Rising oil prices held down global oil consumption growth from 2005-2008, despite high economic growth



Data source: Short-Term Energy Outlook



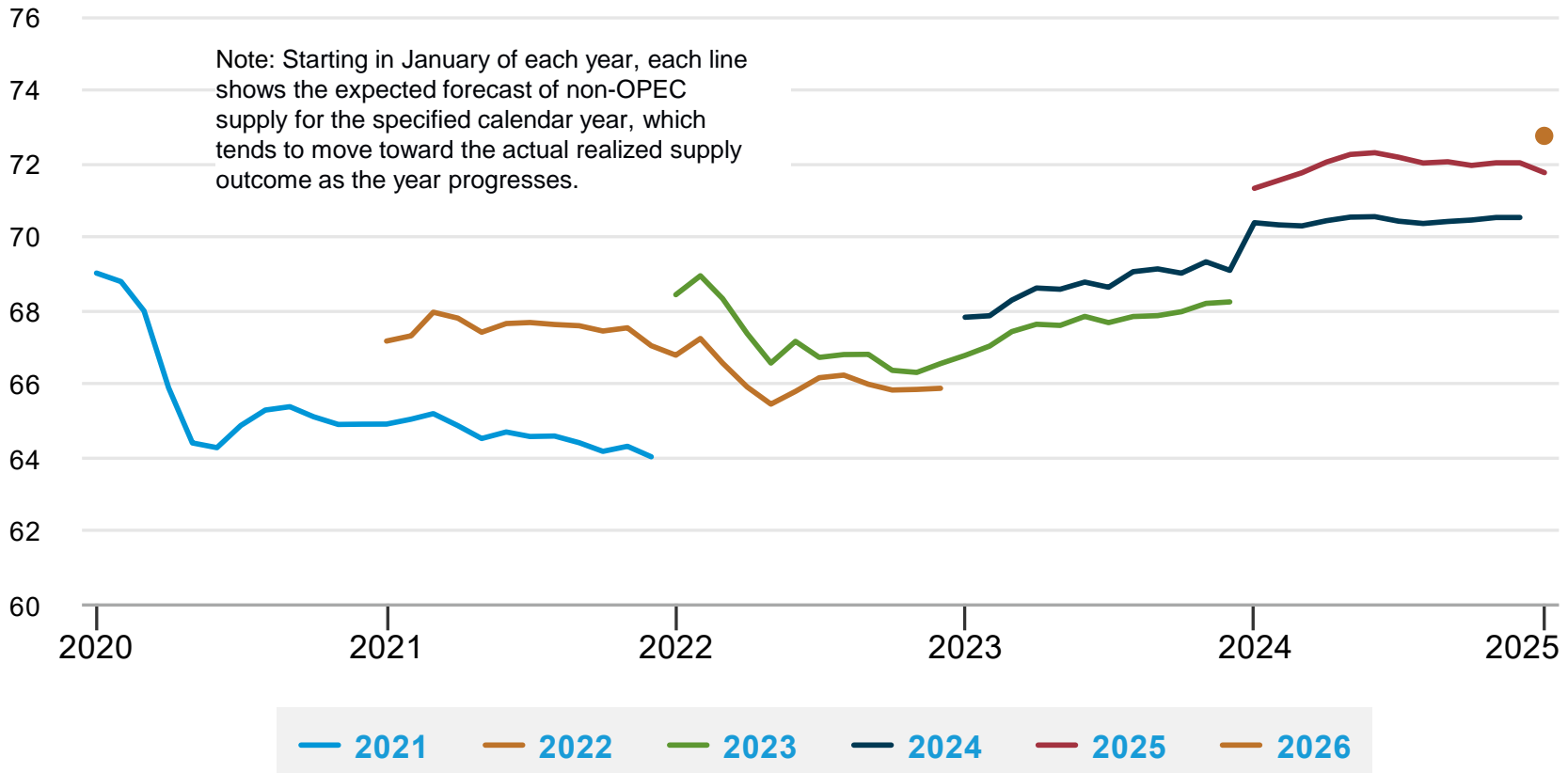
# Changes in non-OPEC production can affect oil prices



Data source: Short-Term Energy Outlook

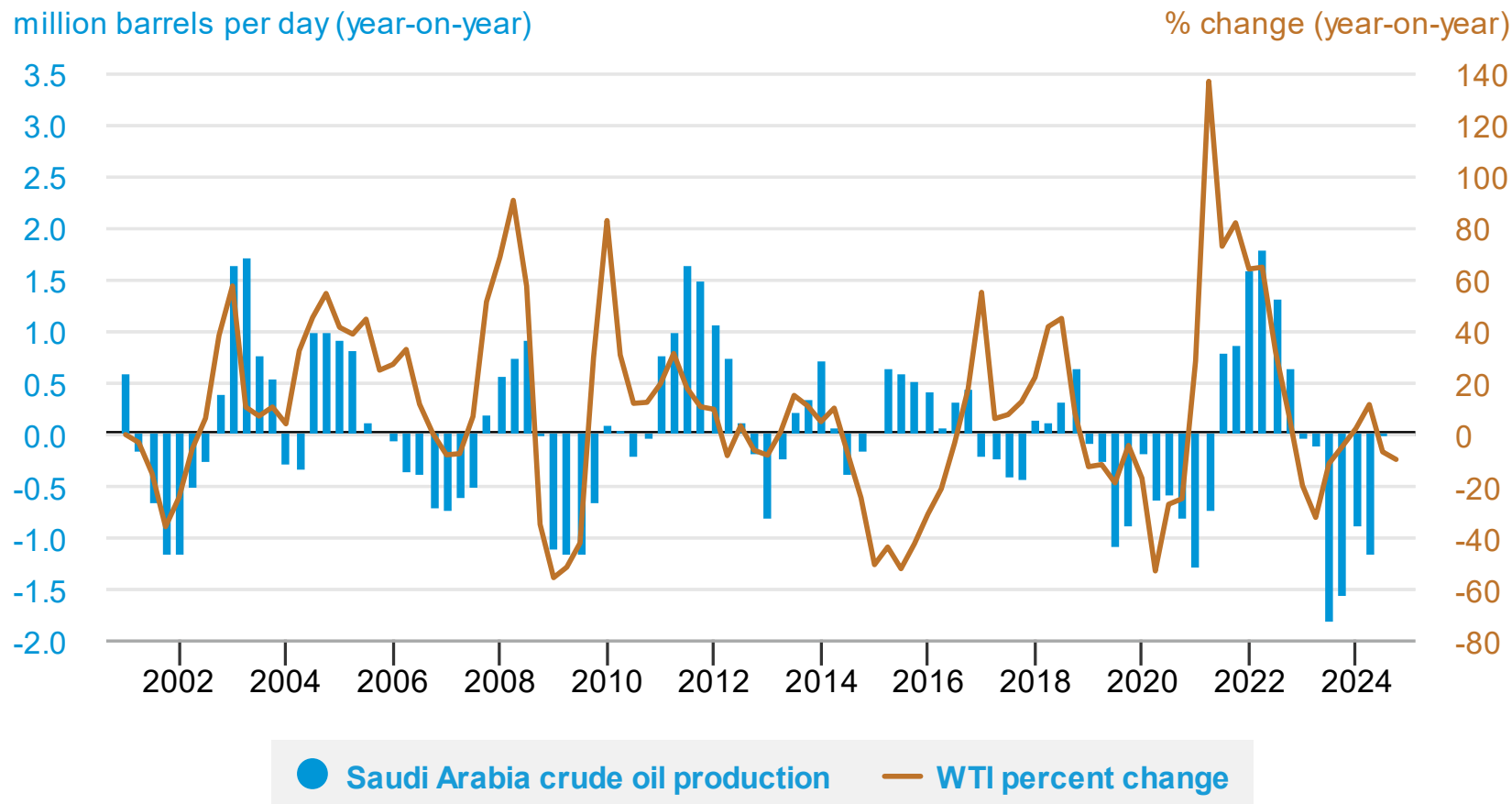
## Non-OPEC supply expectations indicate changes in market sentiment concerning oil supply

