

Global economy

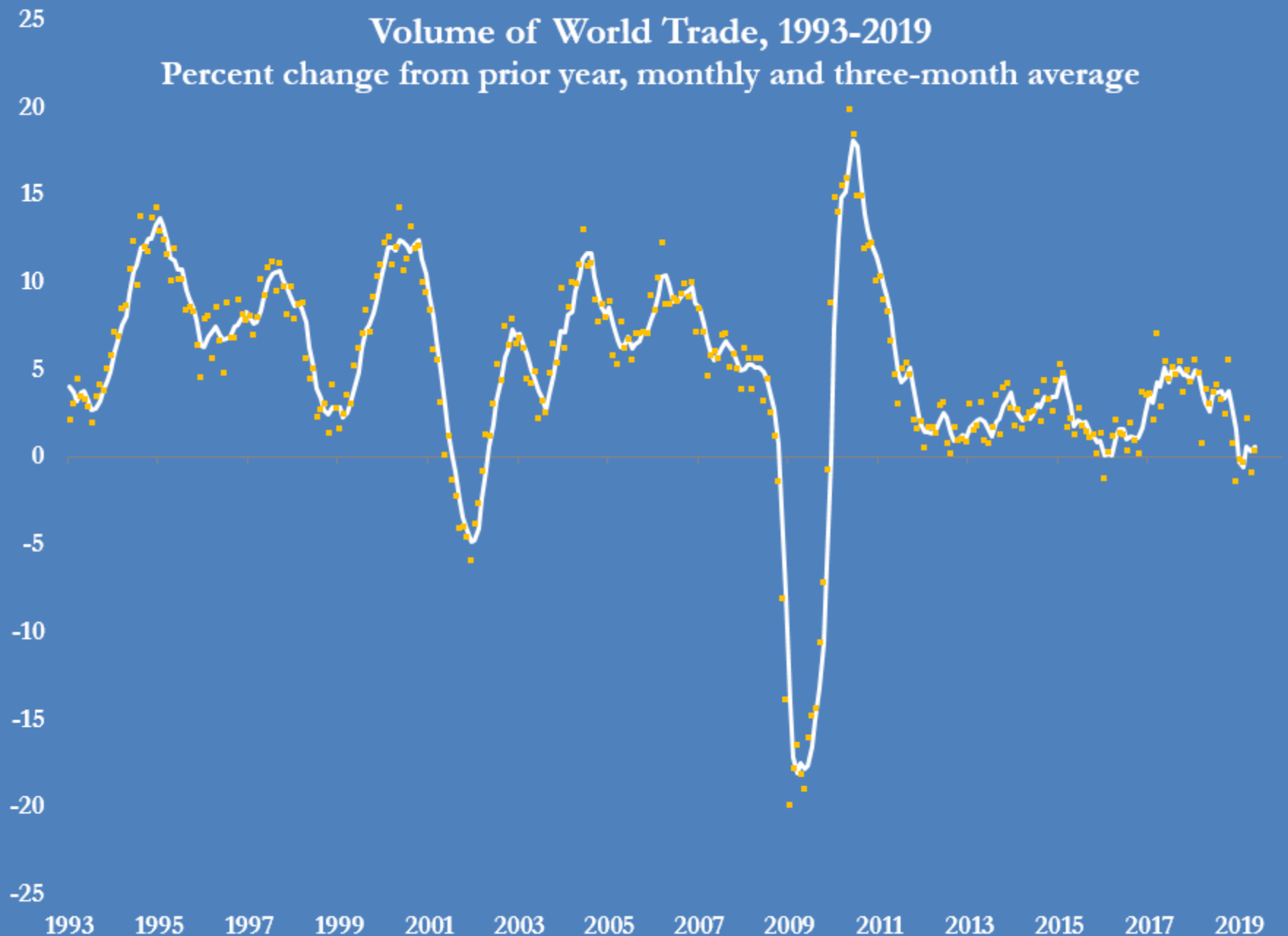
Compendium of cyclical indicators

JOHN KEMP
REUTERS

7 August 2019

Volume of World Trade, 1993-2019

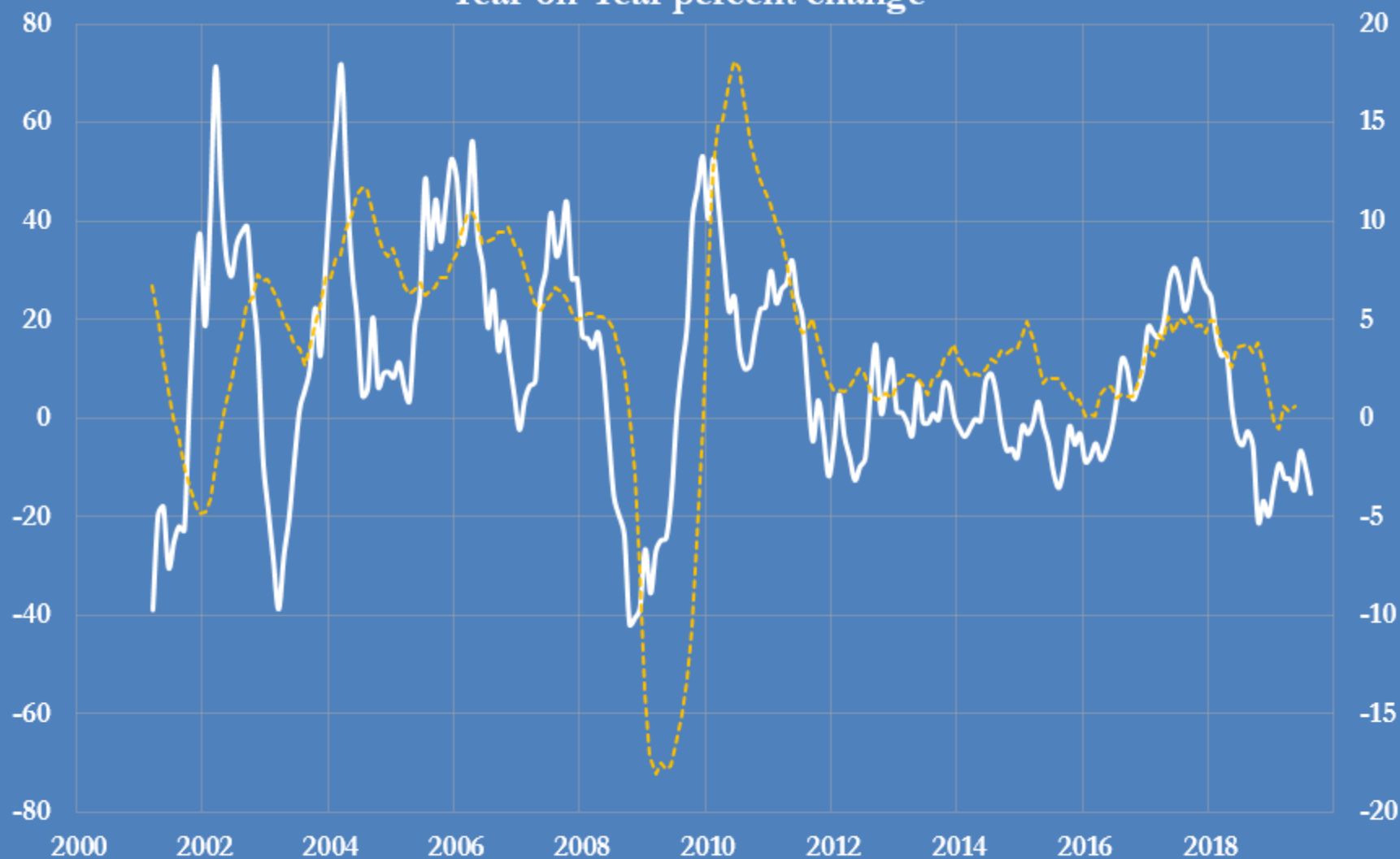
Percent change from prior year, monthly and three-month average



Source: Netherlands Bureau for Economic Policy Analysis, *World Trade Monitor*

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South Korea's KOSPI 100 equity index and world trade Year-on-Year percent change

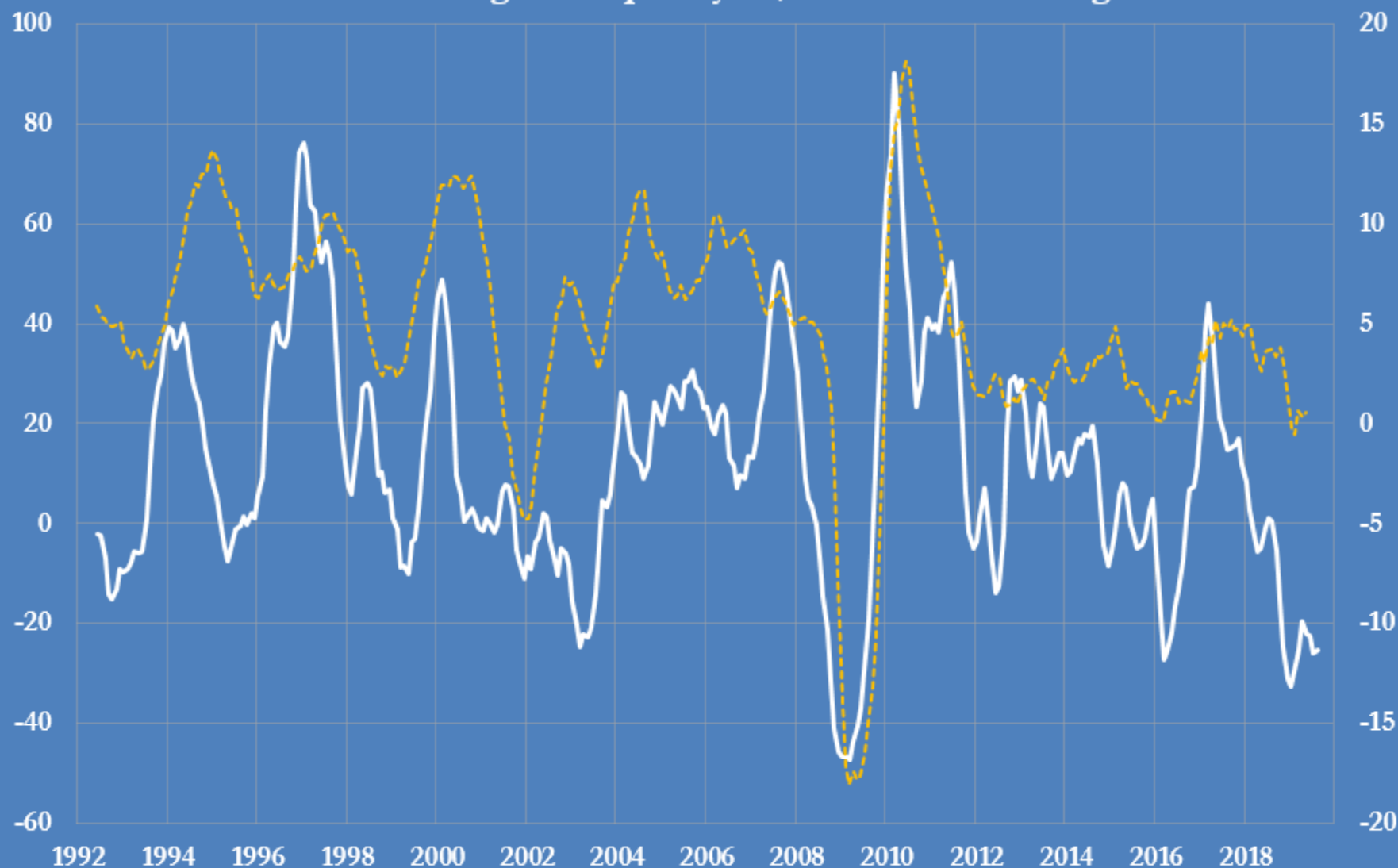


— KOSPI 100 share index (YoY percent change) (left-axis)
- - - World trade volumes (YoY percent change) (right-axis)

Source: CPB, Refinitiv Eikon
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BASF share price and world trade volumes, 1992-2019

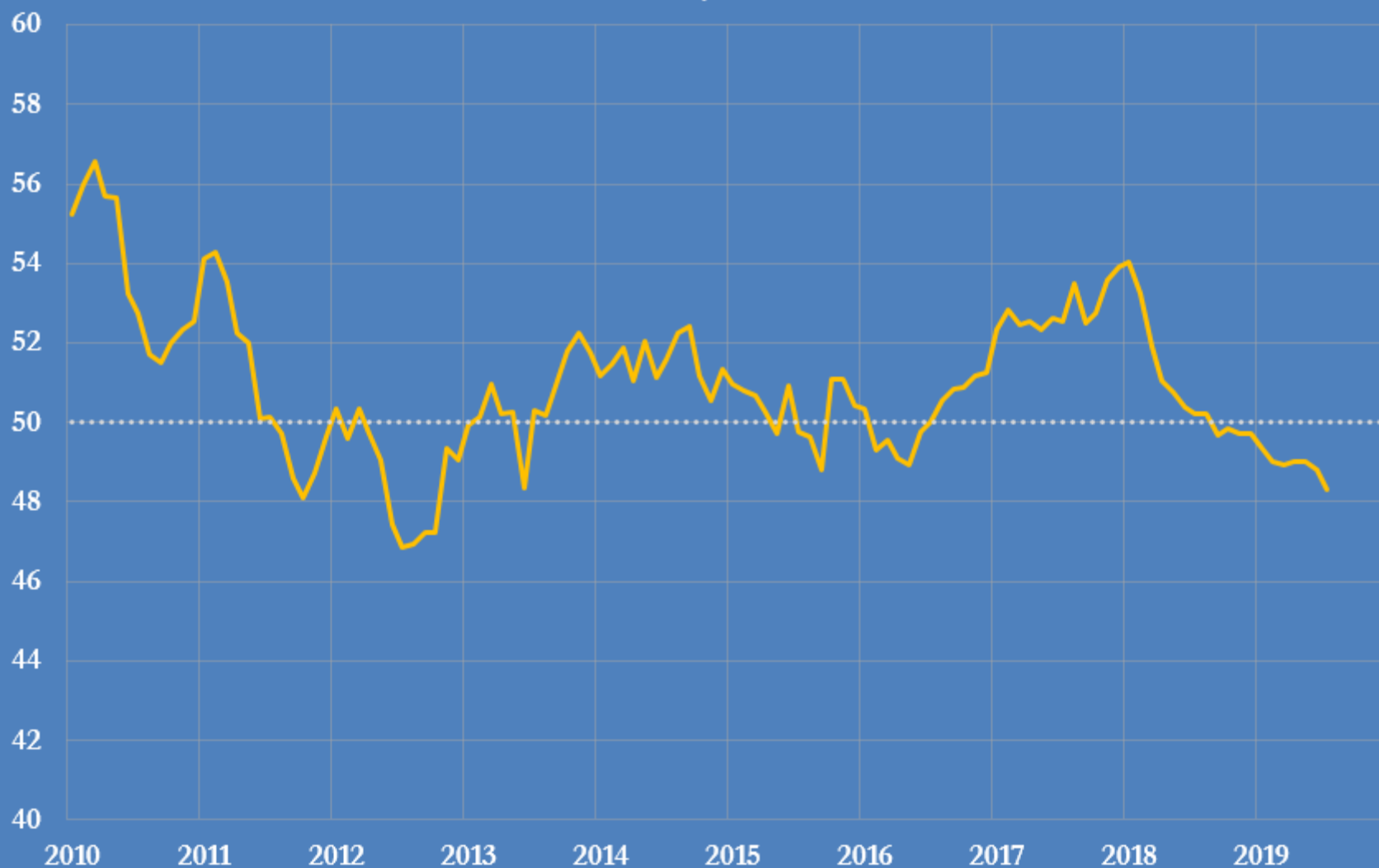
Percent change from prior year, three-month average



— BASF share price (left-axis)
- - - World trade volume (right-axis)

Source: CPB, Deutsche Borse
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JPMorgan Global PMI New Export Orders Sub-index, 2010-2019

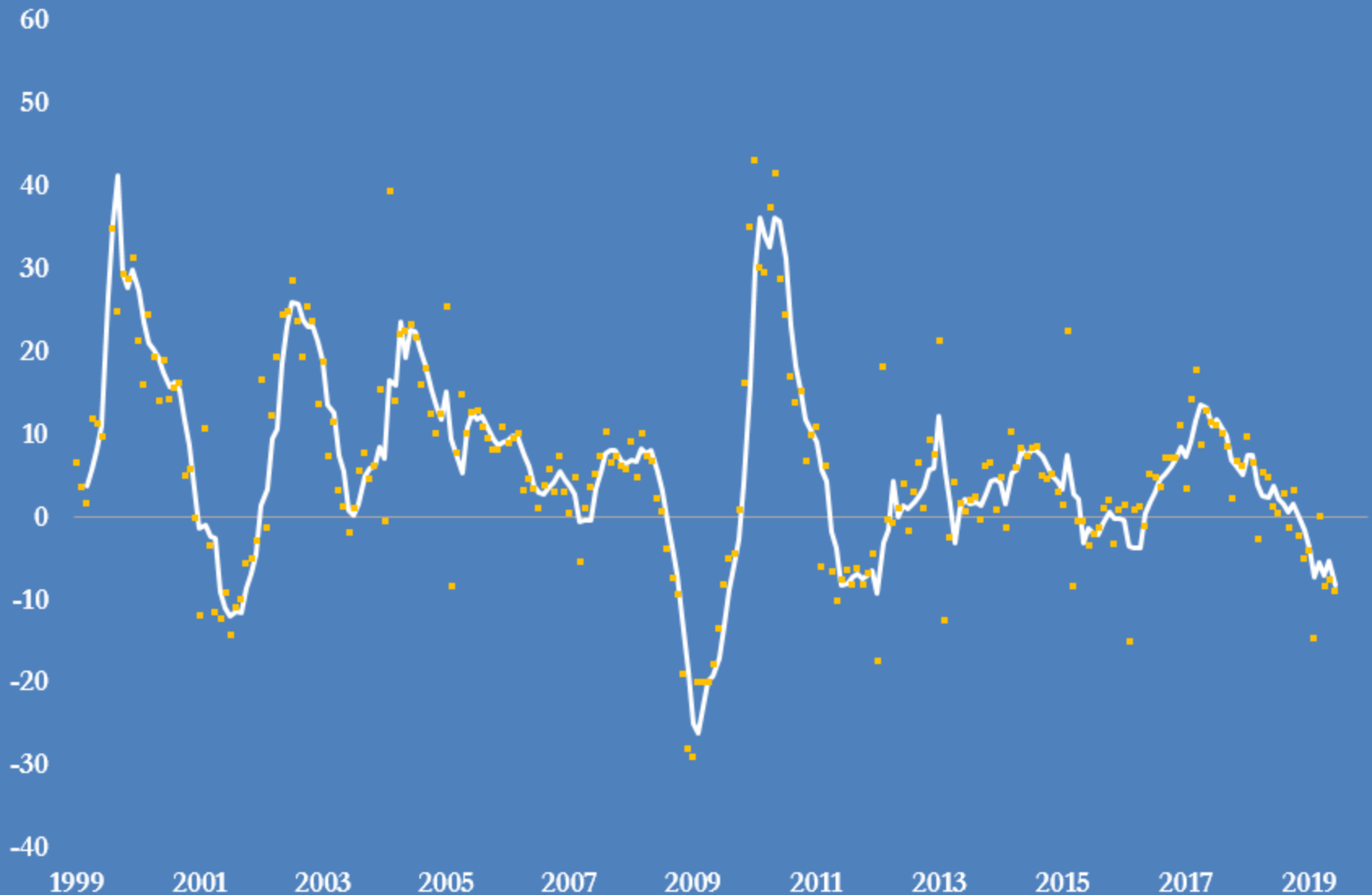


Source: Refinitiv Datastream

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Hong Kong air freight volume, 1999-2019

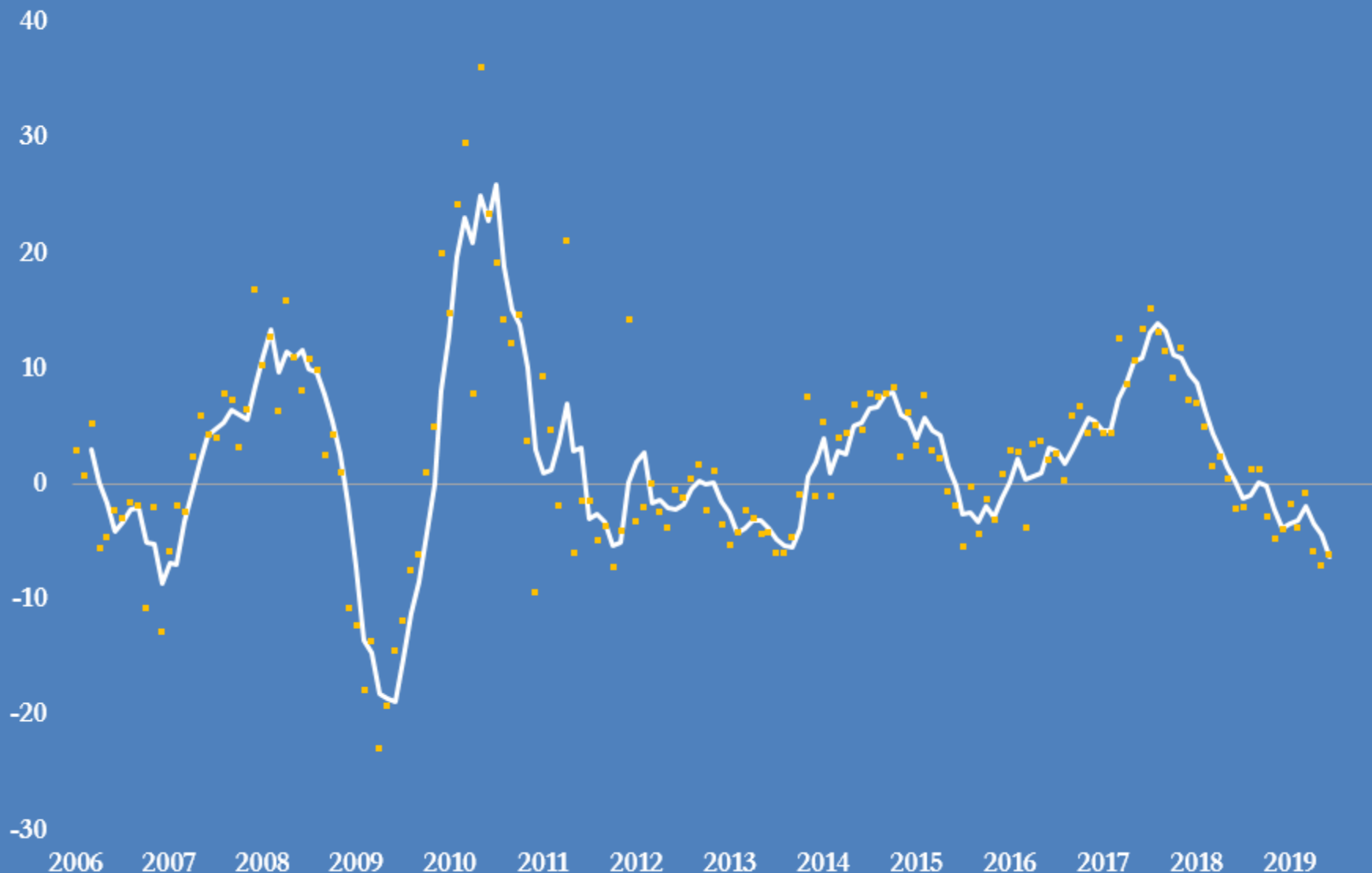
Percent change compared with prior year, monthly and 3-month average



Source: Civil Aviation Department of Hong Kong Special Administrative Region
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London Heathrow air freight volume, 2006-2019

percent change compared with prior year, monthly and 3-month average

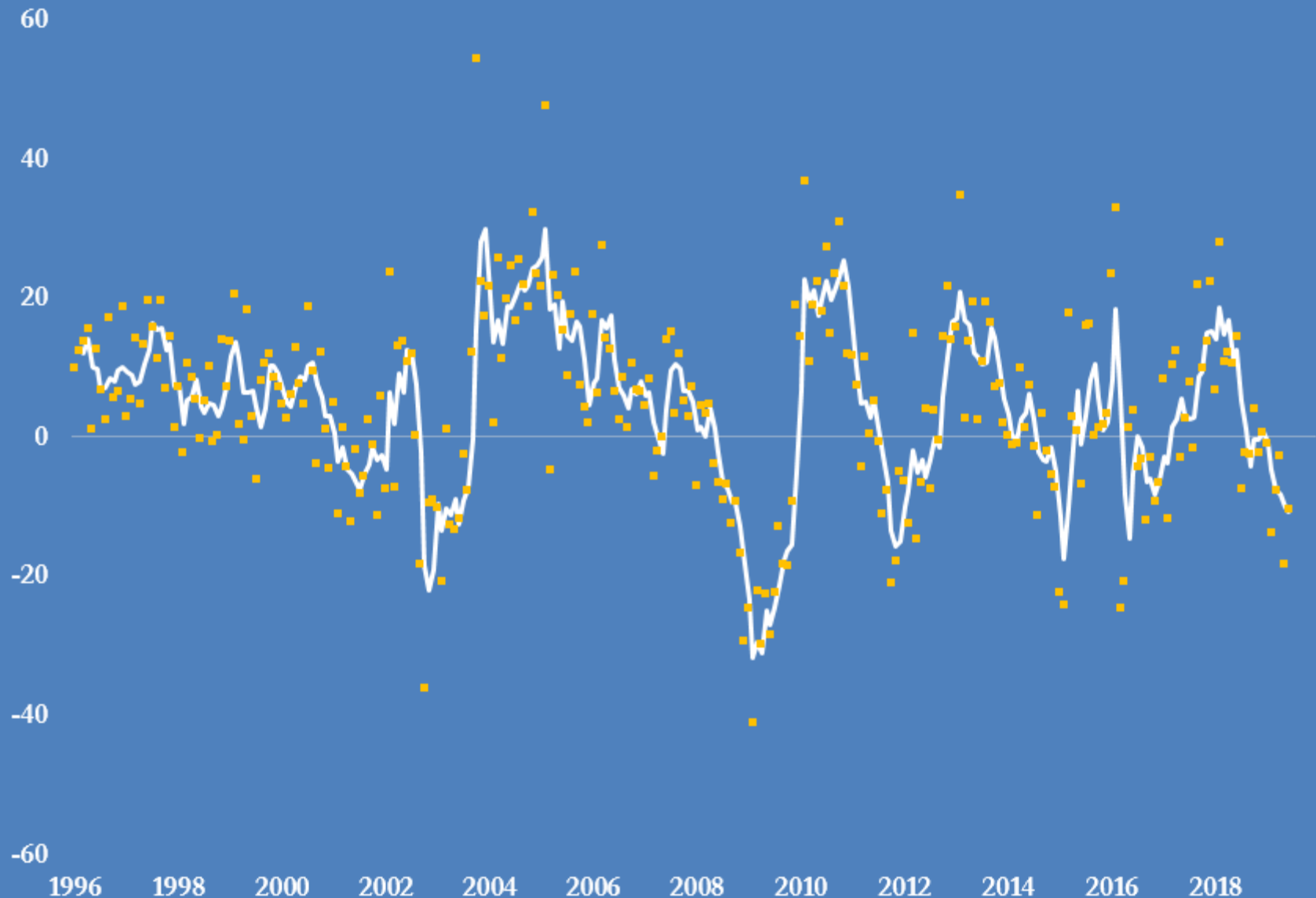


Source: Heathrow Airport Limited

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Port of Long Beach container throughput, 1996-2019

Percent change from previous year, monthly and 3-month average

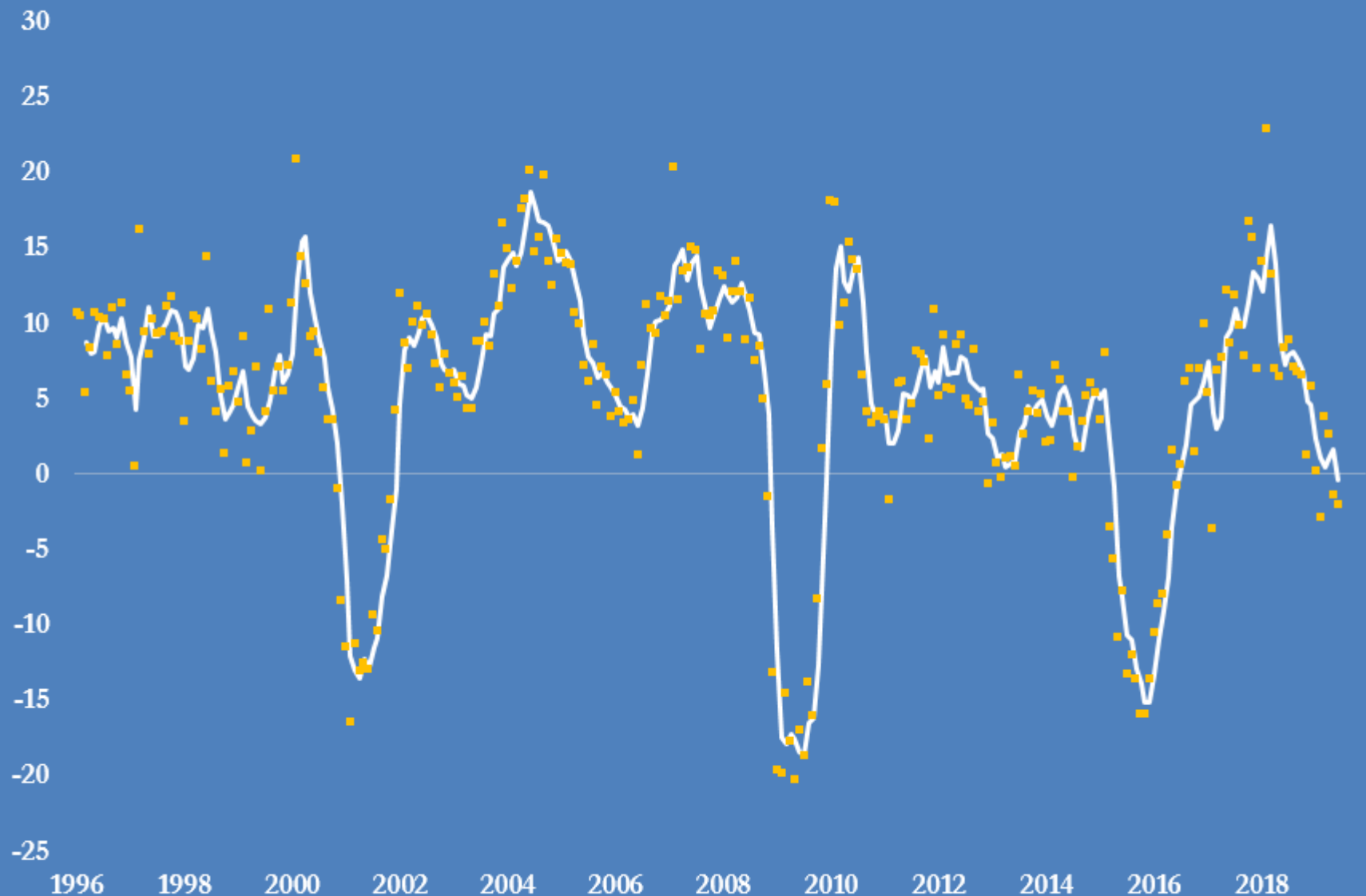


Source: Port of Long Beach

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Singapore container throughput, 1996-2019

Percent change from prior year, monthly and 3-month average

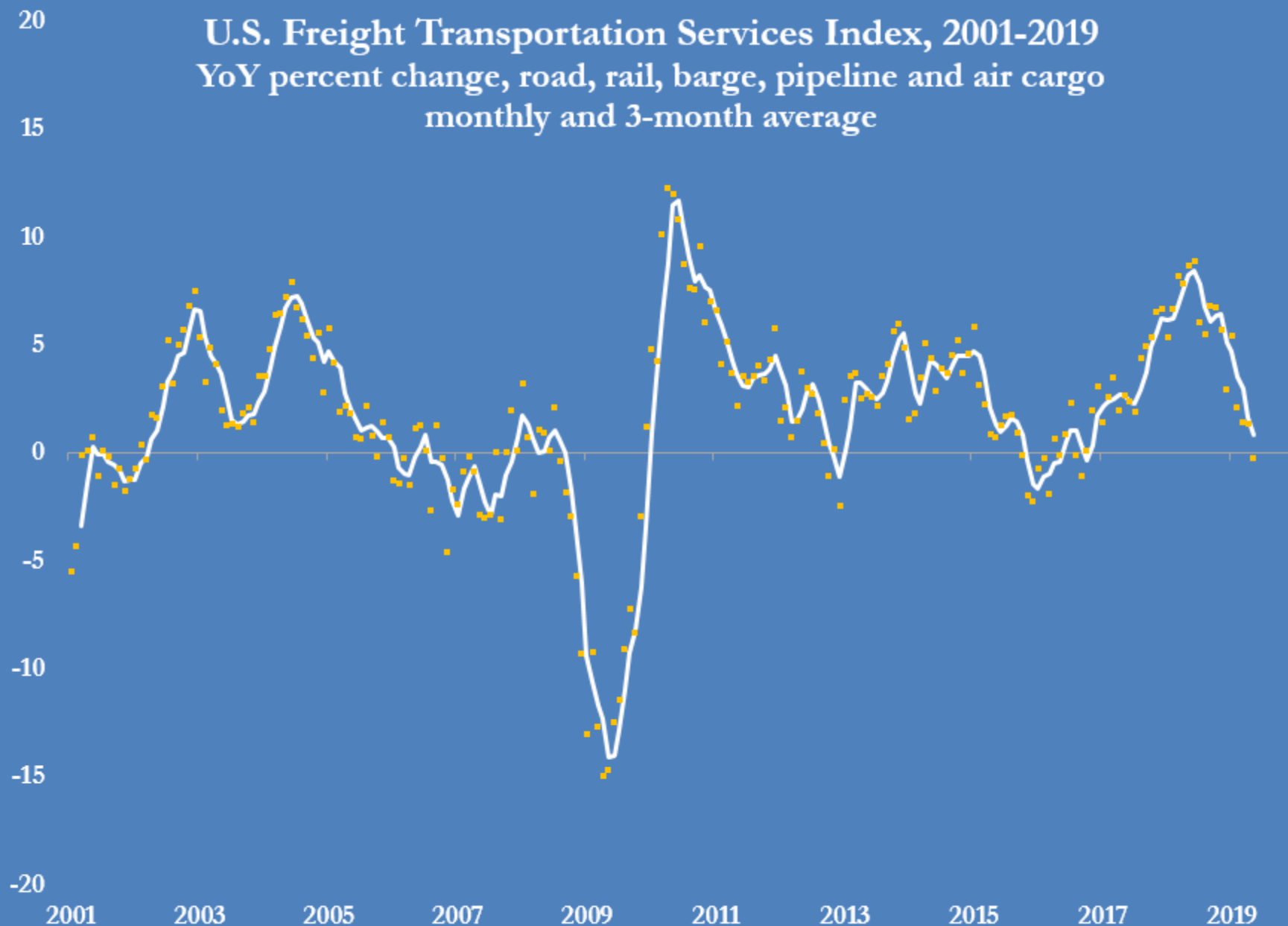


Source: Maritime and Port Authority of Singapore

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U.S. Freight Transportation Services Index, 2001-2019

YoY percent change, road, rail, barge, pipeline and air cargo
monthly and 3-month average

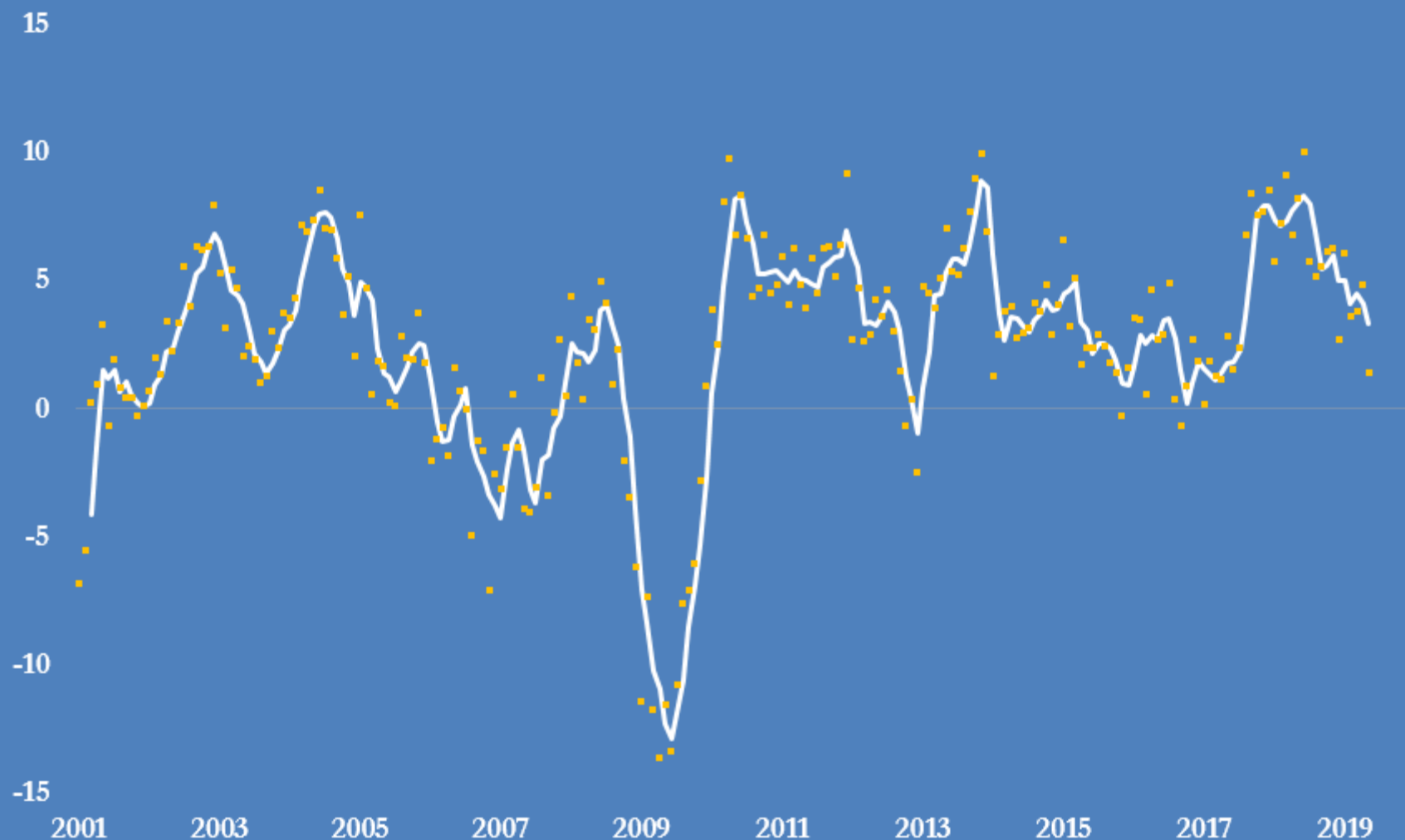


Source: U.S. Bureau of Transportation Statistics

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U.S. freight truck tonnage, 2001-2019

Percent change compared with prior year
Individual months and 3-month running average

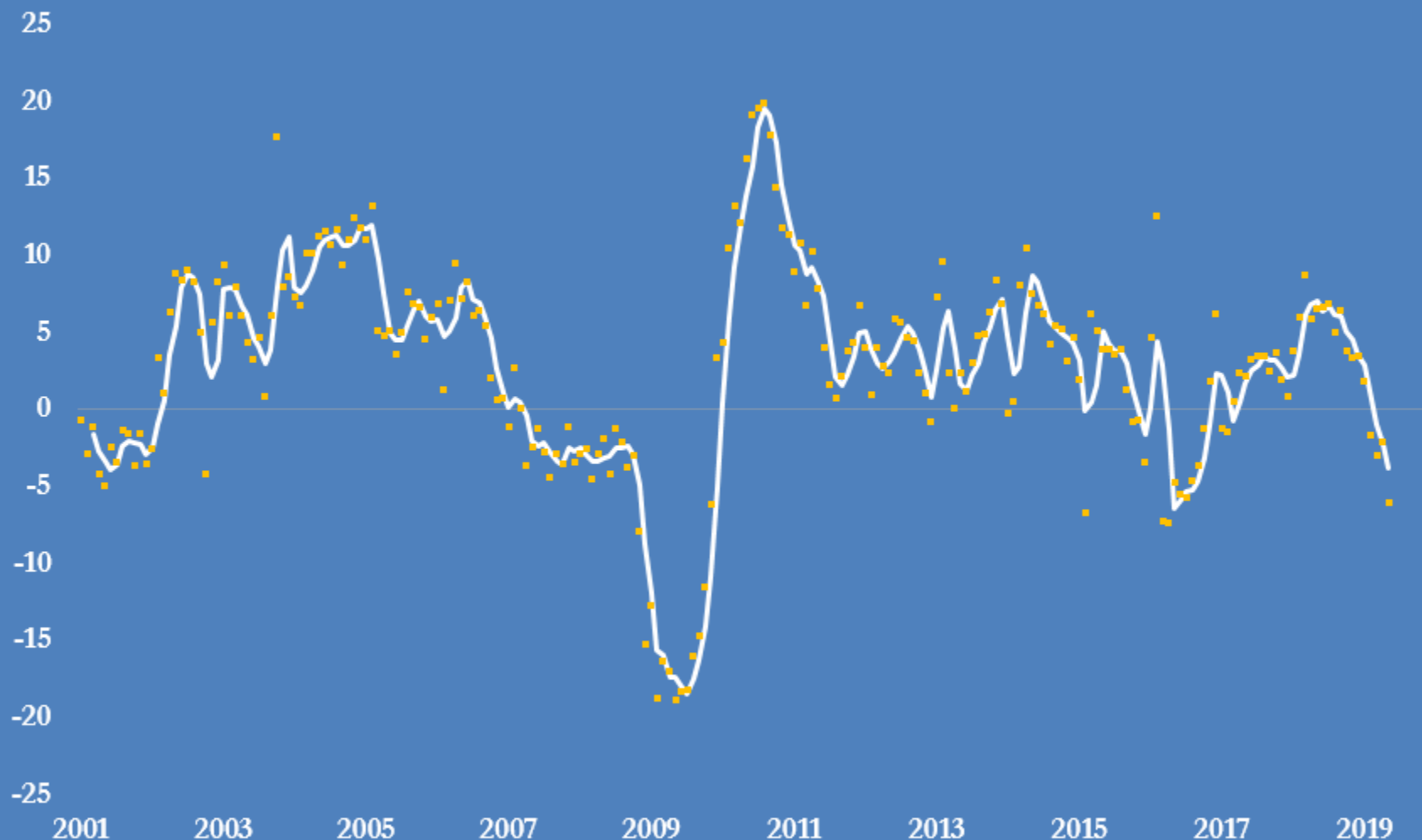


Source: American Trucking Associations via U.S. Bureau of Transportation Statistics

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U.S. intermodal rail freight, 2001-2019