million barrels per day (annual expectations)



Data source: Short-Term Energy Outlook

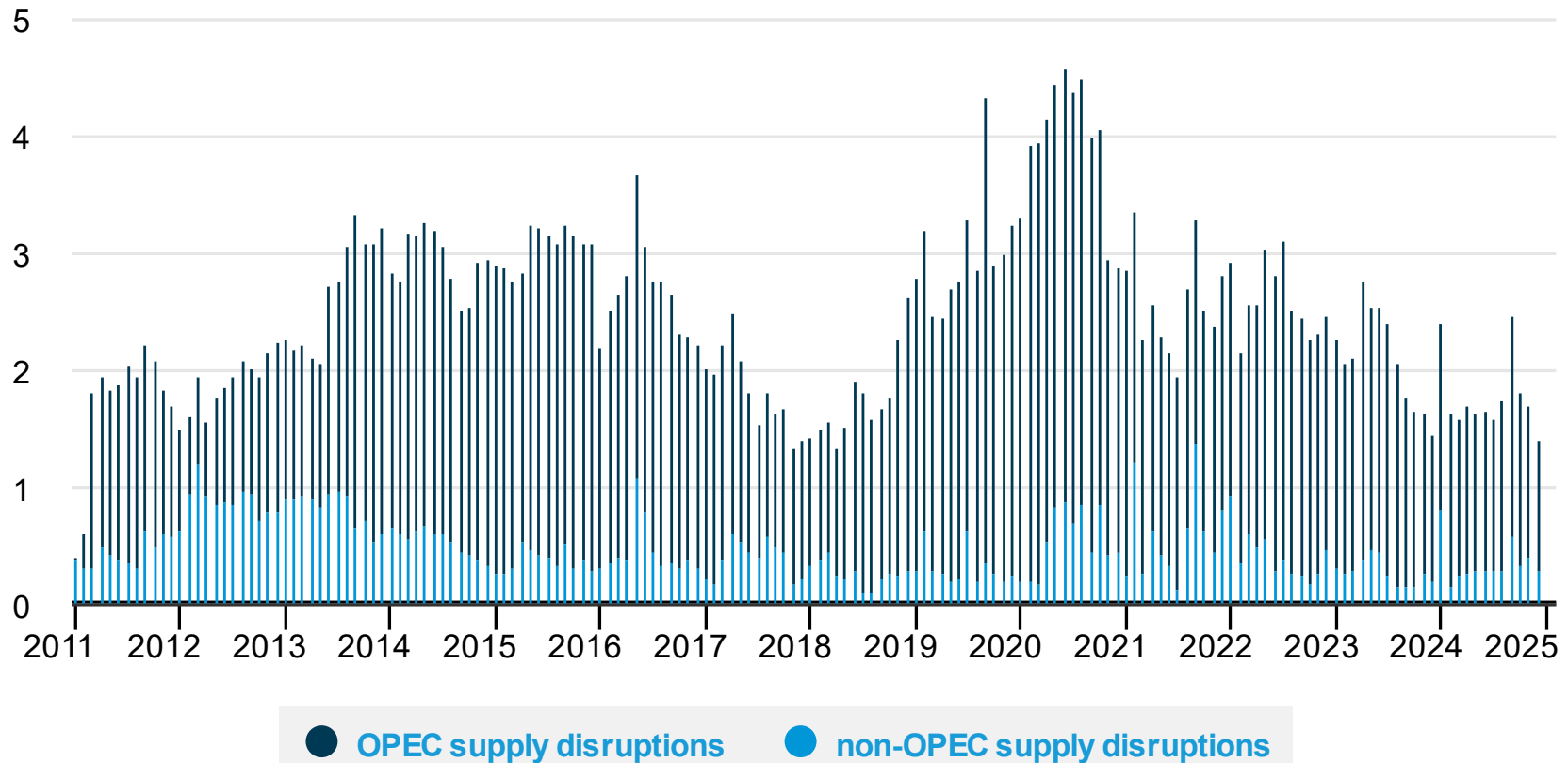
# Changes in Saudi Arabia crude oil production can affect oil prices