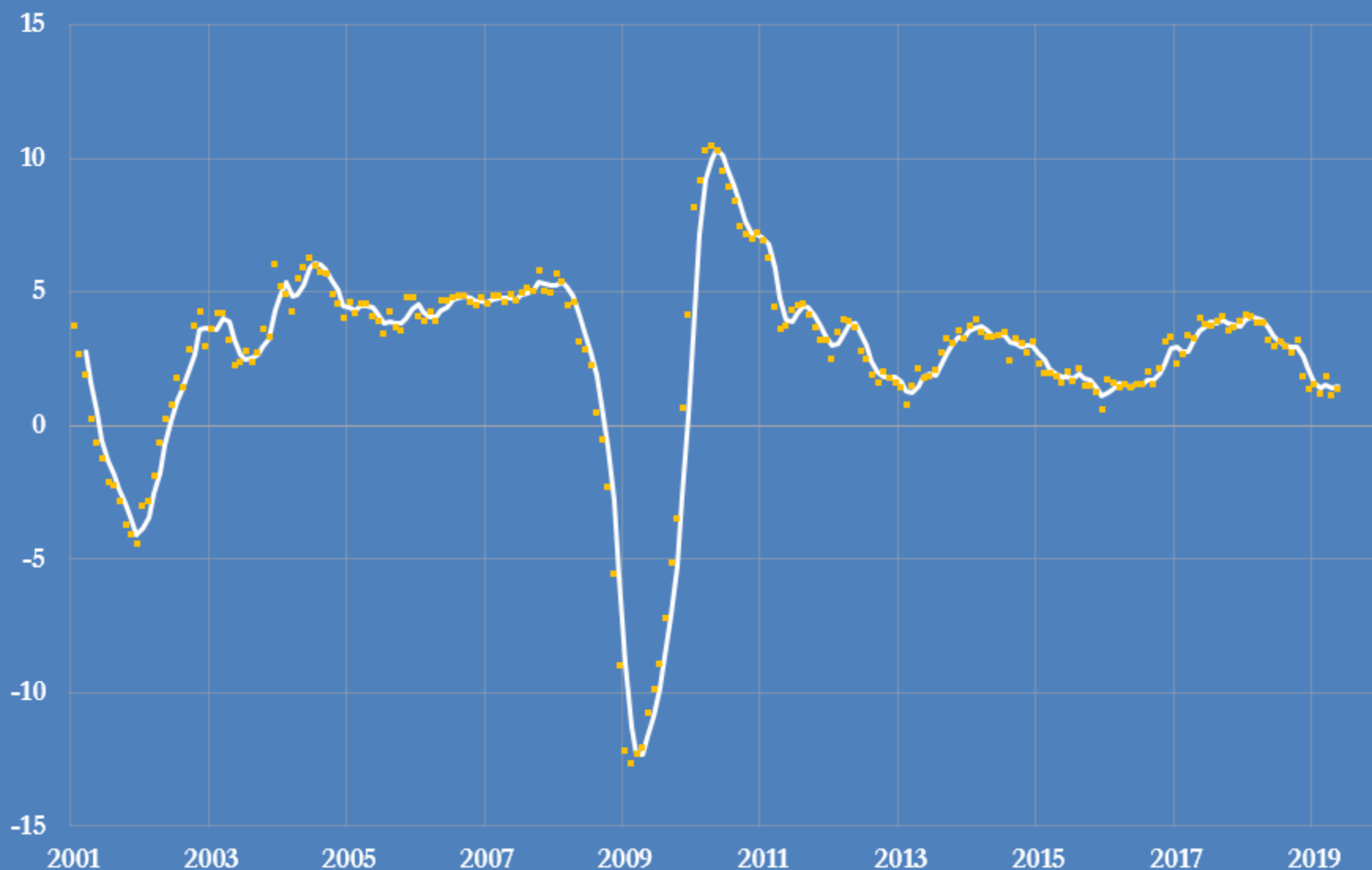
Percent change compared with prior year
Individual months and 3-month running average



Source: Association of American Railroads via U.S. Bureau of Transportation Statistics
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Global industrial production, 2001-2019

production-weighted
percent change from prior year, monthly and three-month average

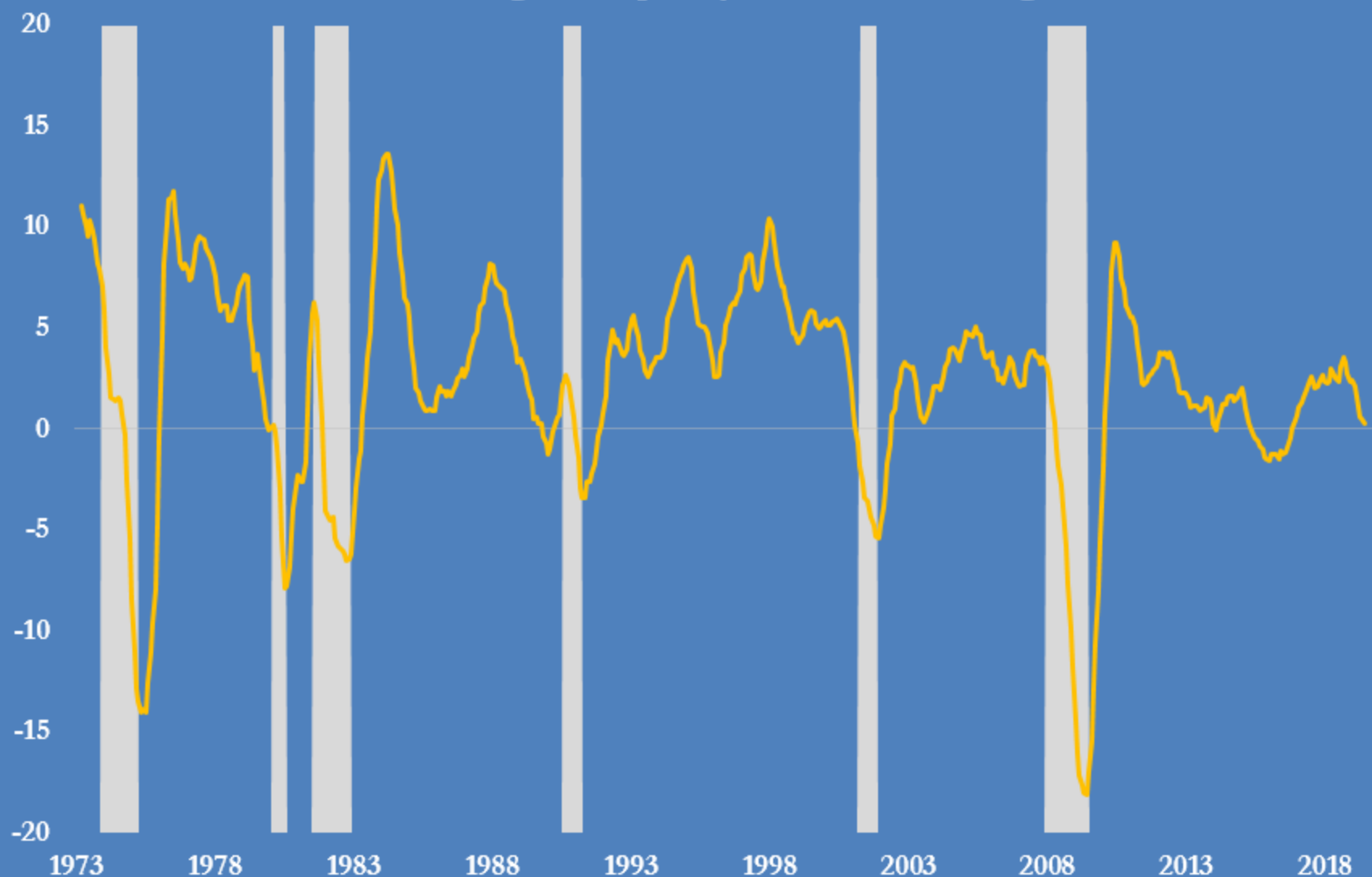


Source: Netherlands Bureau of Economic Policy Analysis, *World Trade Monitor*

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U.S. manufacturing production, 1973-2019

Percent change from prior year, 3-month average



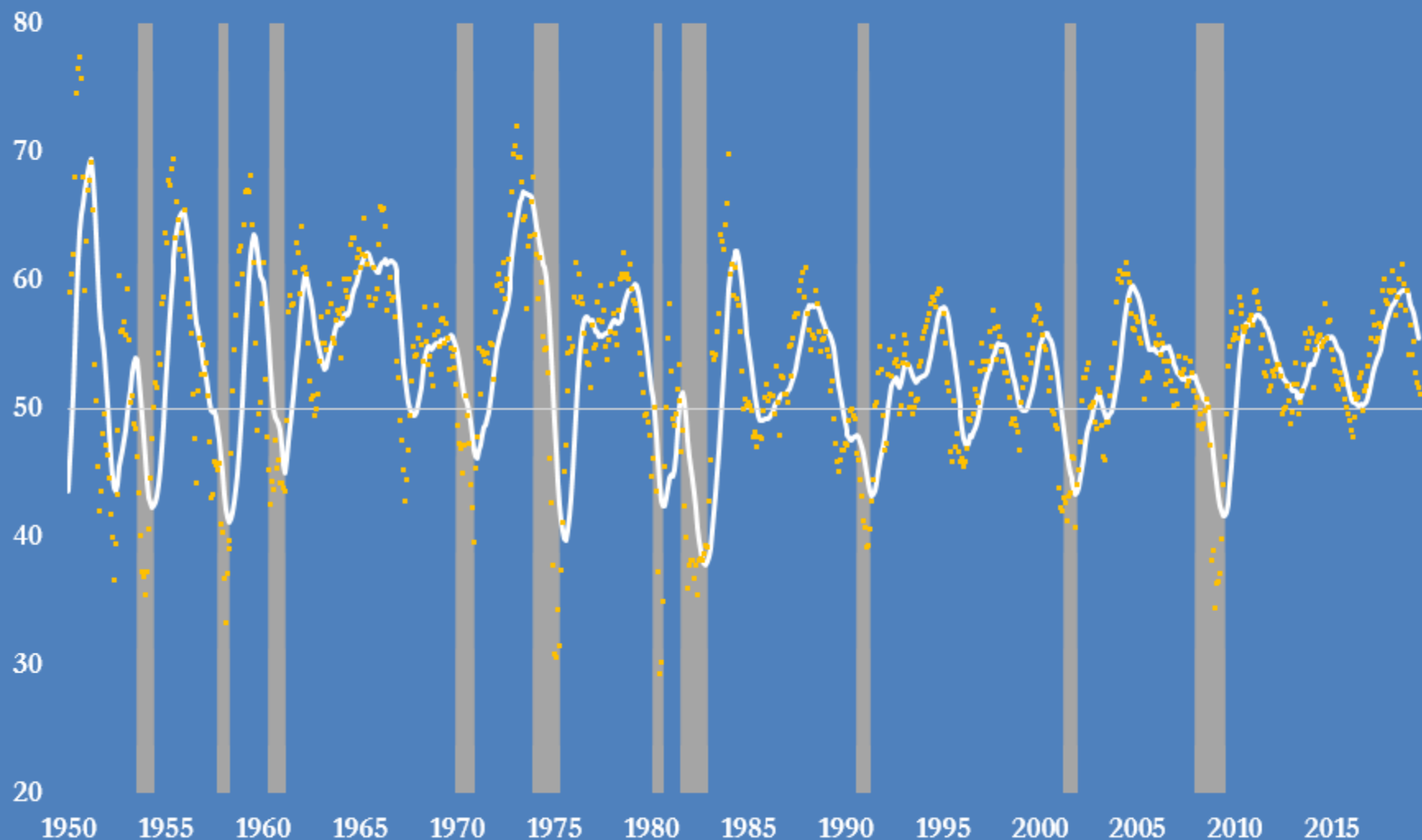
■ Recessions (NBER)
— Manufacturing output (NAICS)

Sources: Federal Reserve, National Bureau of Economic Research
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U.S. Purchasing Managers' Index, 1950-2019

Manufacturing, diffusion index, base = 50

Monthly and 12-month moving average

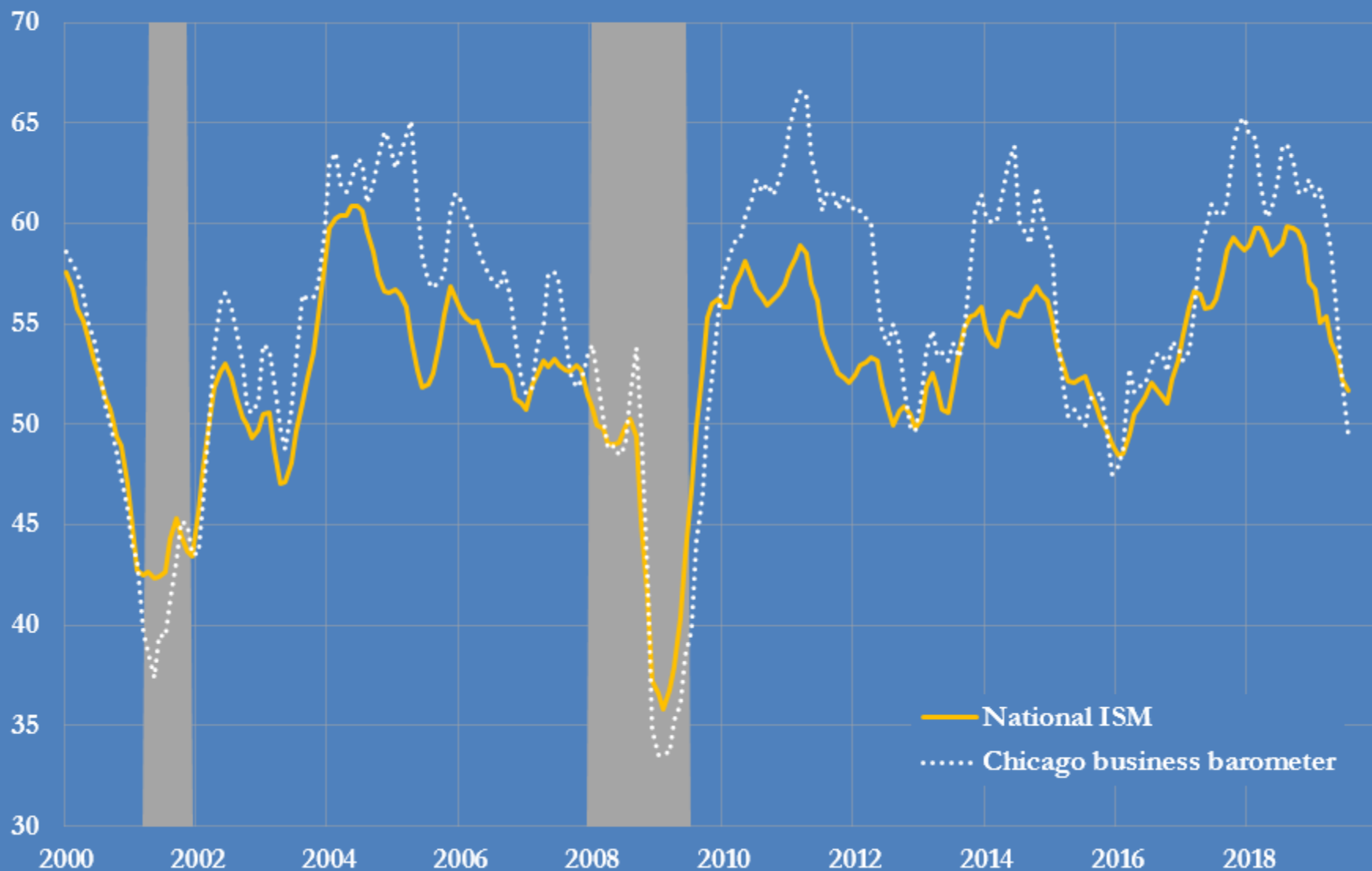


Source: Institute for Supply Management, *Manufacturing Report on Business*

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U.S. purchasing managers' surveys, 2000-2019

Chicago regional and ISM national surveys, three-month averages
NBER recessions shown

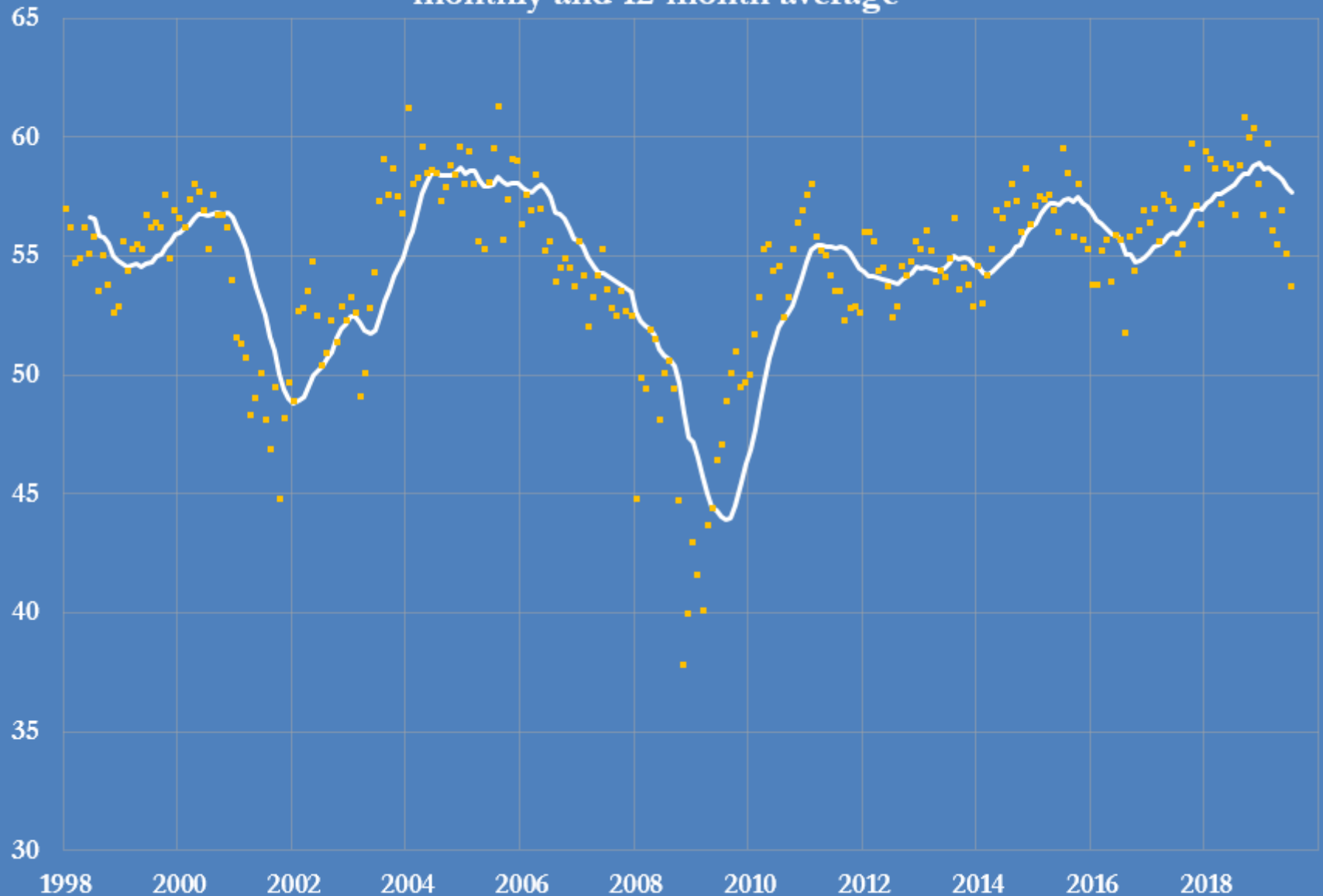


Source: Institute for Supply Management and ISM-Chicago affiliate

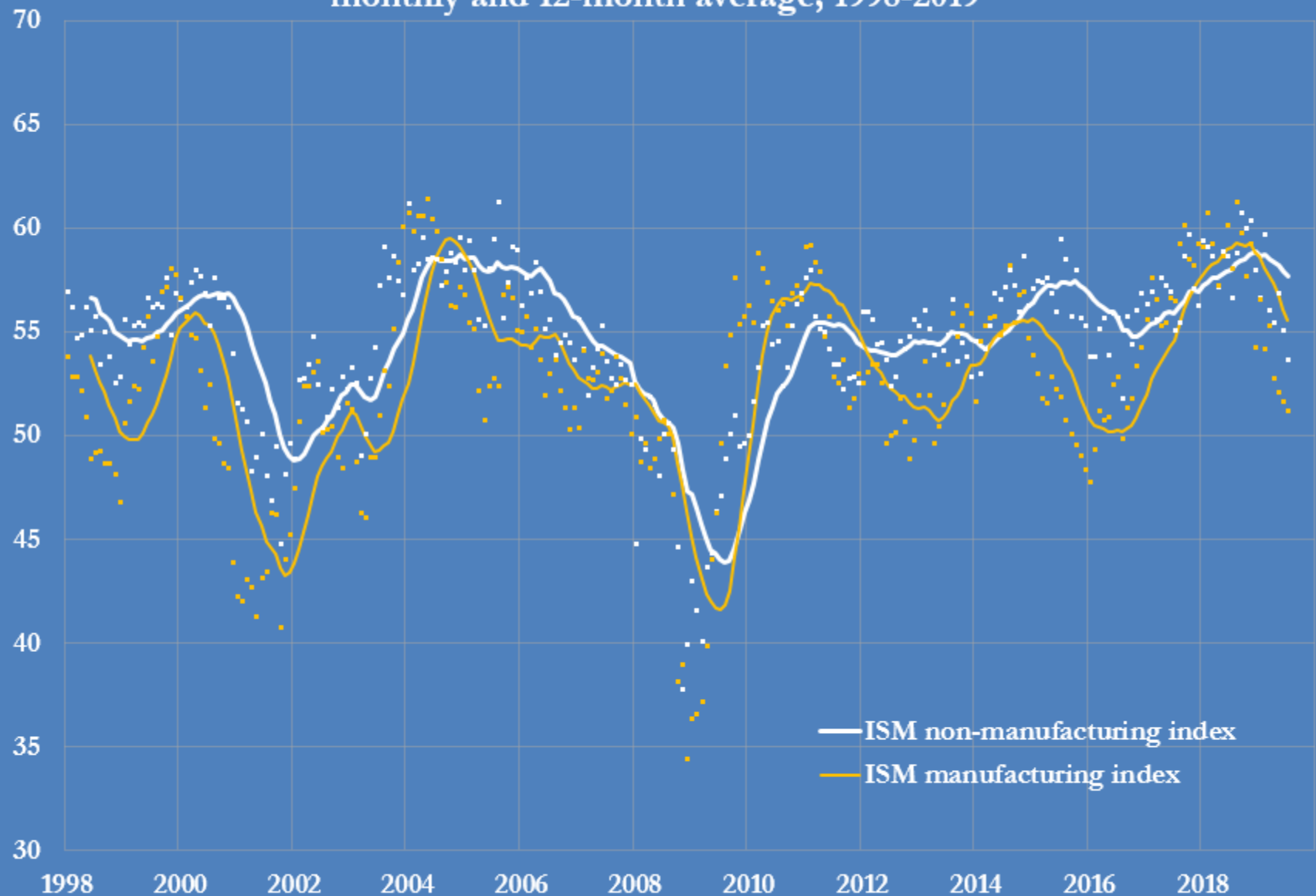
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ISM U.S. non-manufacturing index, 1998-2019

monthly and 12-month average



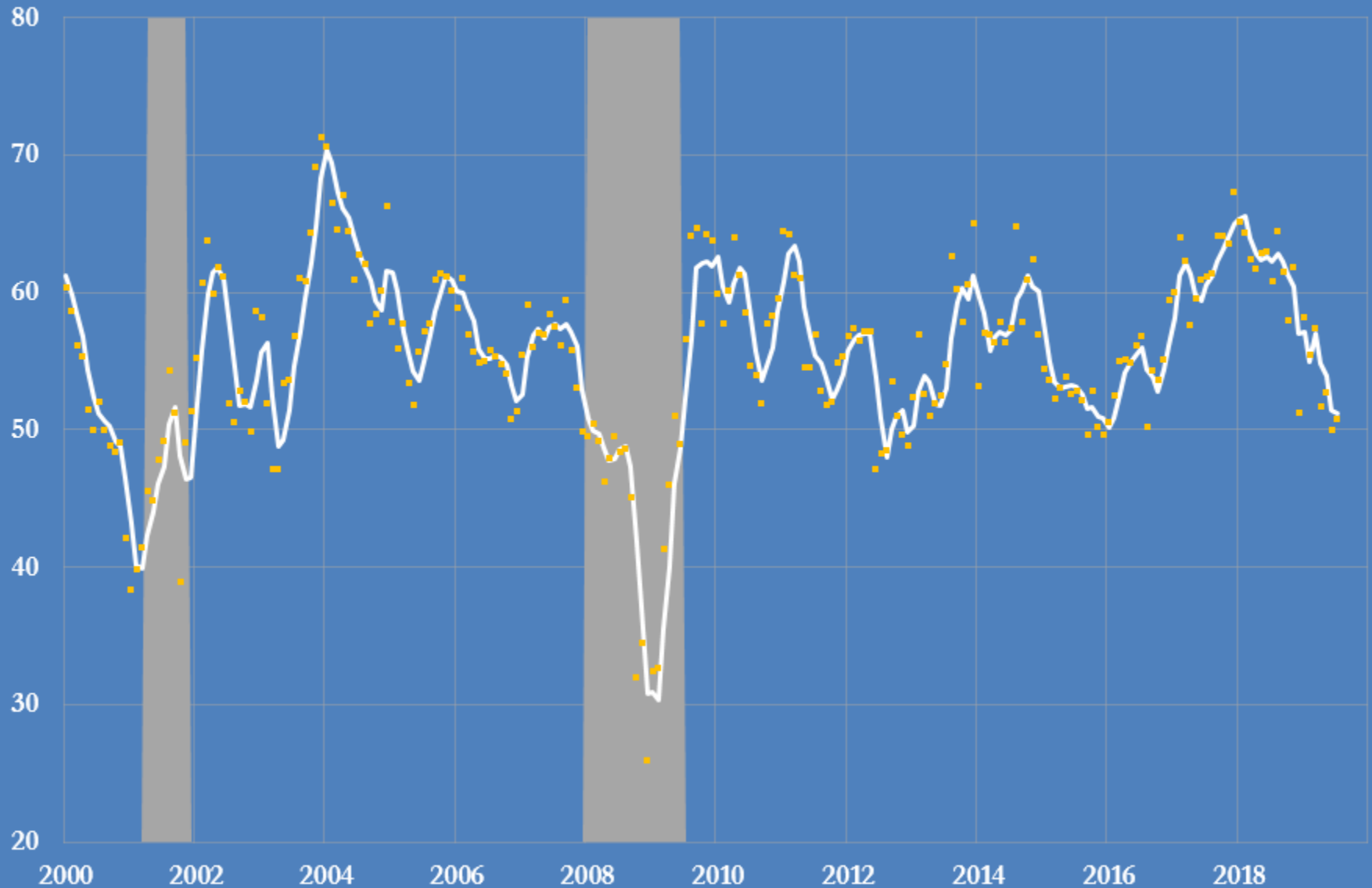
ISM U.S. manufacturing and non-manufacturing indexes monthly and 12-month average, 1998-2019



U.S. ISM manufacturing new orders, 2000-2019

Index base = 100, monthly and three-month average

NBER recessions shown

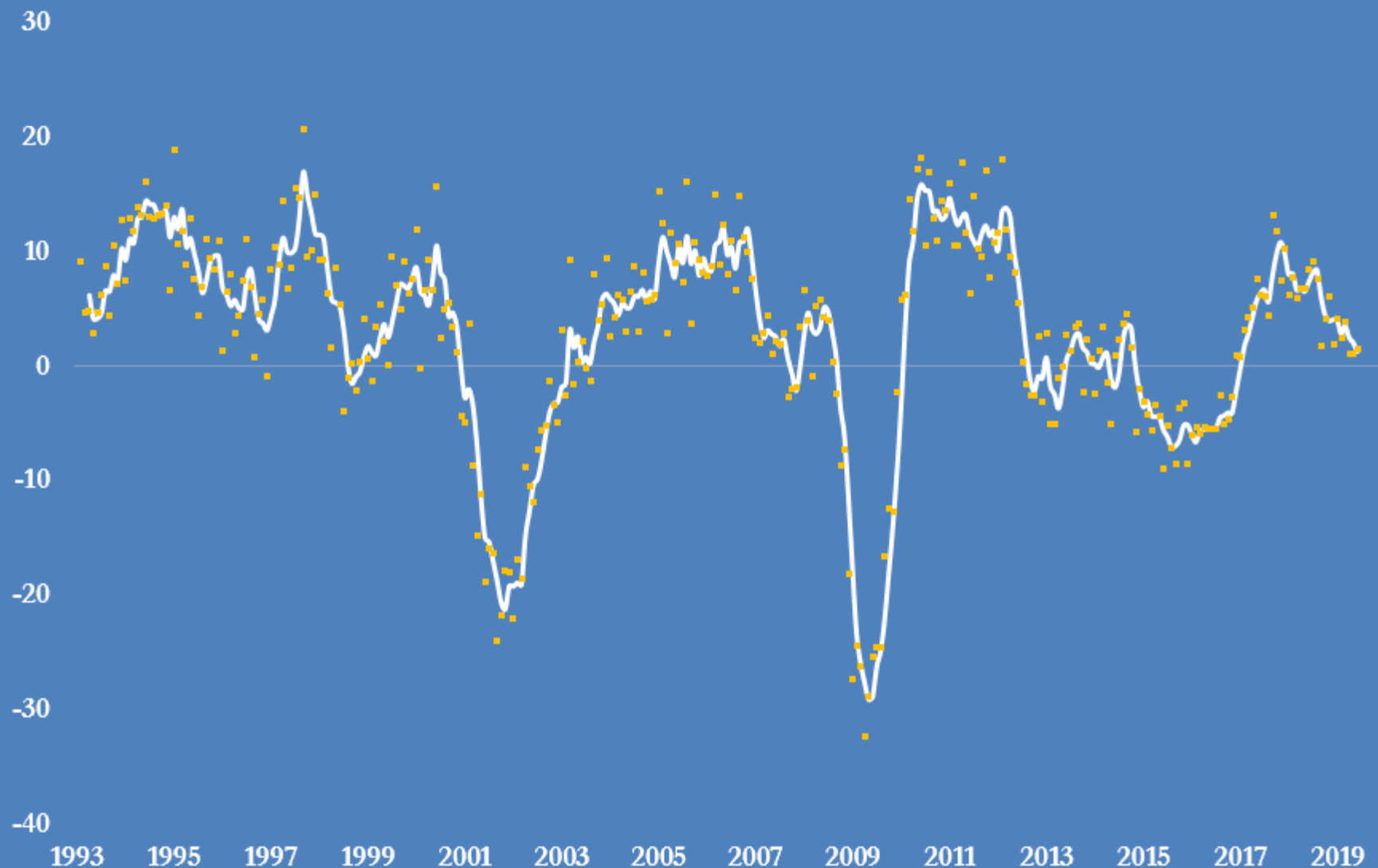


Source: U.S. Institute for Supply Management

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U.S. manufacturers' new orders of nondefense capital equipment excluding aircraft, 1993-2019

Percent change from year earlier, monthly and 3-month average

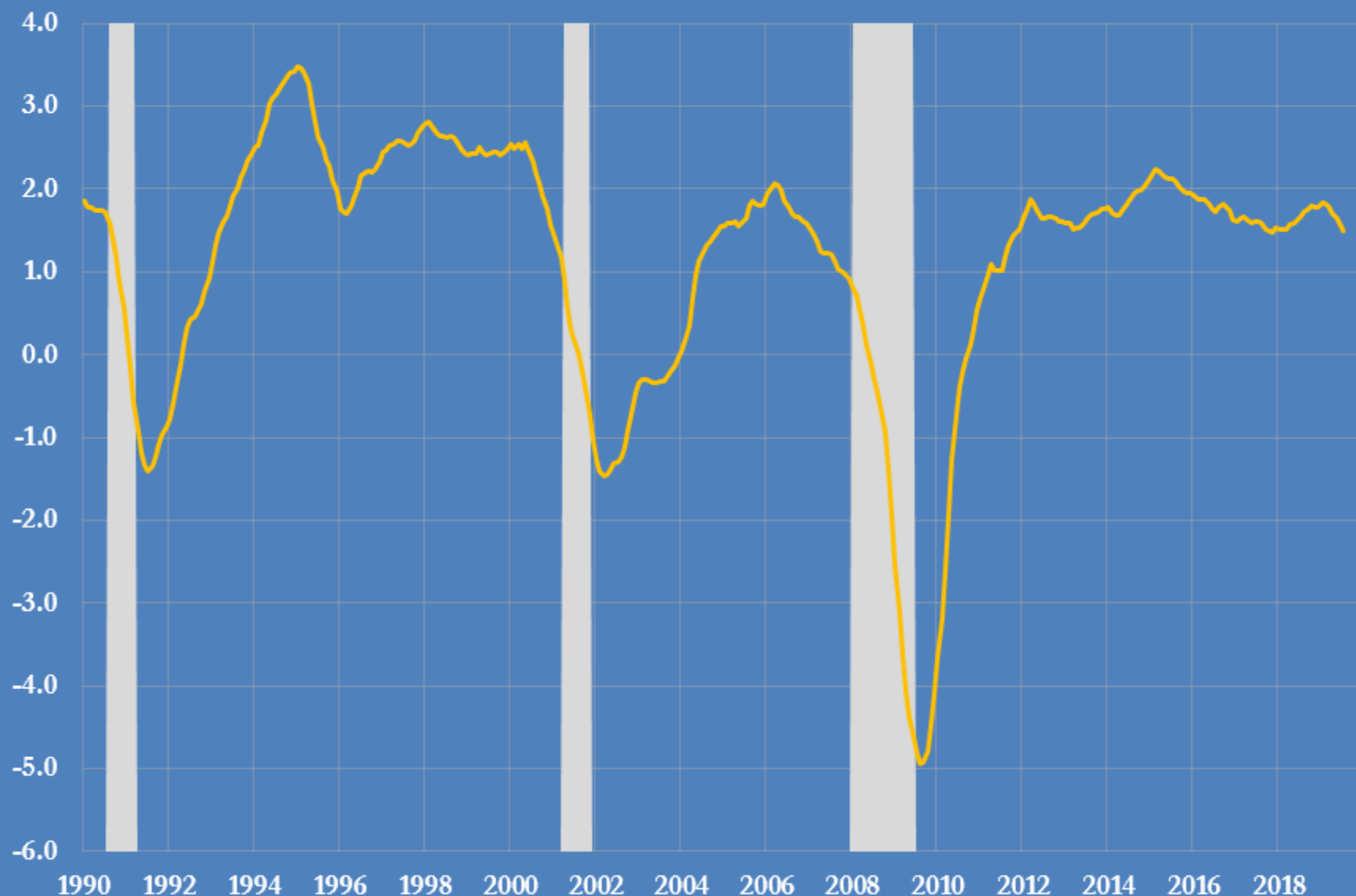


Source: U.S. Census Bureau

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U.S. nonfarm payrolls, 1990-2019

Percent change compared with previous year, averaged over 3 months

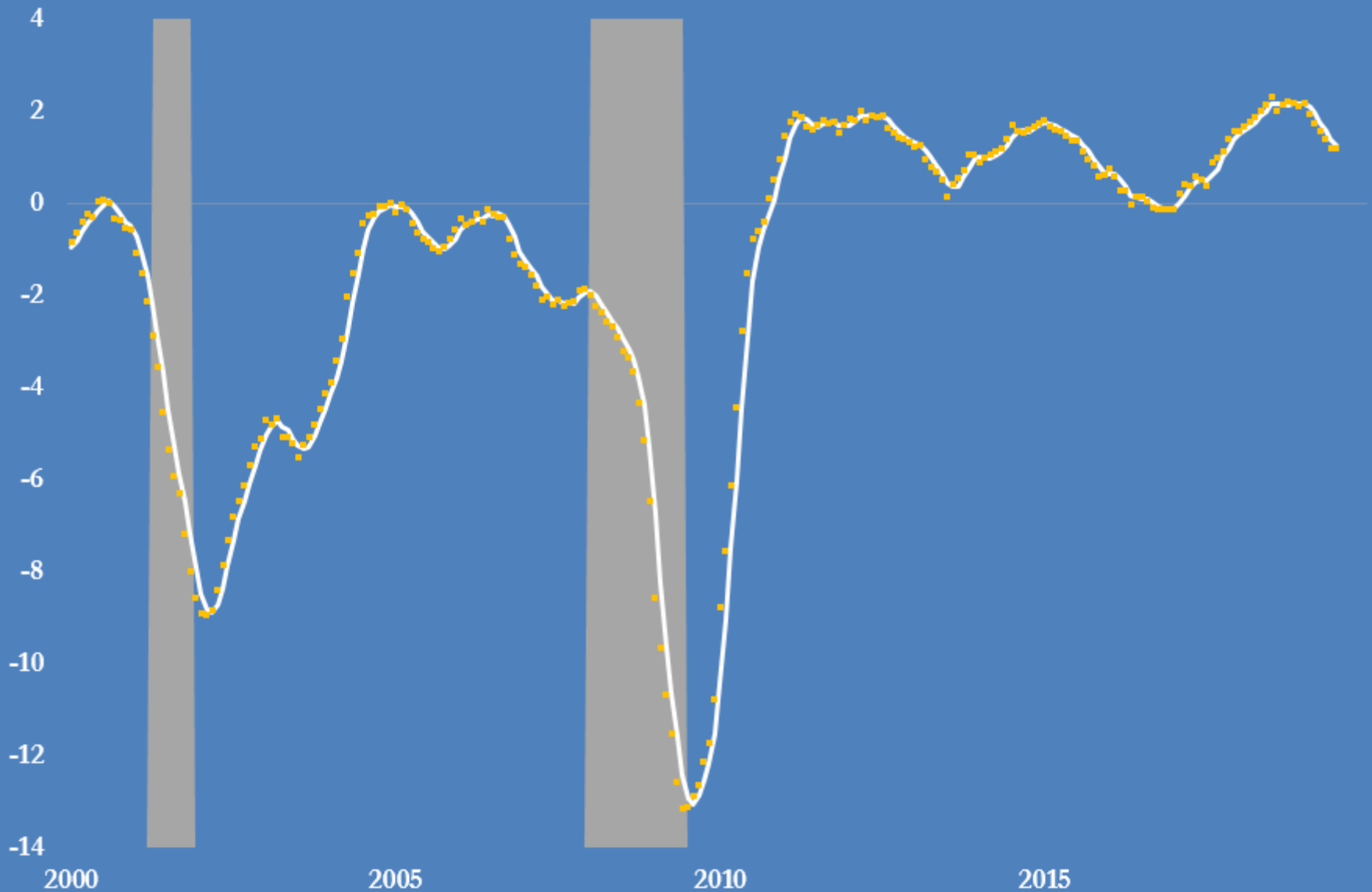


Source: U.S. Bureau of Labor Statistics

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U.S. manufacturing employment, 2000-2019

Percent change from prior year, three-month average, recessions shown

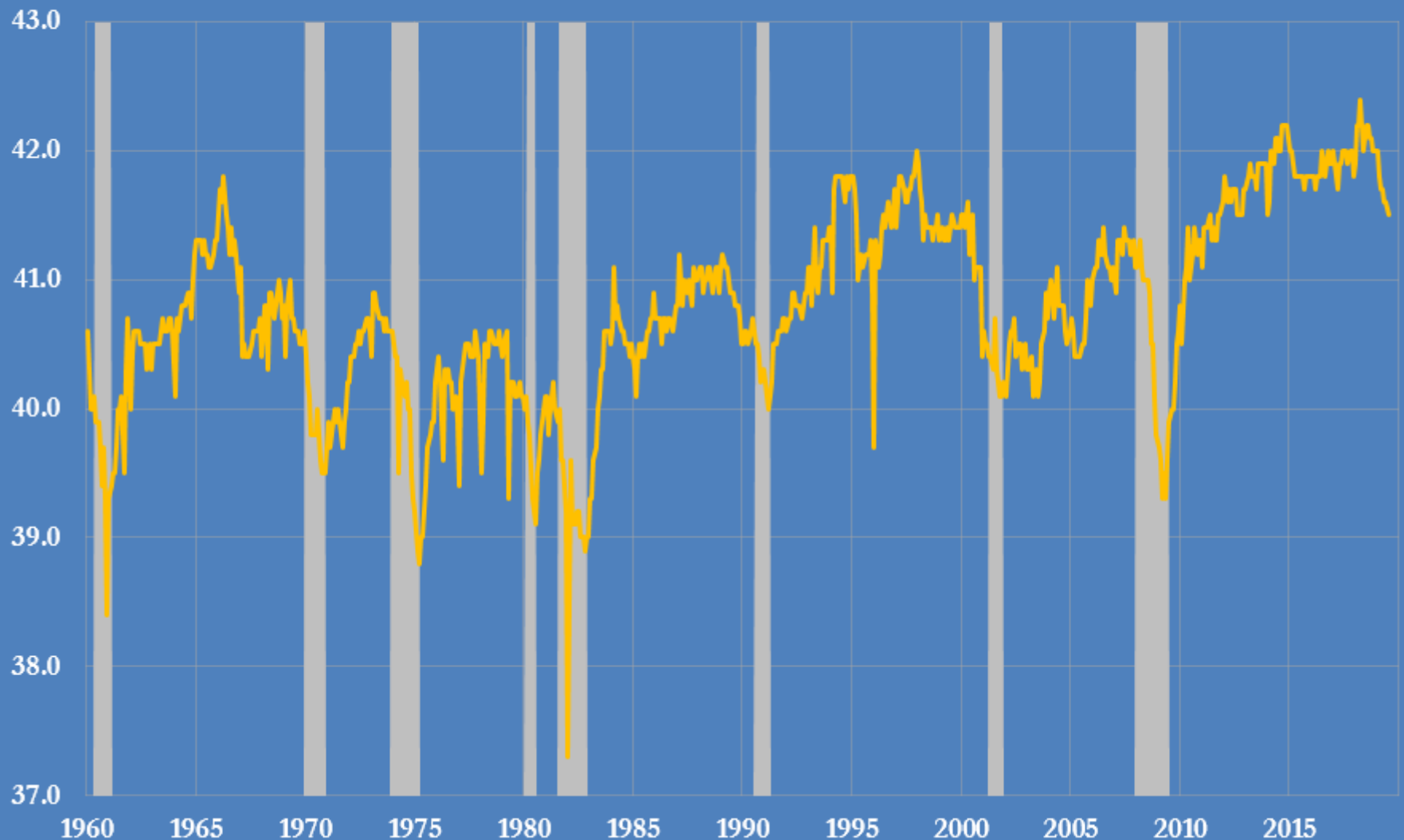


Source: U.S. Bureau of Labor Statistics

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U.S. manufacturing average weekly hours worked, 1960-2019

production and nonsupervisory employees, seasonally adjusted
NBER recession dates shown