Data sources: U.S. Energy Information Administration, Refinitiv An LSEG Business

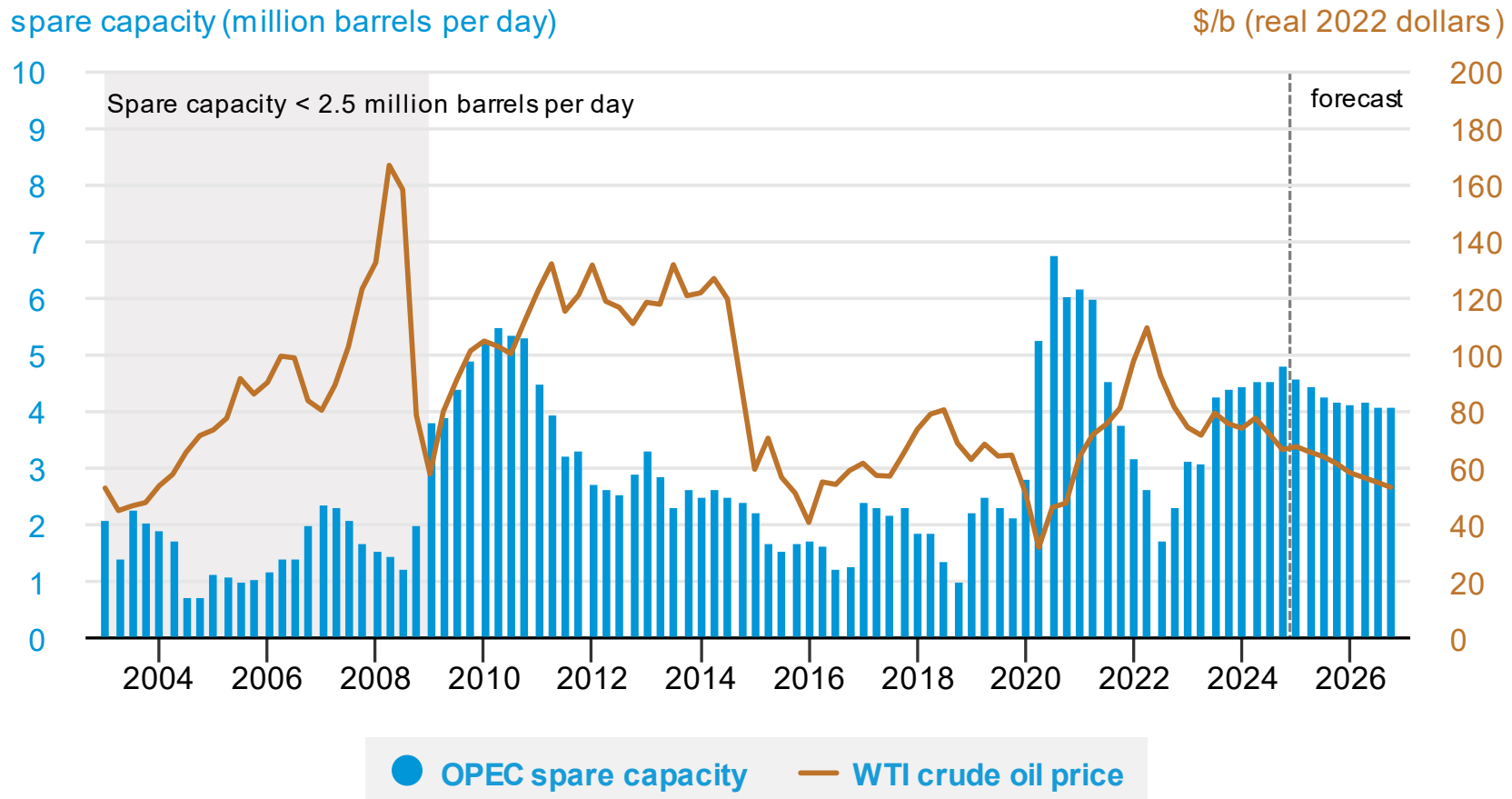
# Unplanned supply disruptions tighten world oil markets and push prices higher

million barrels per day



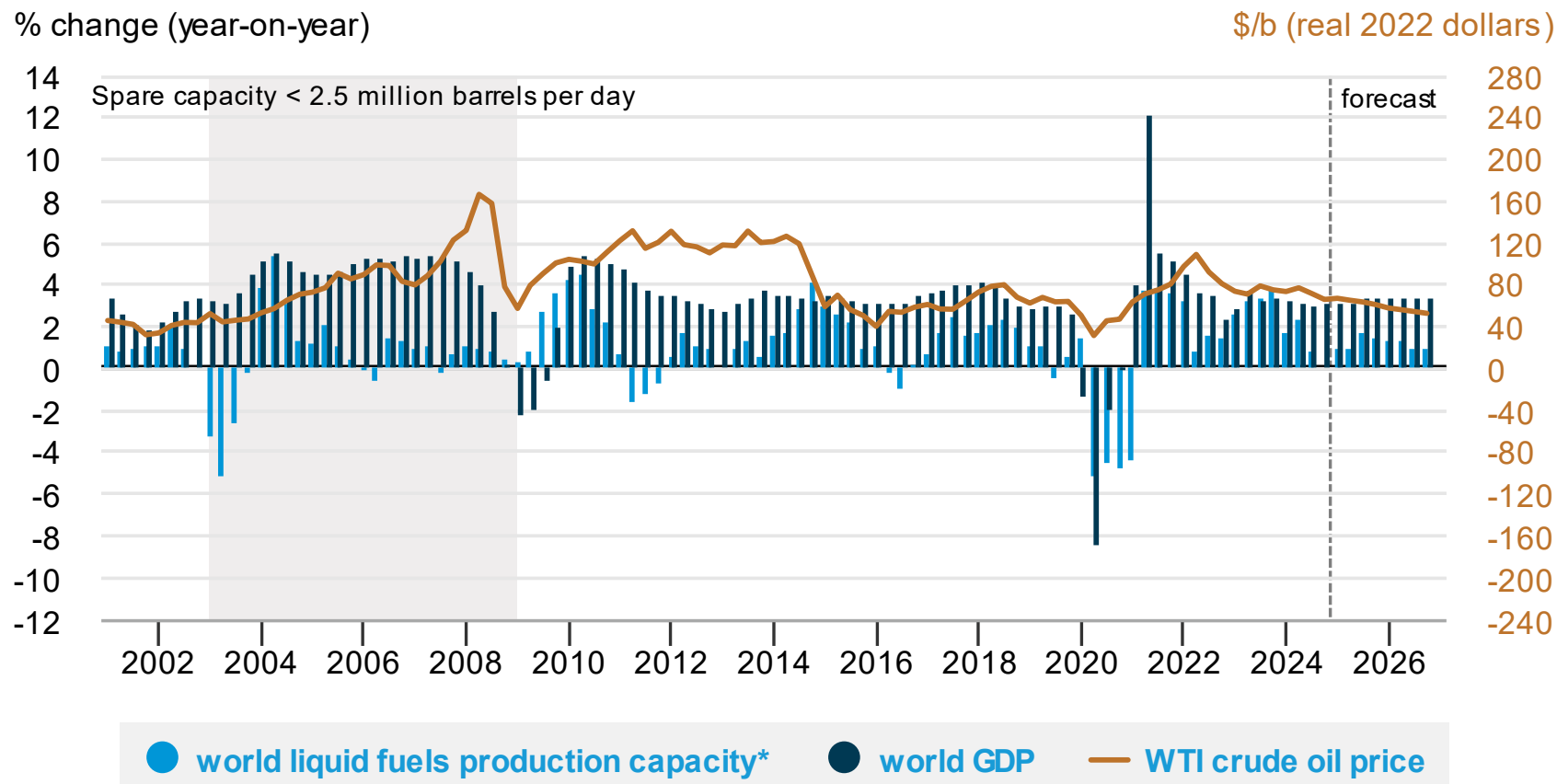
Data sources: U.S. Energy Information Administration