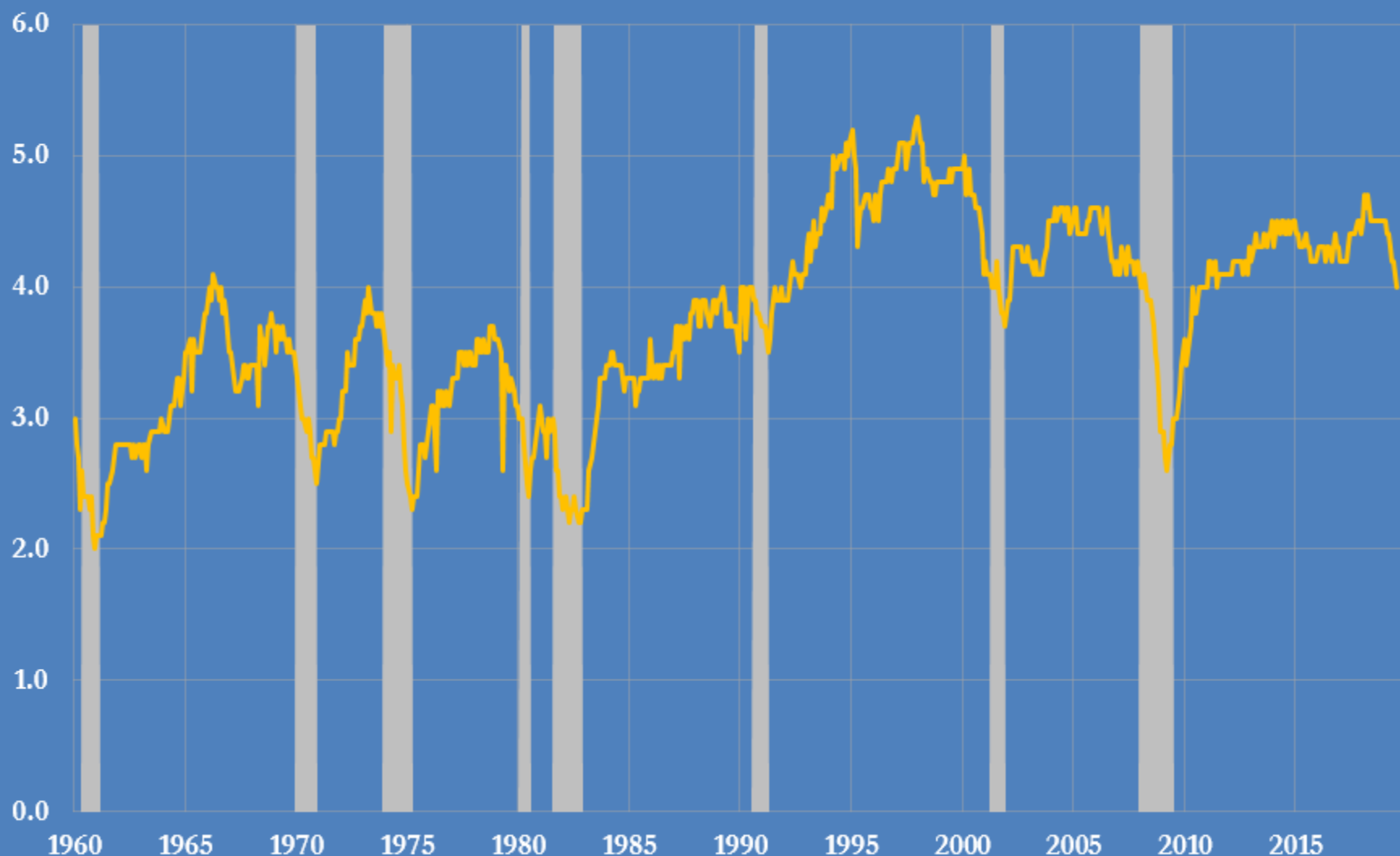


Source: U.S. Bureau of Labor Statistics

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U.S. manufacturing average weekly overtime hours, 1960-2019

production and nonsupervisory employees, seasonally adjusted
NBER recession dates shown

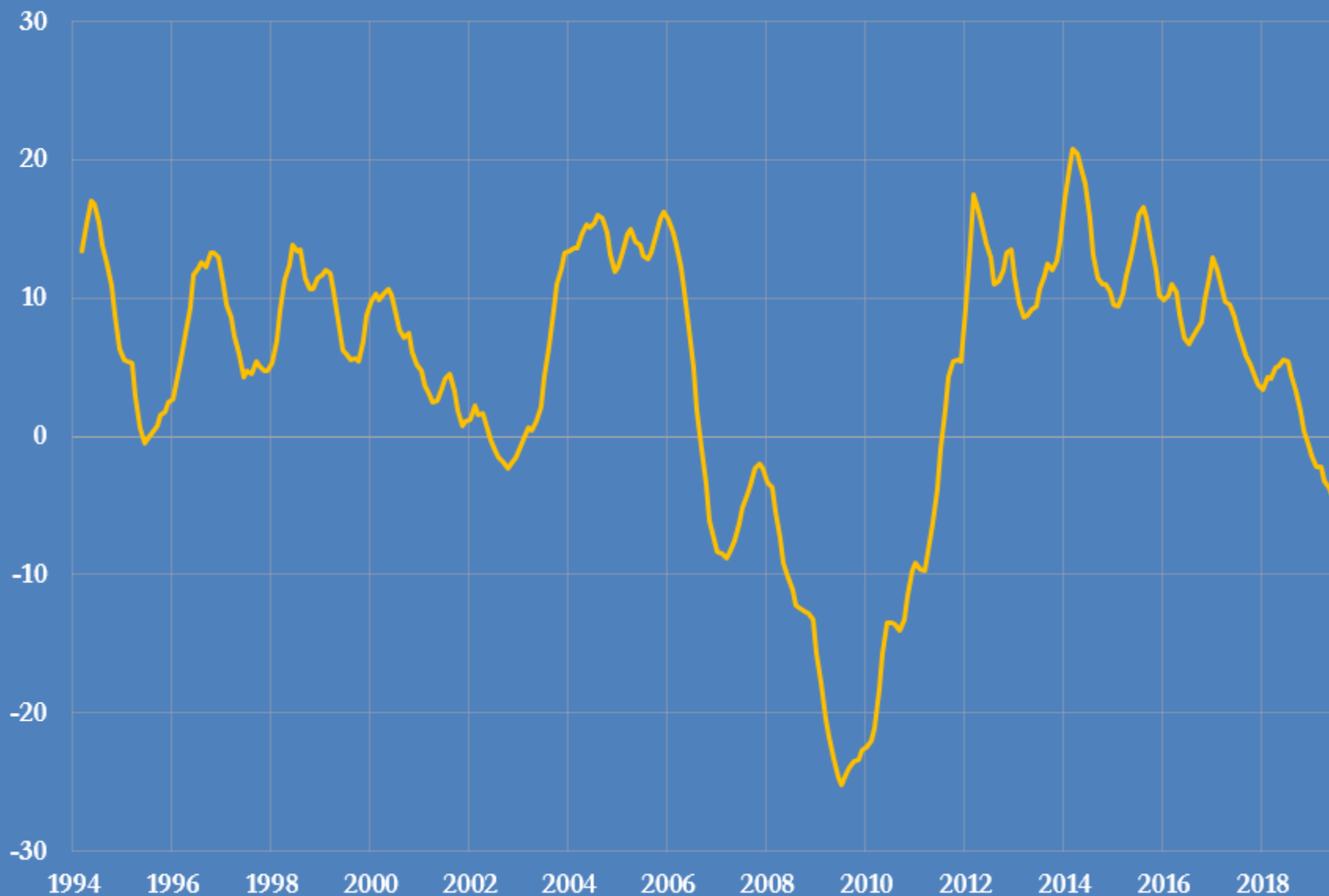


Source: U.S. Bureau of Labor Statistics

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U.S. private sector construction activity, 1994-2019

Percent change compared with prior year, three-month average



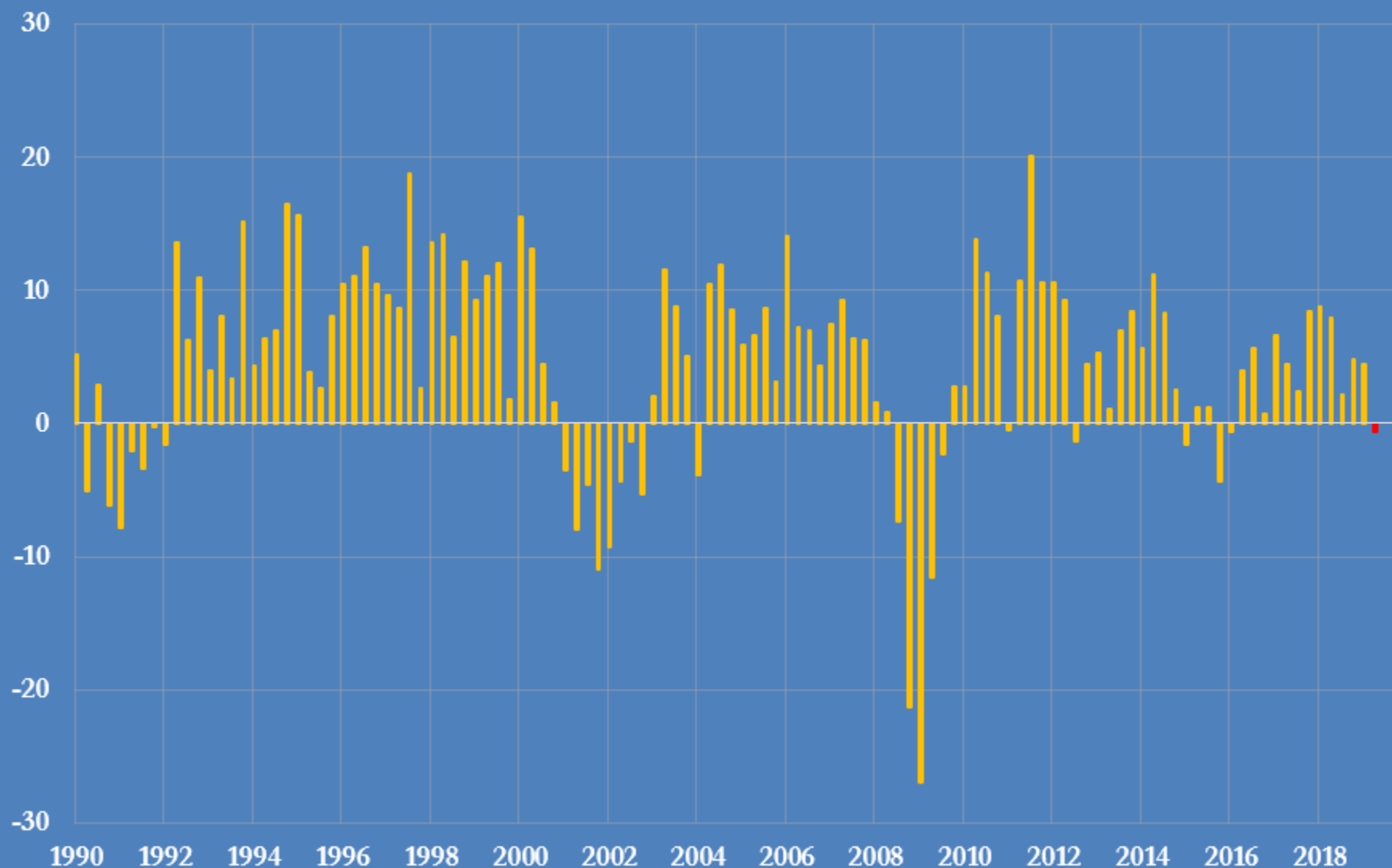
Source: U.S. Census Bureau

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Real private fixed non-residential investment, 1990-2019

Structures, equipment and intellectual property

Quarterly growth expressed at annualised rate

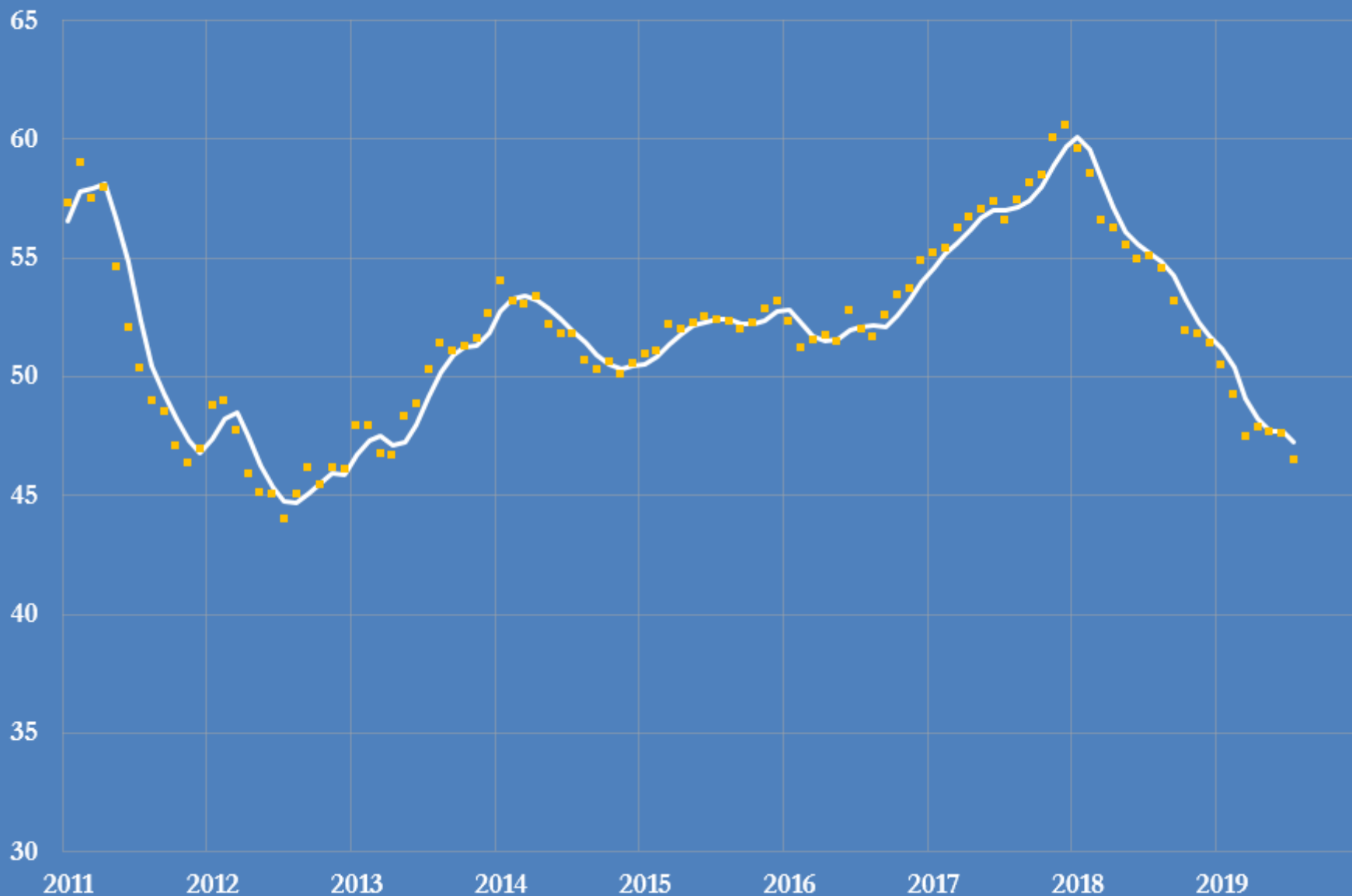


Source: U.S. Bureau of Economic Analysis NIPA Table 1.1.1

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Eurozone manufacturing purchasing managers' index

Index base = 50, monthly and three-month average

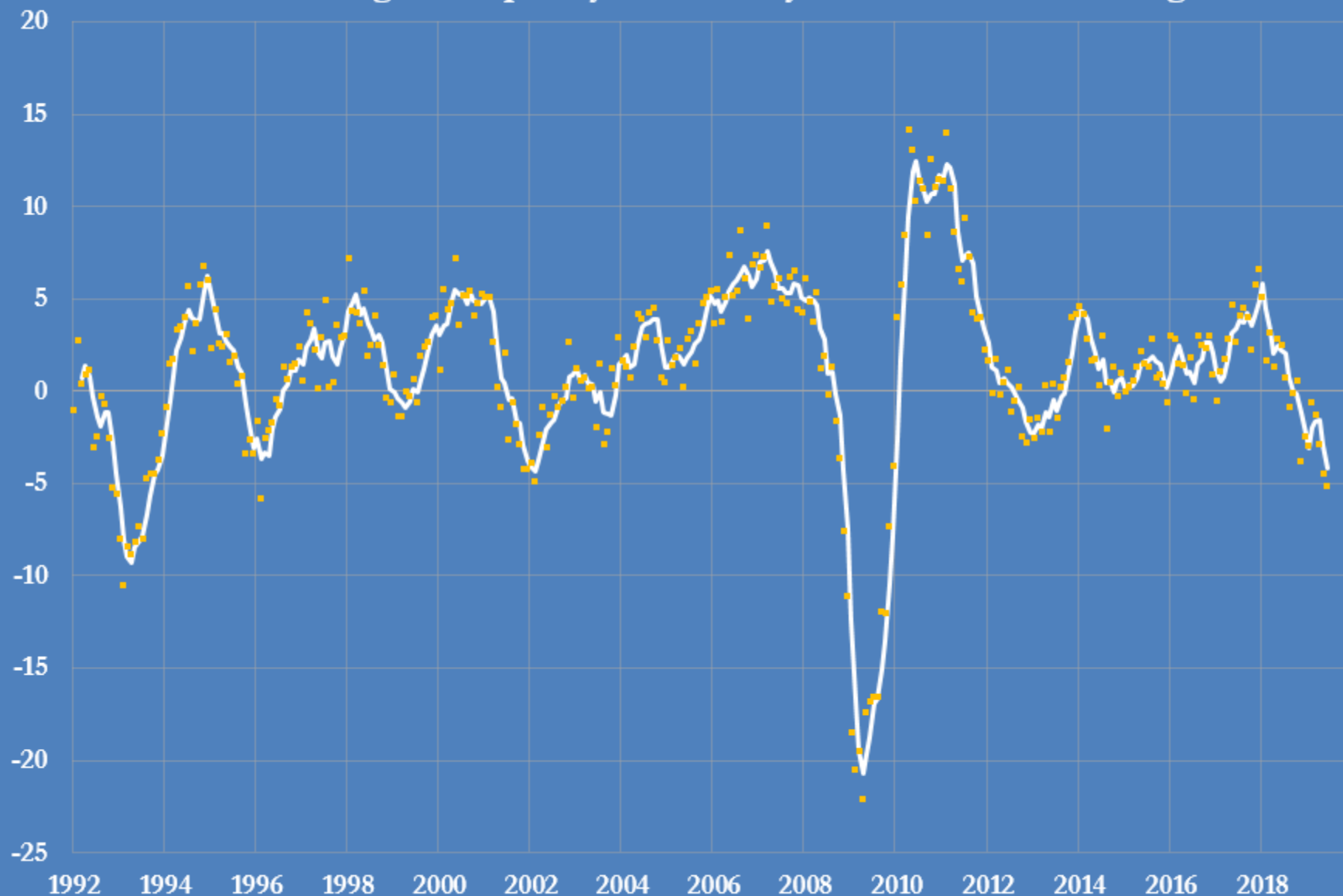


Source: IHSMarkit

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Germany industrial output, 1992-2019

Percent change from prior year, monthly and three-month average

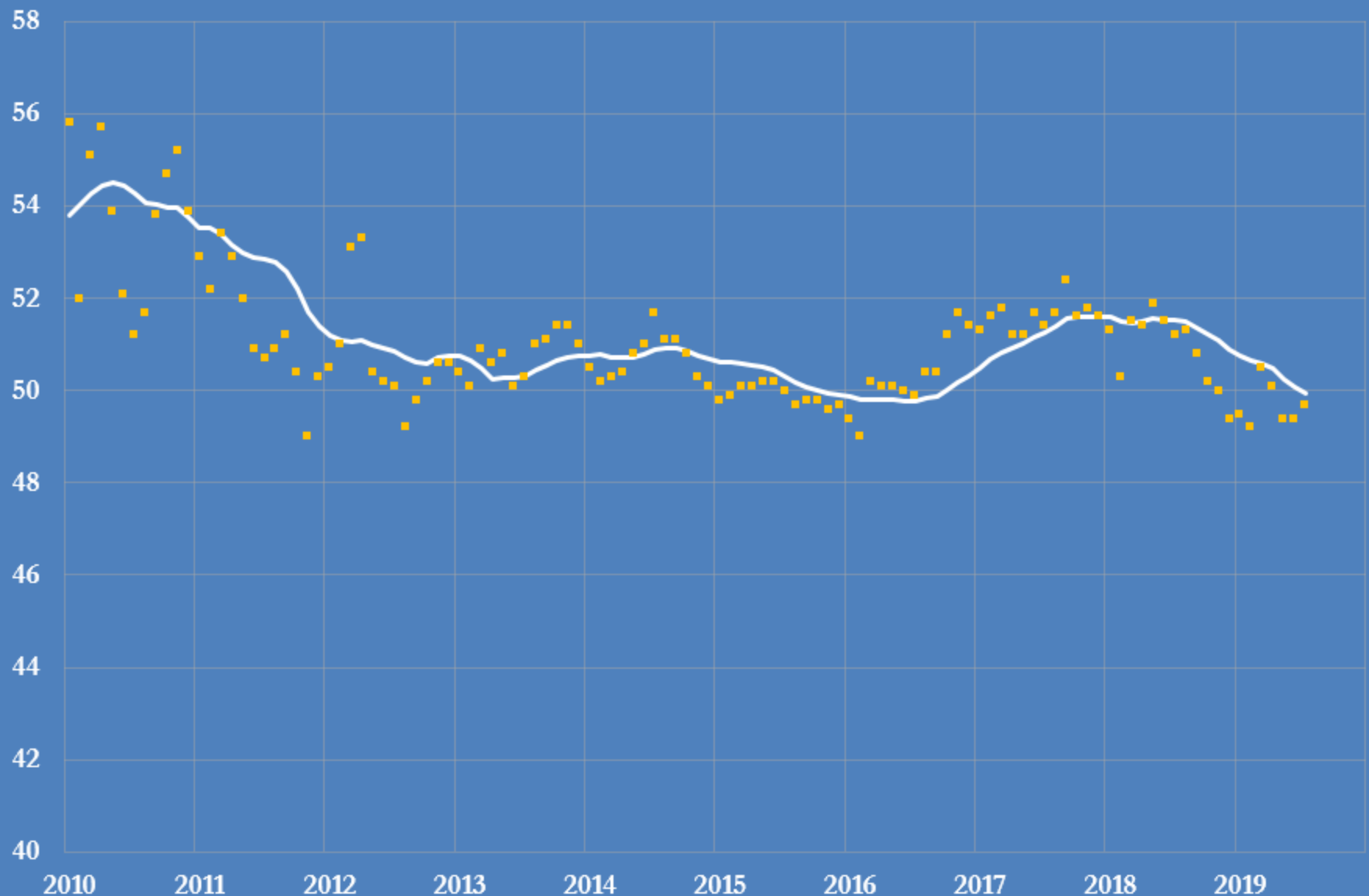


Source: German Federal Statistics Office

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China purchasing managers' index, 2010-2019