During 2003-2008, OPEC's spare production levels were low, limiting its ability to respond to demand and price increases



Data source: Short-Term Energy Outlook

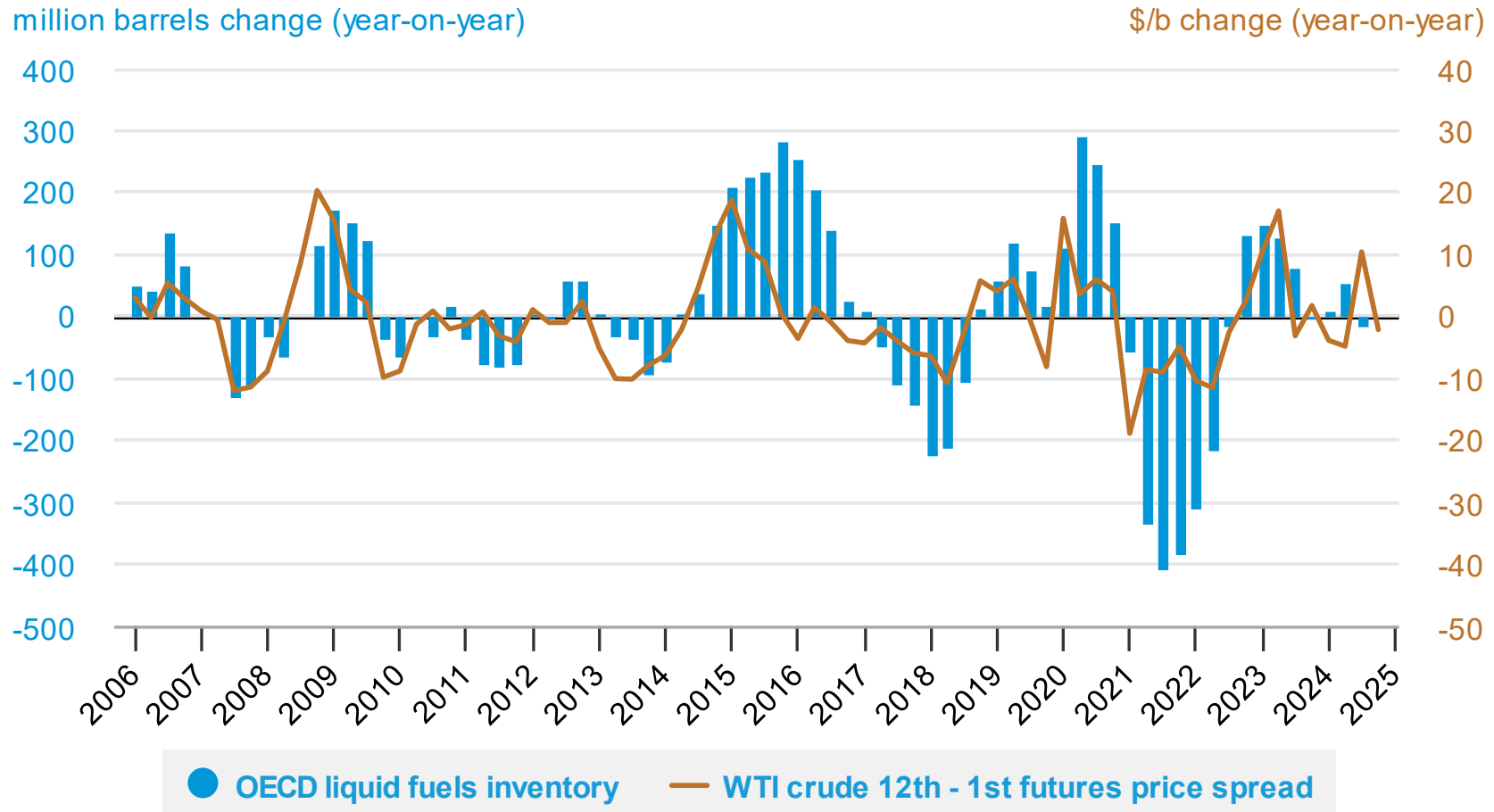
The years 2003-2008 experienced periods of very strong economic and oil demand growth, slow supply growth and tight spare capacity



Data source: Short-Term Energy Outlook

\*World Capacity = OPEC capacity plus non-OPEC production

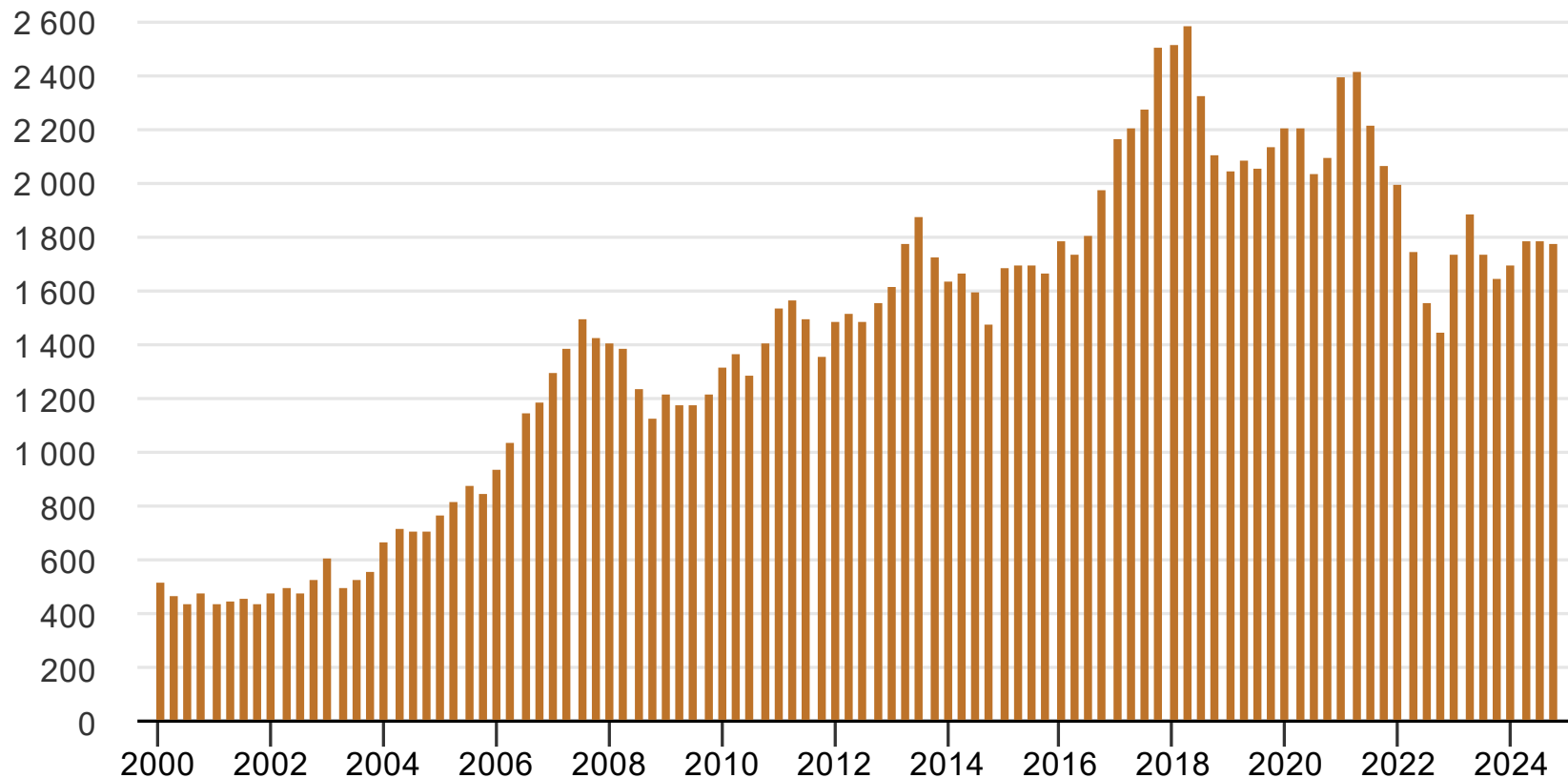
# Inventory builds go hand-in-hand with increases in future oil prices *relative to current prices (and vice versa)*



Data source: Short-Term Energy Outlook

## Open interest in crude oil futures grew over the last decade as more participants entered the market

number of contracts (thousands)