Manufacturing sector, monthly and 12-month average

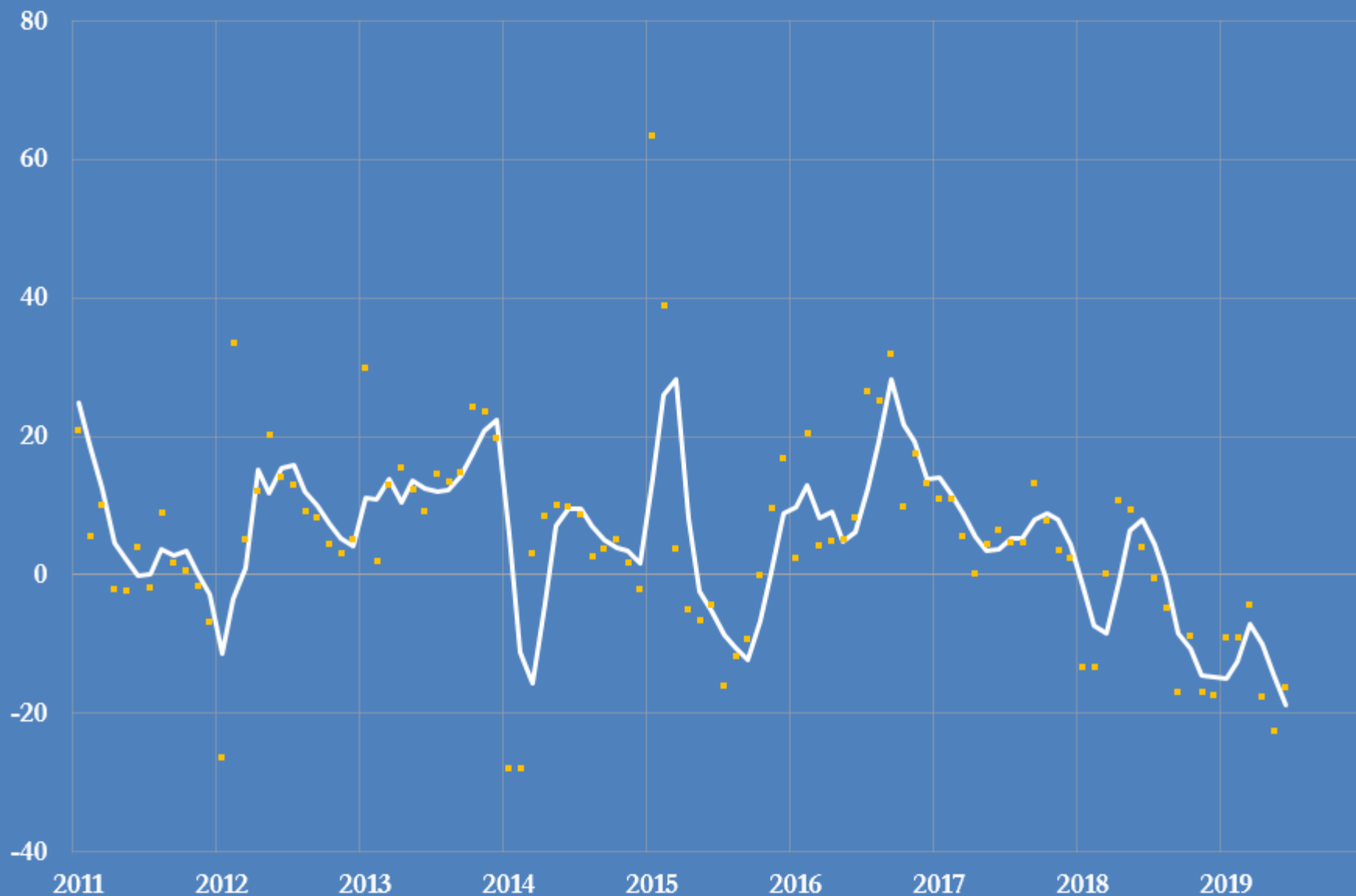


Source: China National Bureau of Statistics

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China motor vehicle production, 2011-2019

percent change from prior year, monthly and three-month average

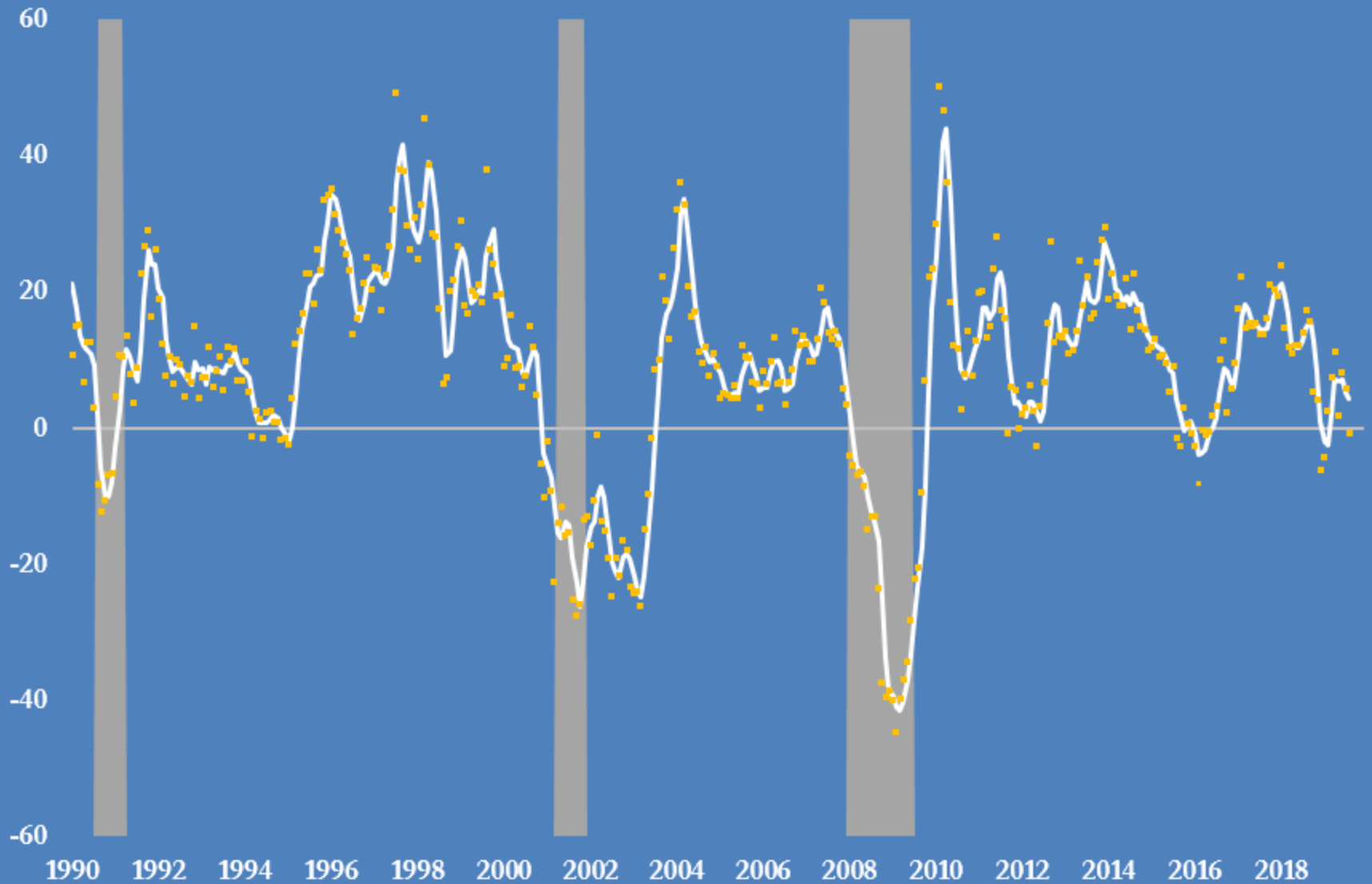


Source: China National Bureau of Statistics

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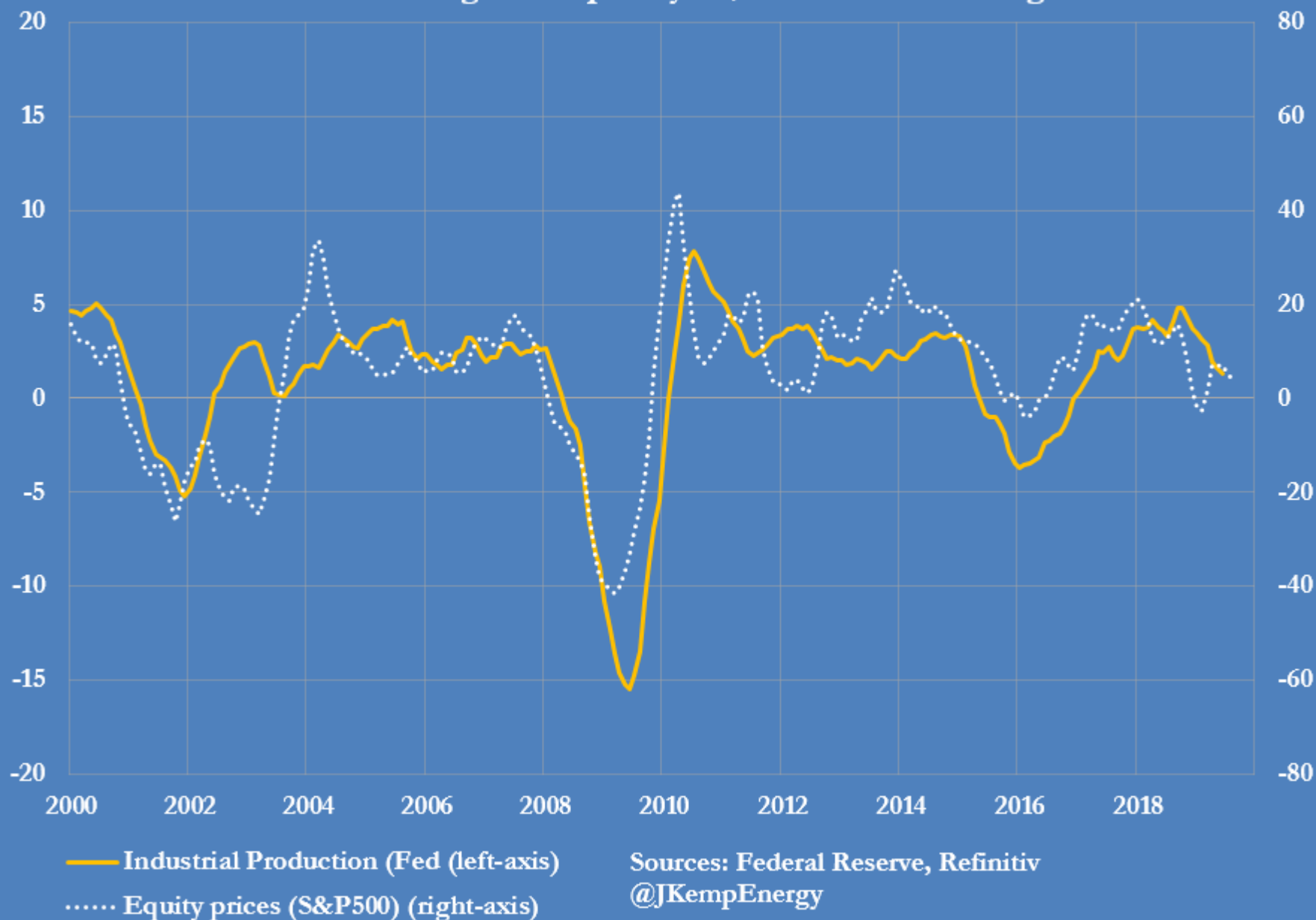
S&P500 equity index, 1990-2019

Percent change from prior year, individual months and 3-month average



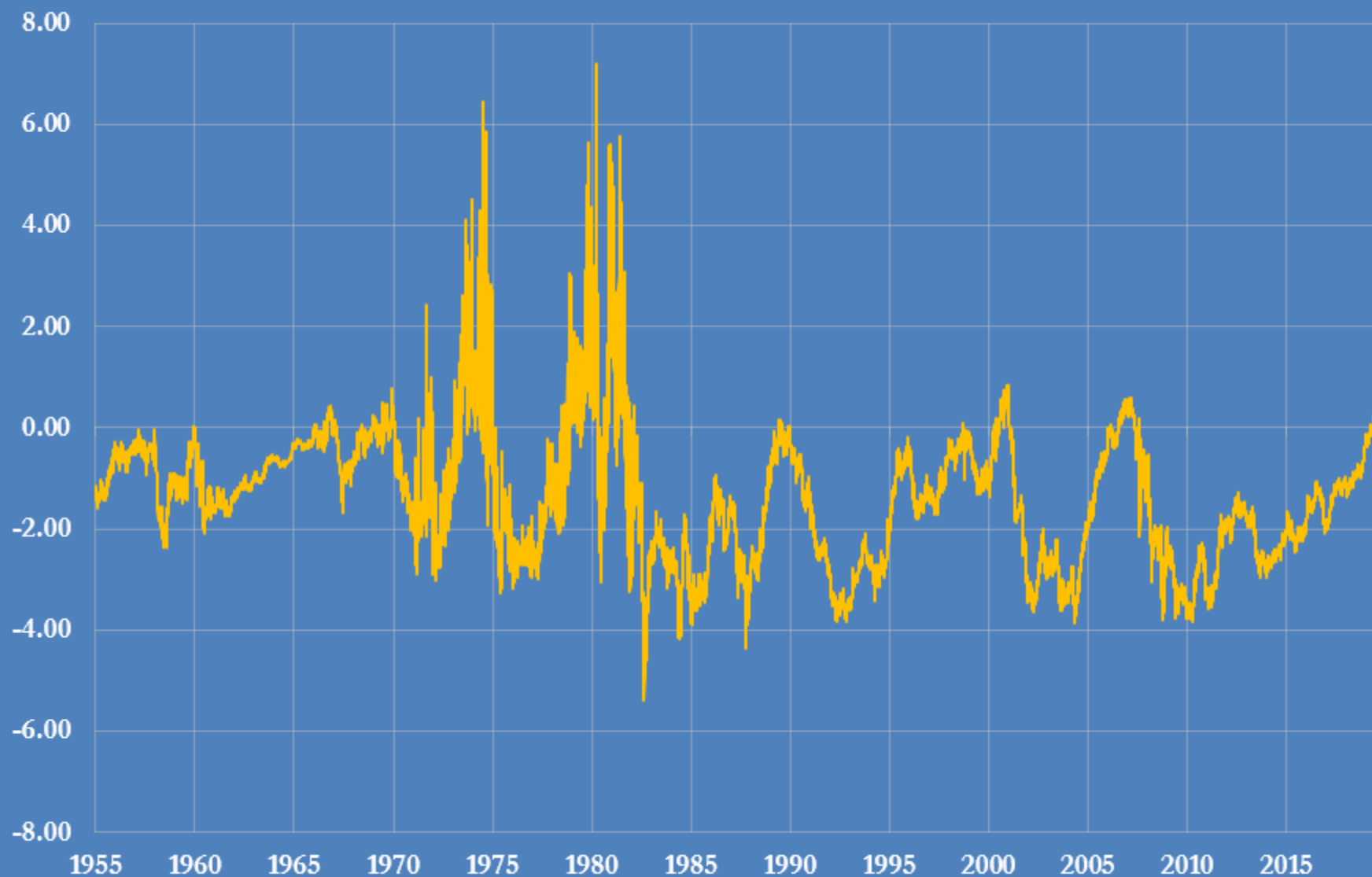
US industrial production and equity prices, 2000-2019