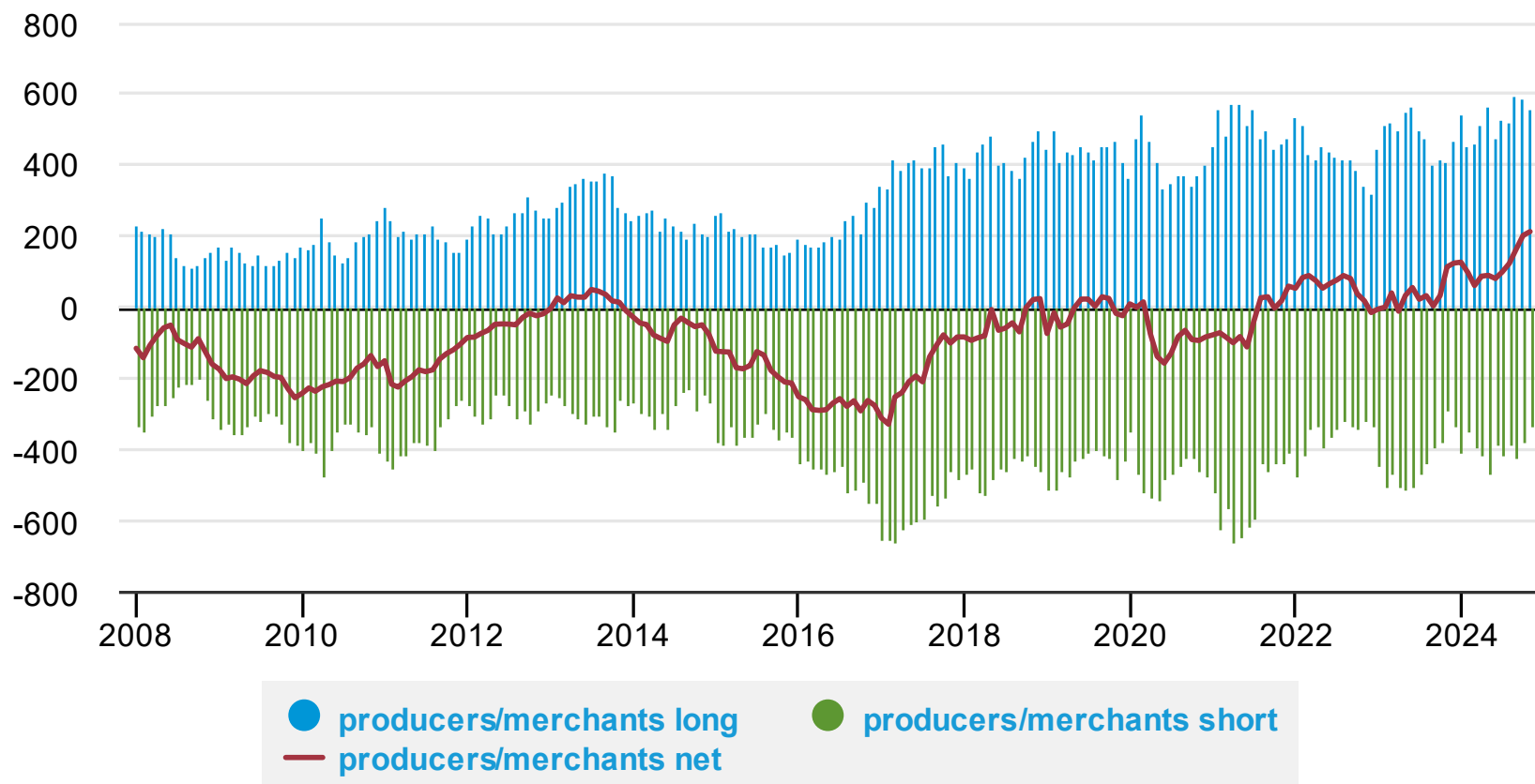


Data source: Bloomberg



# Physical participants' (producers, merchants, processors, and end users) U.S. futures market contract positions

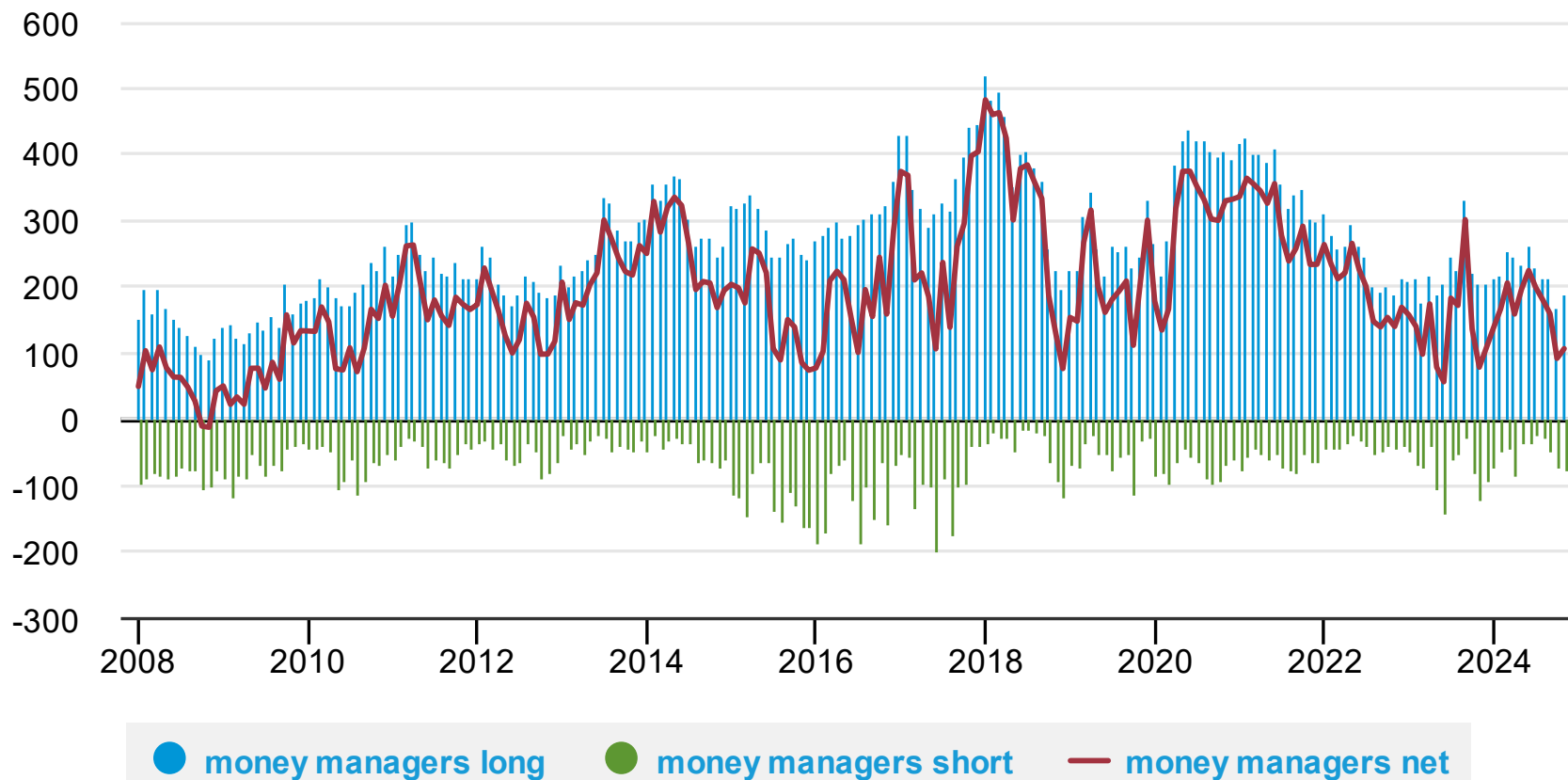
number of contracts (thousands)



Data source: Commodity Futures Trading Commission, Commitments of Traders

## Money managers tend to be net long in the U.S. oil futures market

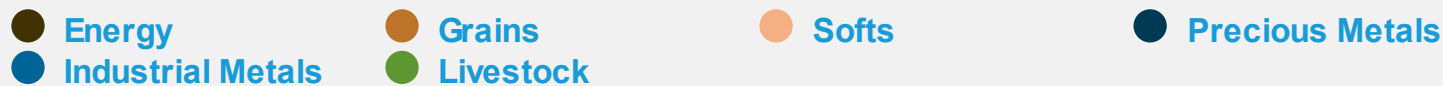
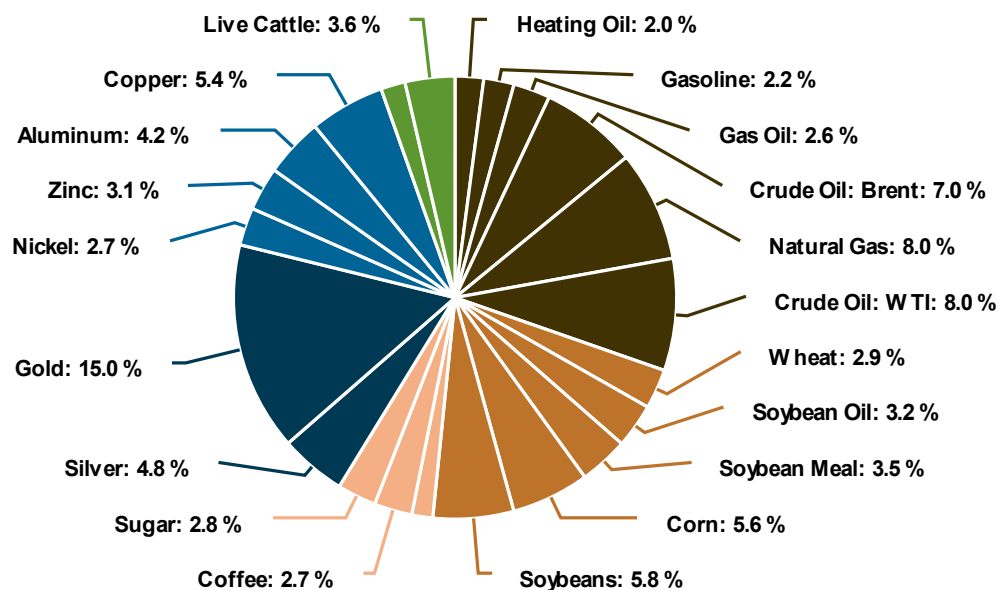
number of contracts (thousands)



Data source: Commodity Futures Trading Commission, Commitments of Traders

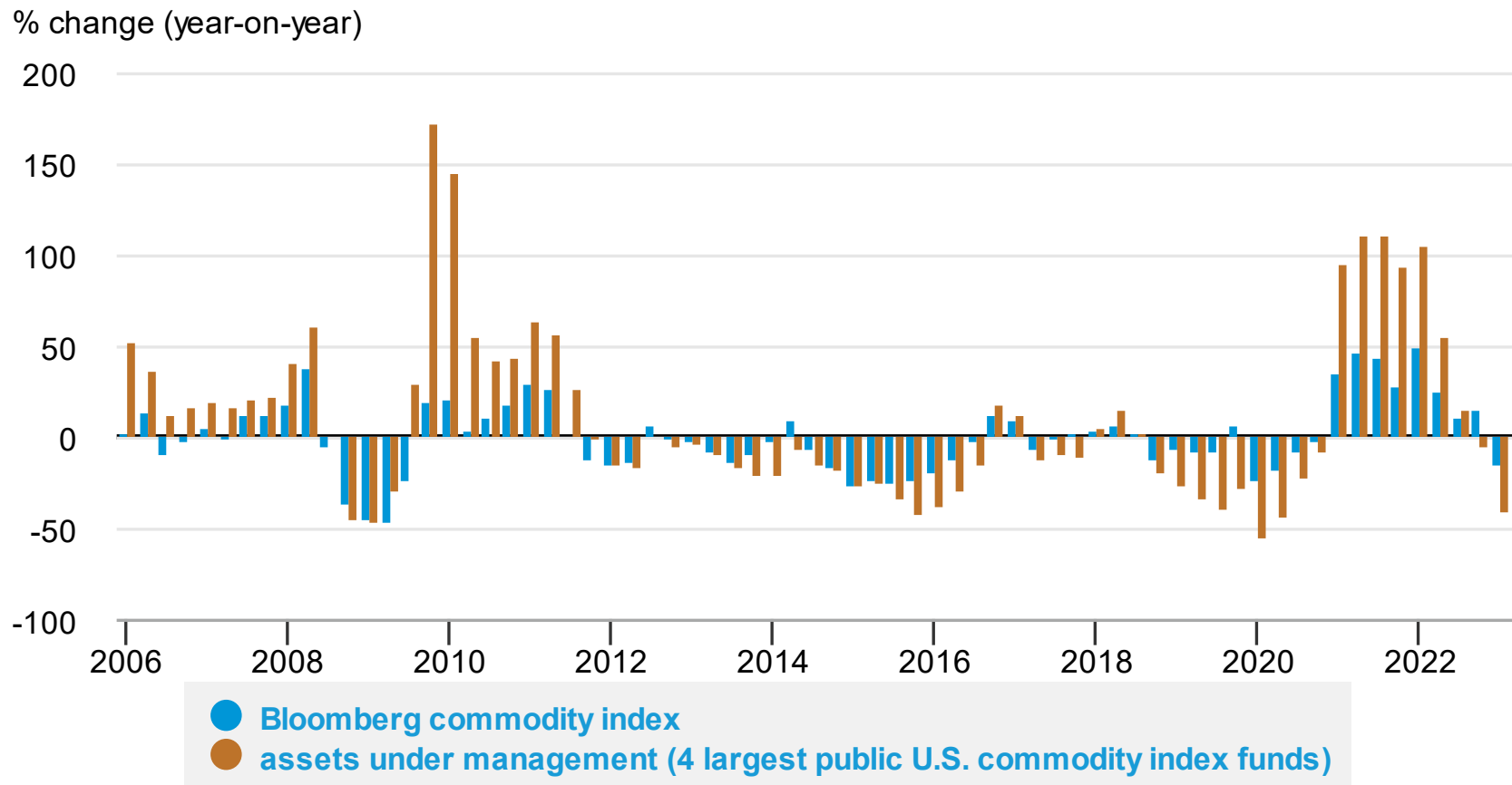
# Crude oil plays a major role in commodity investment