Percent change from prior year, three-month average



U.S. Treasury yield curve, 1955-2019

Percent points, 3mth bills - 10yr notes

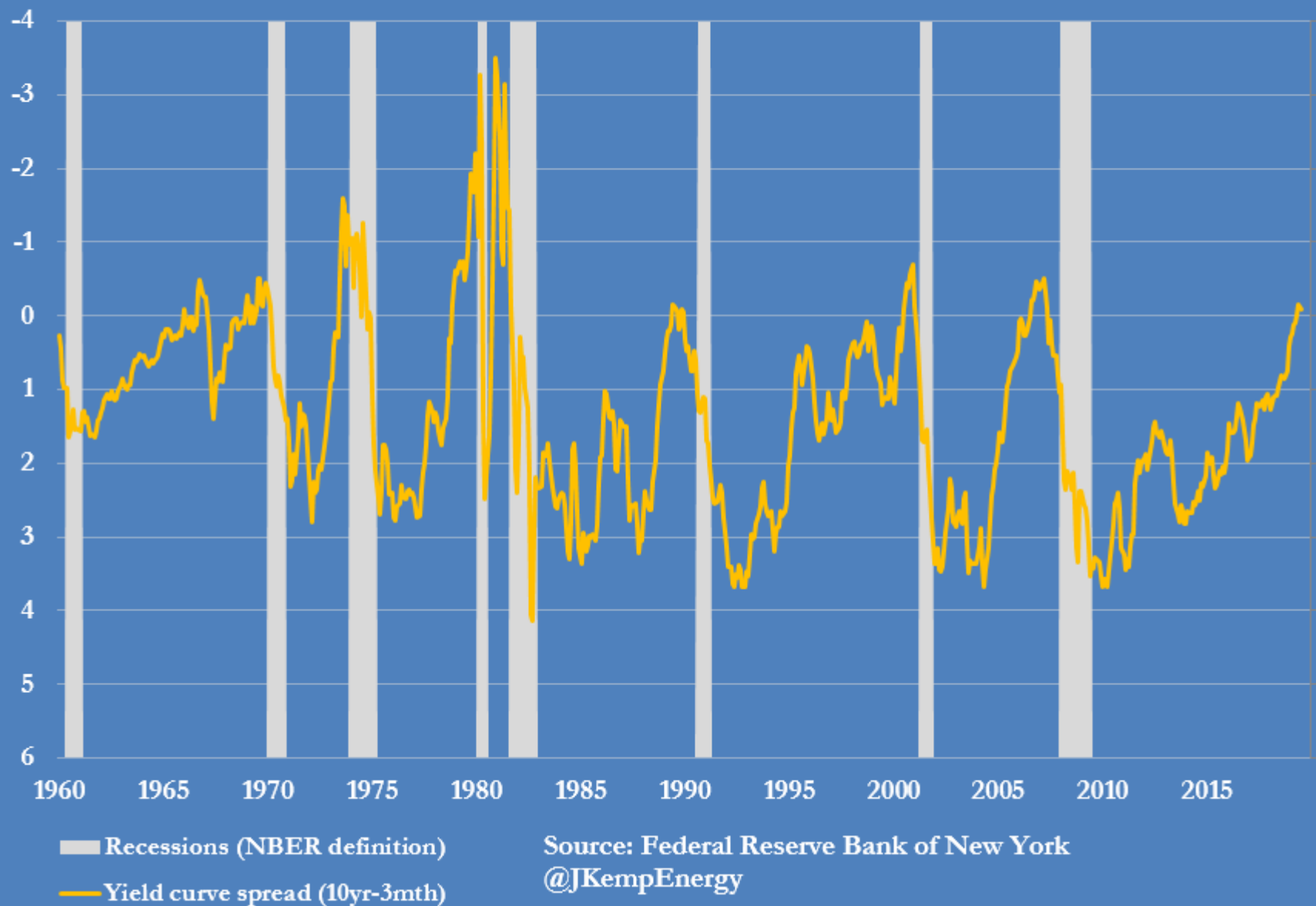


Source: Refinitiv

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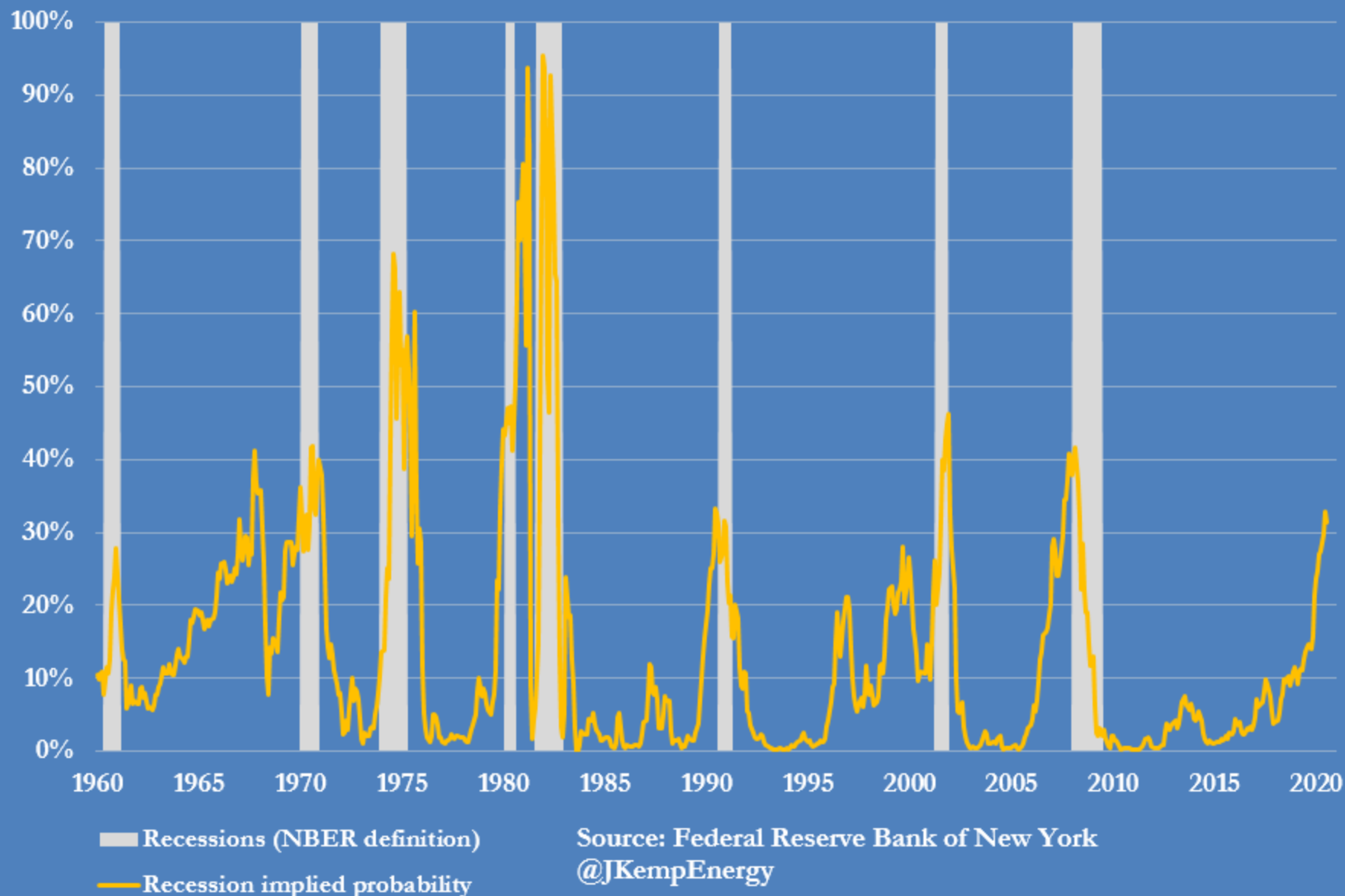
U.S. Treasury Yield Curve and Recessions, 1960-2019

Spread between 3-month Treasury bills and 10-year Treasury Notes



Probability of U.S. recession 12-months ahead, 1960-2020

Based on Federal Reserve Bank of New York's yield-curve model
Using spread between 3-month Treasury bills and 10-year Treasury Notes

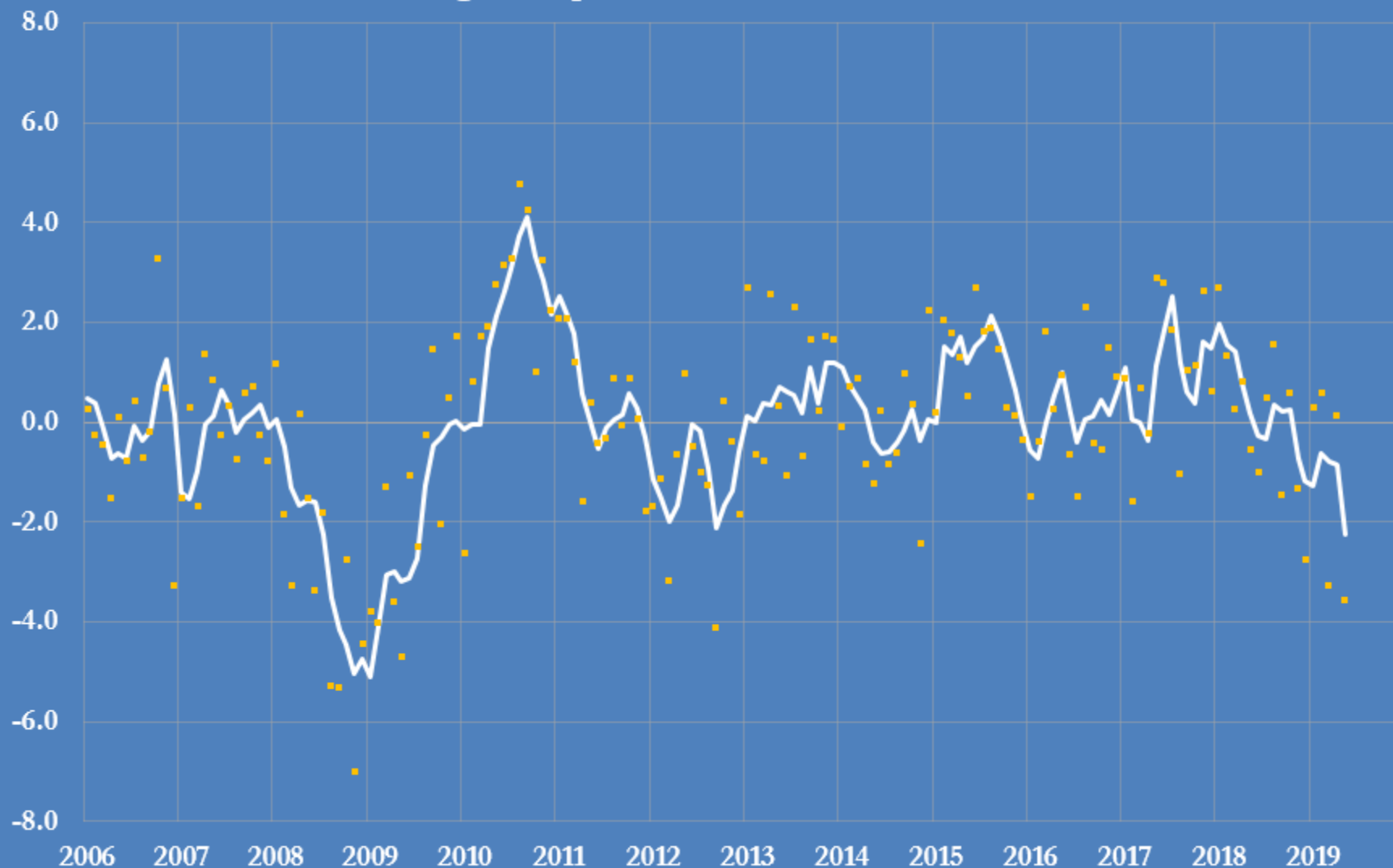


Oil consumption for selected countries, 2006-2019

Percent change from prior year, monthly and three-month average

Top 15 oil consumers each accounting for >1 million b/d

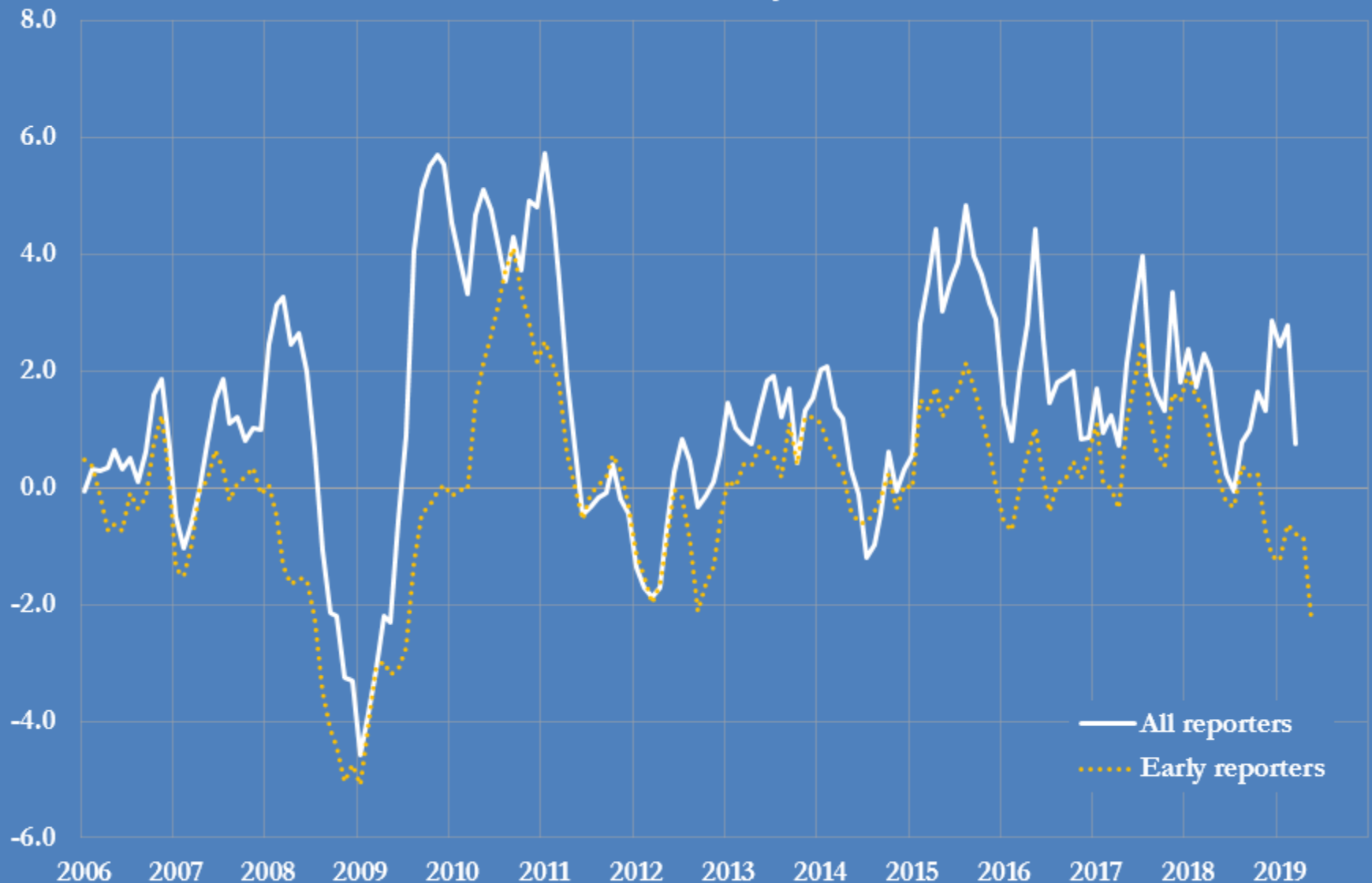
Excluding late reporters China, India and Thailand



Oil consumption for selected countries, 2006-2019

Percent change from prior year, three-month average

All reporters and early reporters



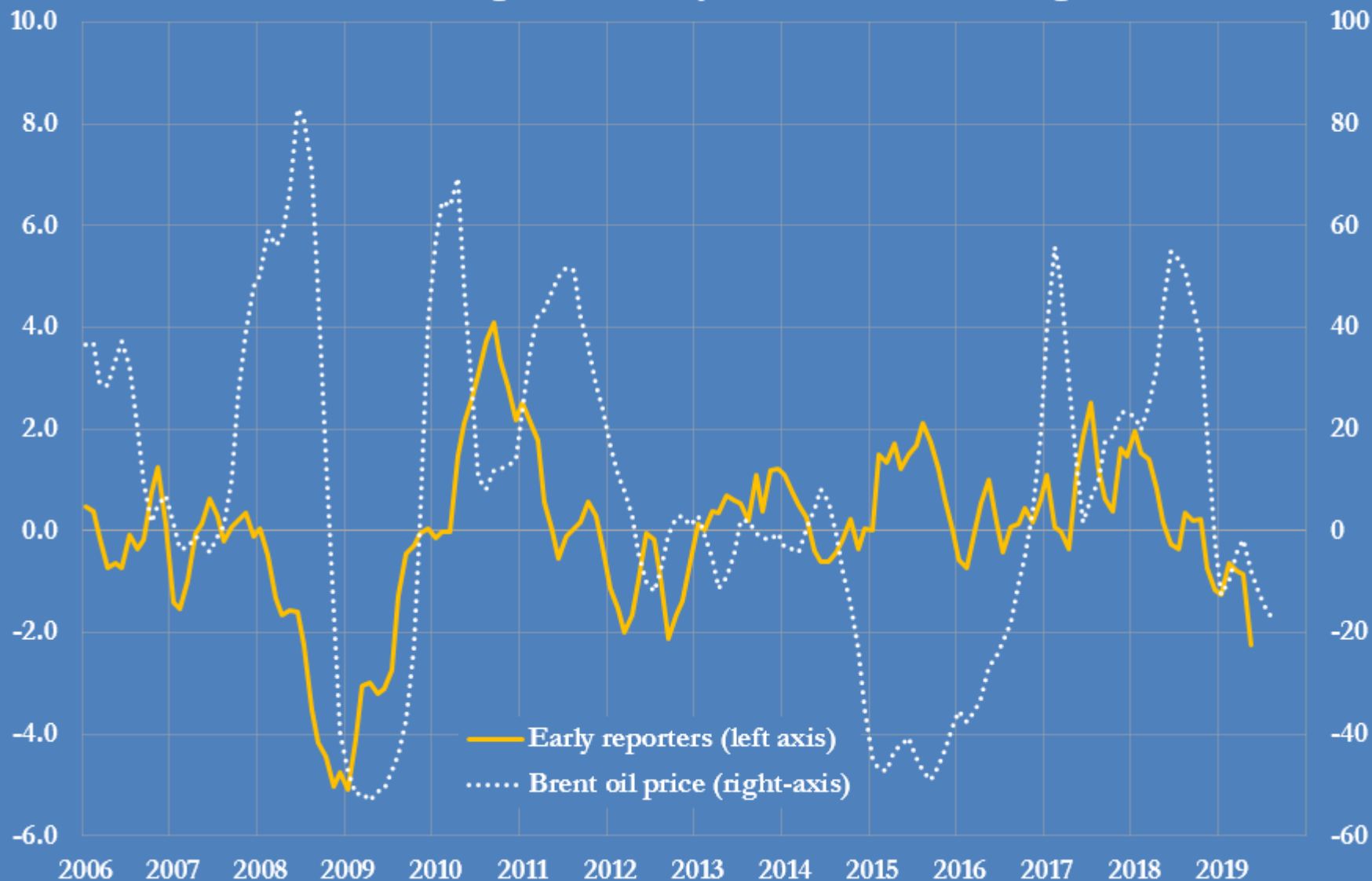
Source: Joint Organisations Data Initiative

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Oil consumption for selected countries, 2006-2019

Early reporters versus Brent oil price

Percent change from prior year, three-month average

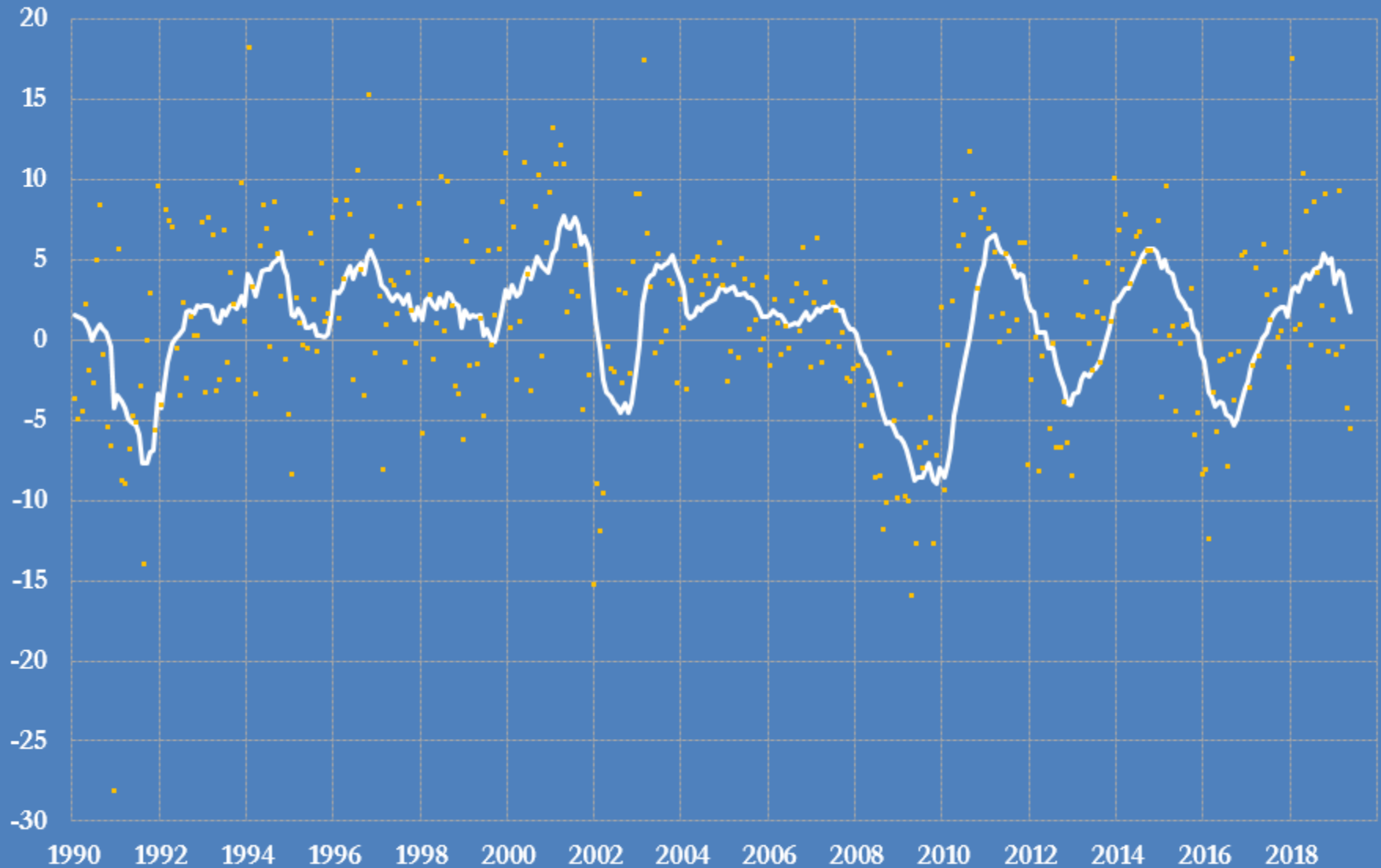


Source: Joint Organisations Data Initiative

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Distillate fuel oil supplied to U.S. consumers, 1990-2019

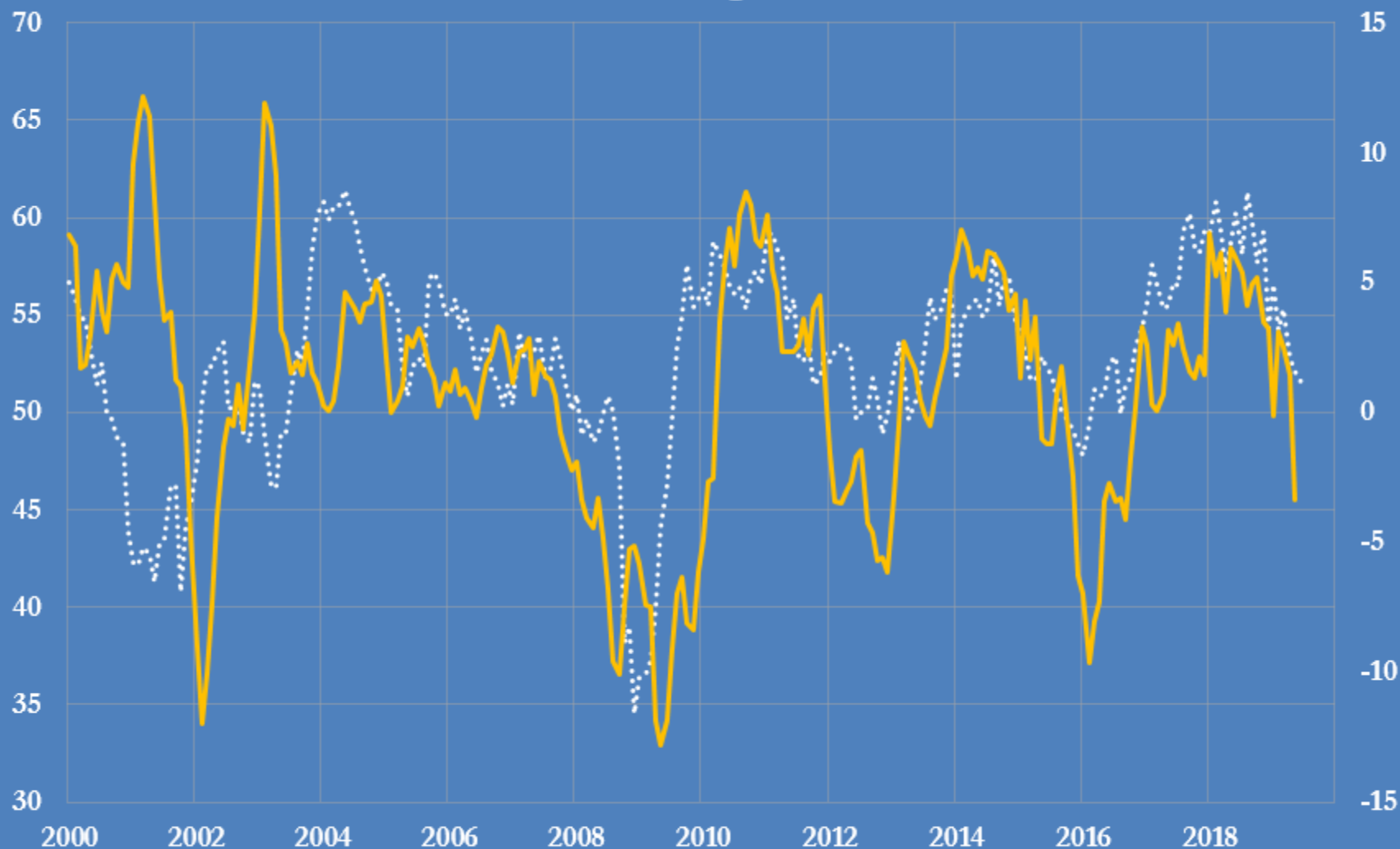
Percent change from prior year, monthly and 12-month average