Commodity index assets under management and Bloomberg commodity index level



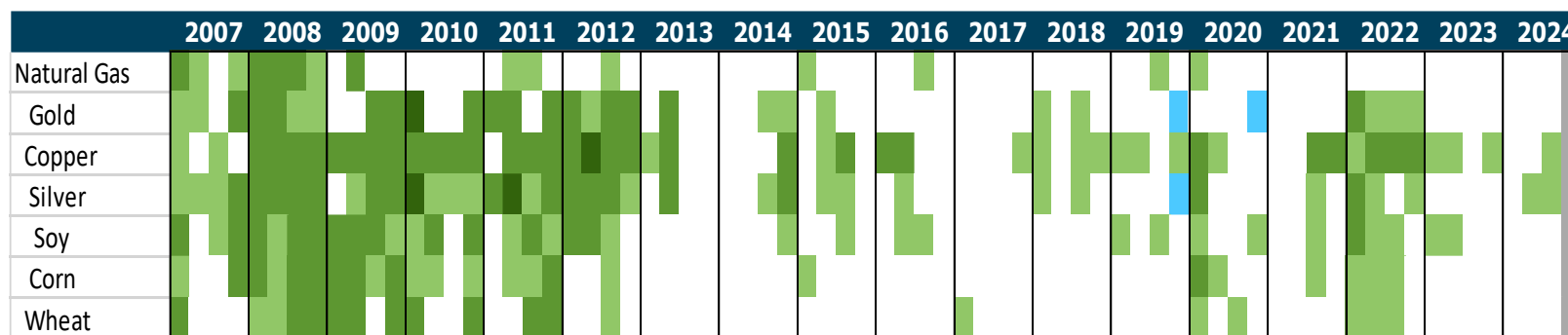
Data source: Bloomberg

# Commodity index investment flows have tended to move together with commodity prices



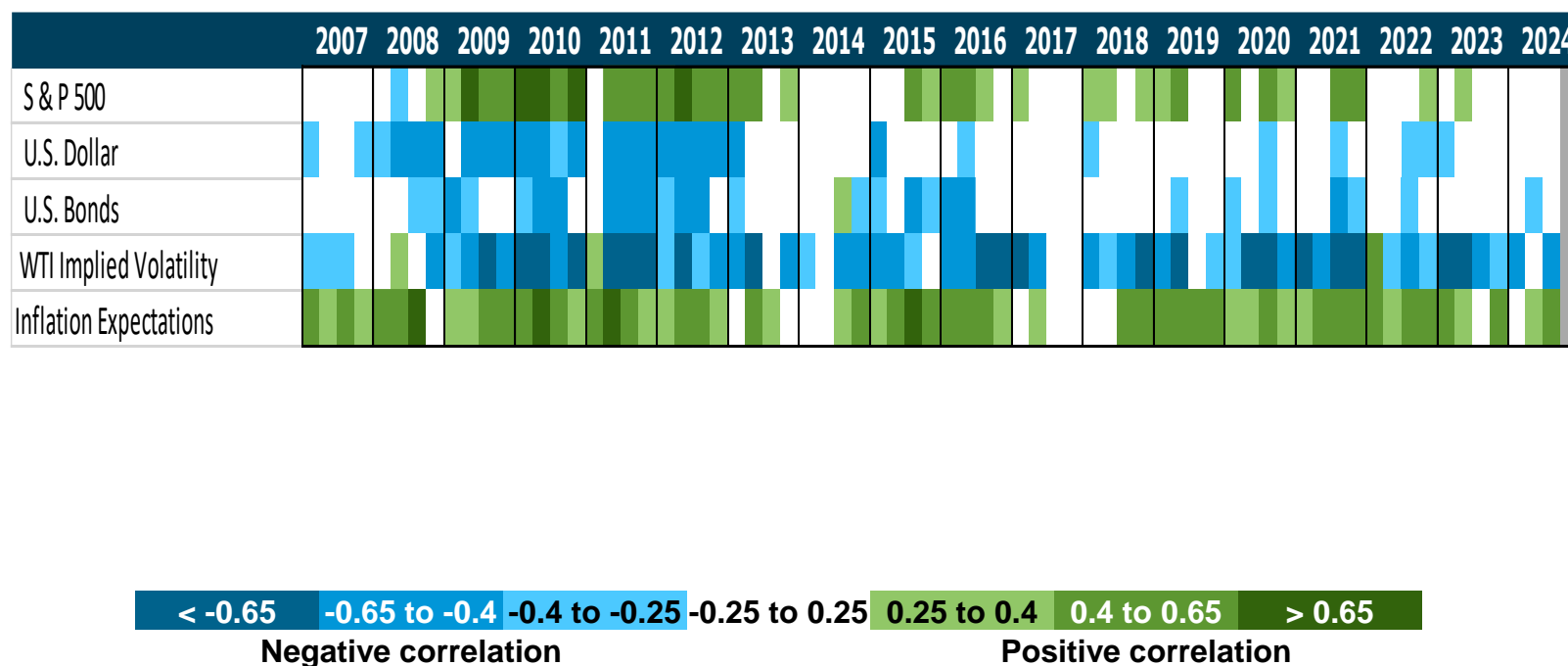
Data source: Bloomberg

## Correlations (+ or -) between daily price changes of crude oil futures and other commodities generally rose in recent years



Note: Correlations computed quarterly

## Correlations (+ or -) between daily returns on crude oil futures and financial investments have also strengthened



*Note: Correlations computed quarterly*

# For more information

U.S. Energy Information Administration home page | [www.eia.gov](http://www.eia.gov)

Short-Term Energy Outlook | [www.eia.gov/steo](http://www.eia.gov/steo)

Annual Energy Outlook | [www.eia.gov/aeo](http://www.eia.gov/aeo)

International Energy Outlook | [www.eia.gov/ieo](http://www.eia.gov/ieo)

Monthly Energy Review | [www.eia.gov/mer](http://www.eia.gov/mer)

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