Source: U.S. Energy Information Administration
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Distillate fuel oil supplied to U.S. customers, 2000-2019

Percent change from prior year, three-month average
ISM manufacturing index shown



..... L-axis: ISM manufacturing index

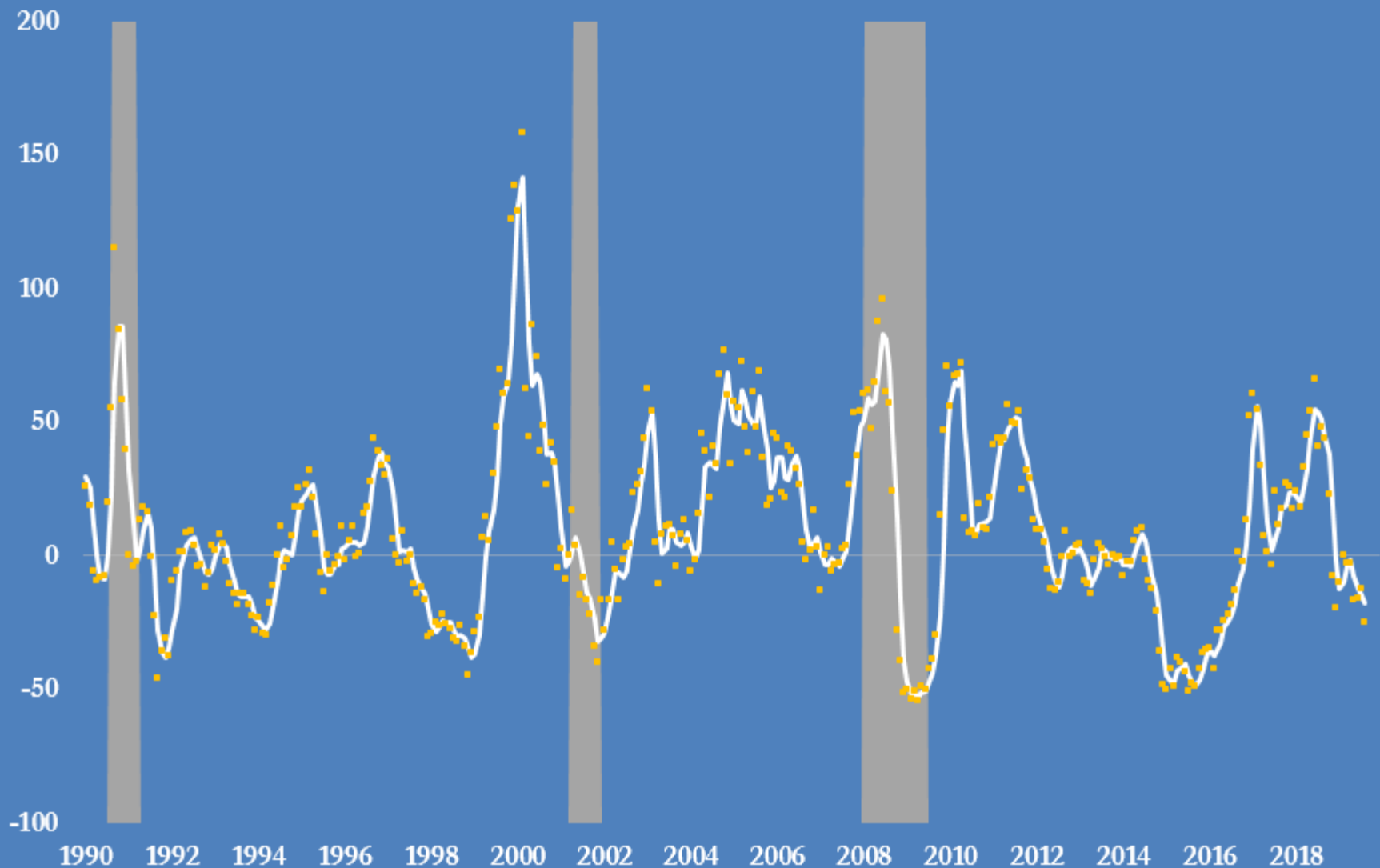
—— R-axis: Distillate supplied (YoY % chg)

Sources: U.S. Energy Information Administration and
Institute for Supply Management; @JKempEnergy

Brent spot price, 1990-2019

Percent change from year earlier, monthly and 3-month average

NBER U.S. recession dates shown

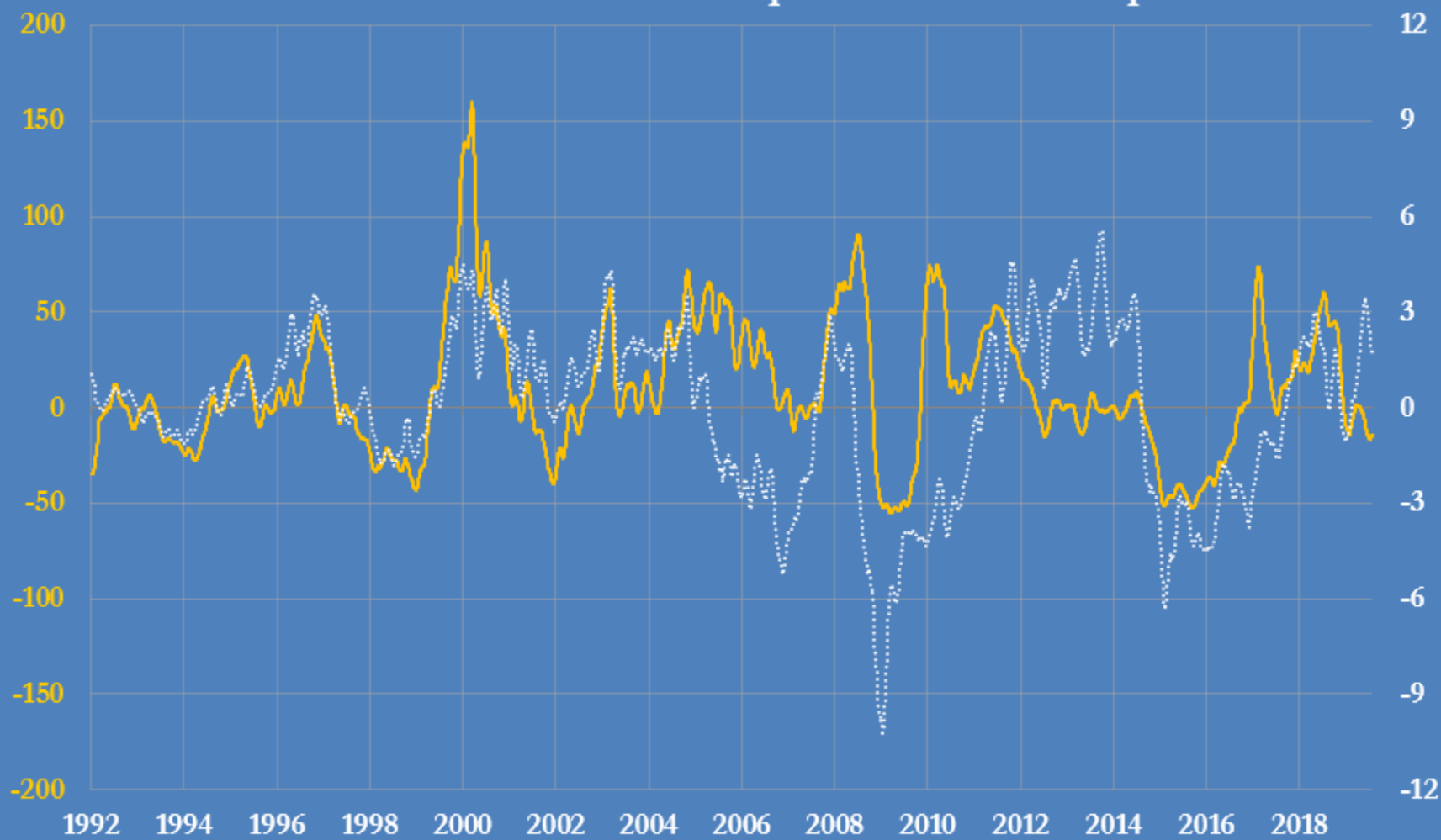


Source: ICE Futures Europe, National Bureau of Economic Research

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Cyclical indicators in the oil market, 1992-2019

Brent crude: front-month futures prices and calendar spreads



— L-axis: Brent front-month futures prices (percent change year-on-year)

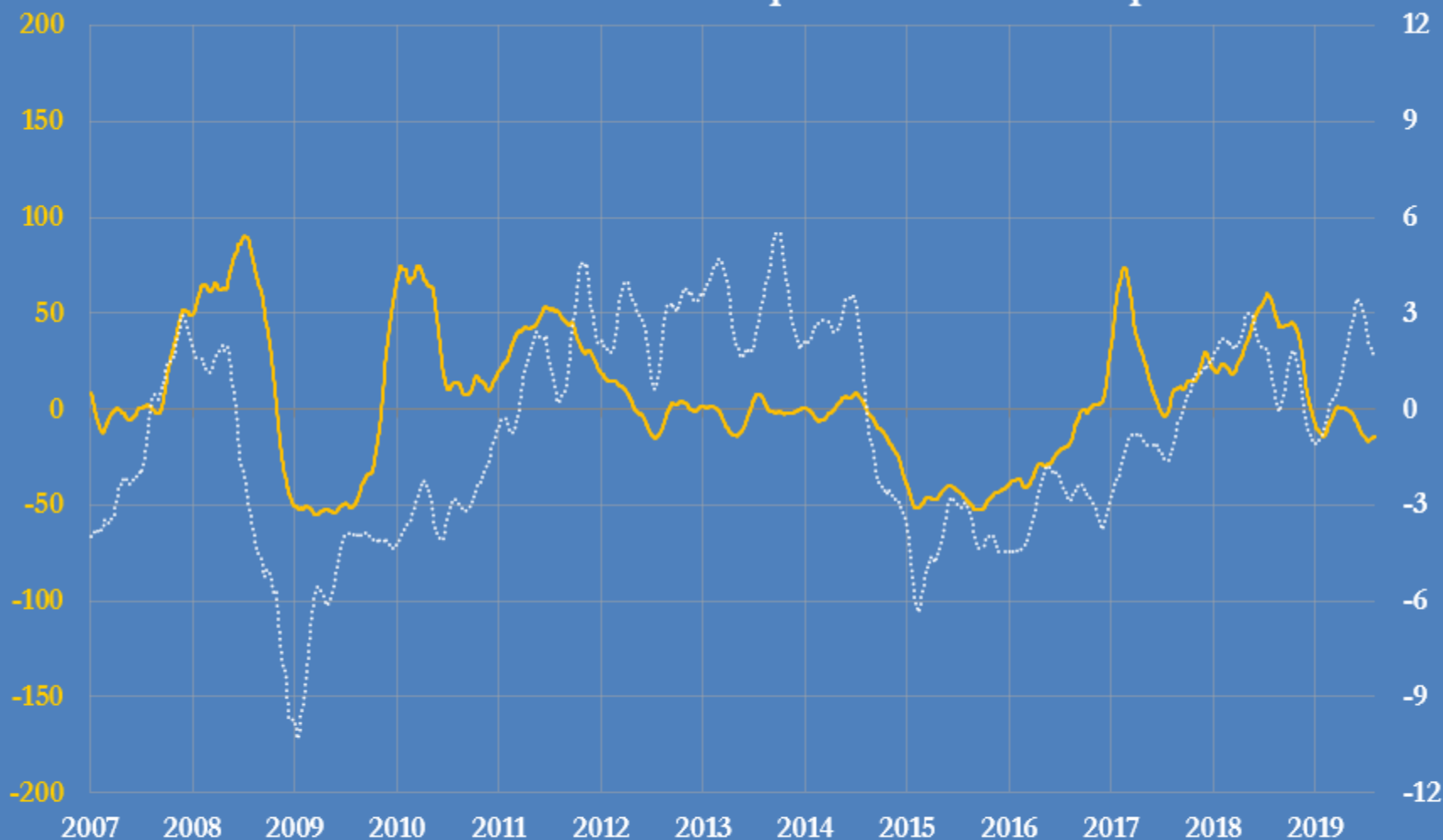
..... R-axis: Brent calendar spread (1st month - 7th month future price, U.S.\$ per bbl)

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

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Cyclical indicators in the oil market, 2007-2019

Brent crude: front-month futures prices and calendar spreads

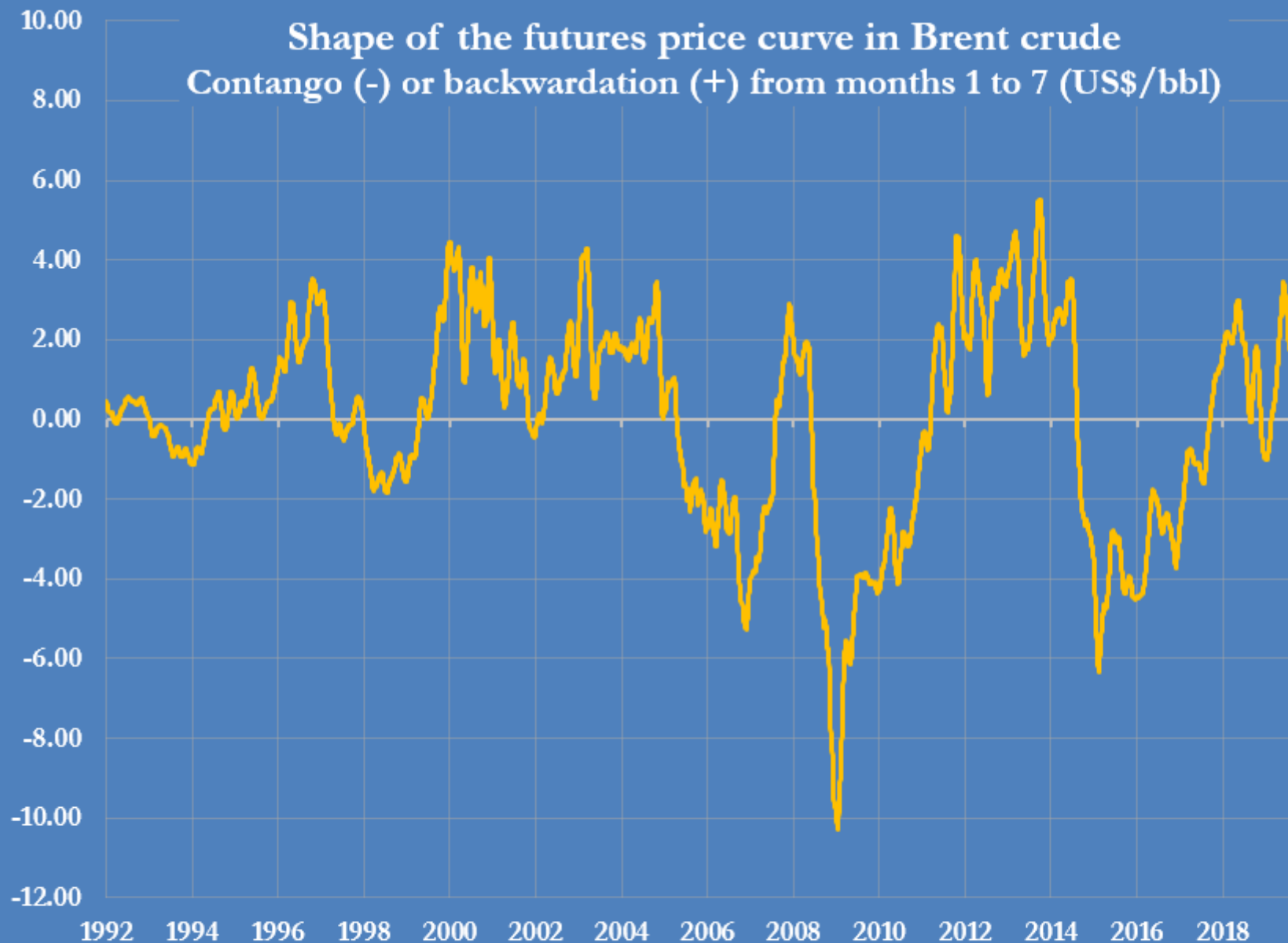


— L-axis: Brent front-month futures prices (percent change year-on-year)

..... R-axis: Brent calendar spread (1st month - 7th month future price, U.S.\$ per bbl)

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

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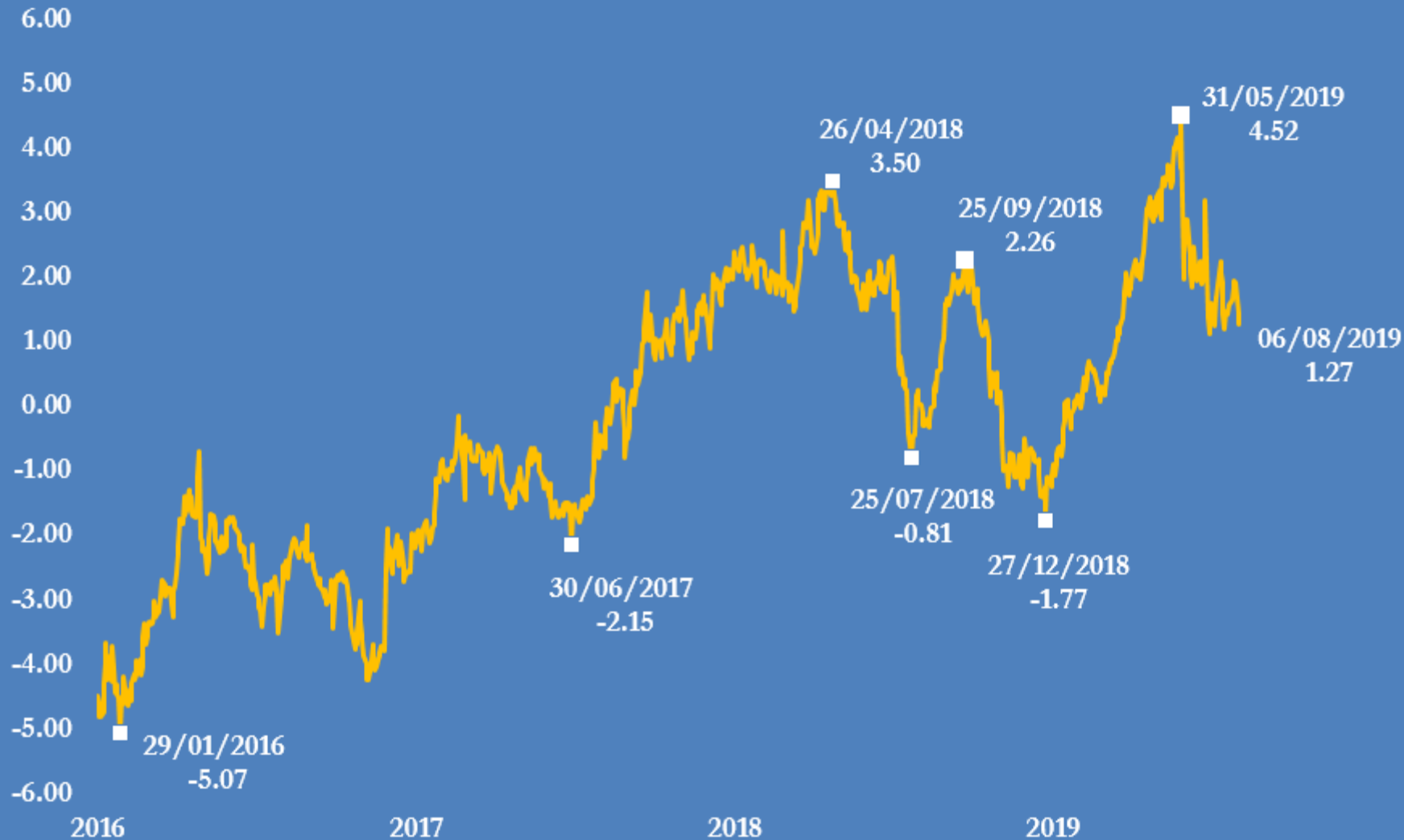


Price difference between 1st listed contract month and 7th listed contract month for Brent futures (U.S.\$/bbl)
Contango (-) or backwardation (+) averaged over 30 days

Source: ICE Futures Europe
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Shape of the futures price curve in Brent crude

Contango (-) or backwardation (+) from months 1 to 7 (US\$/bbl)



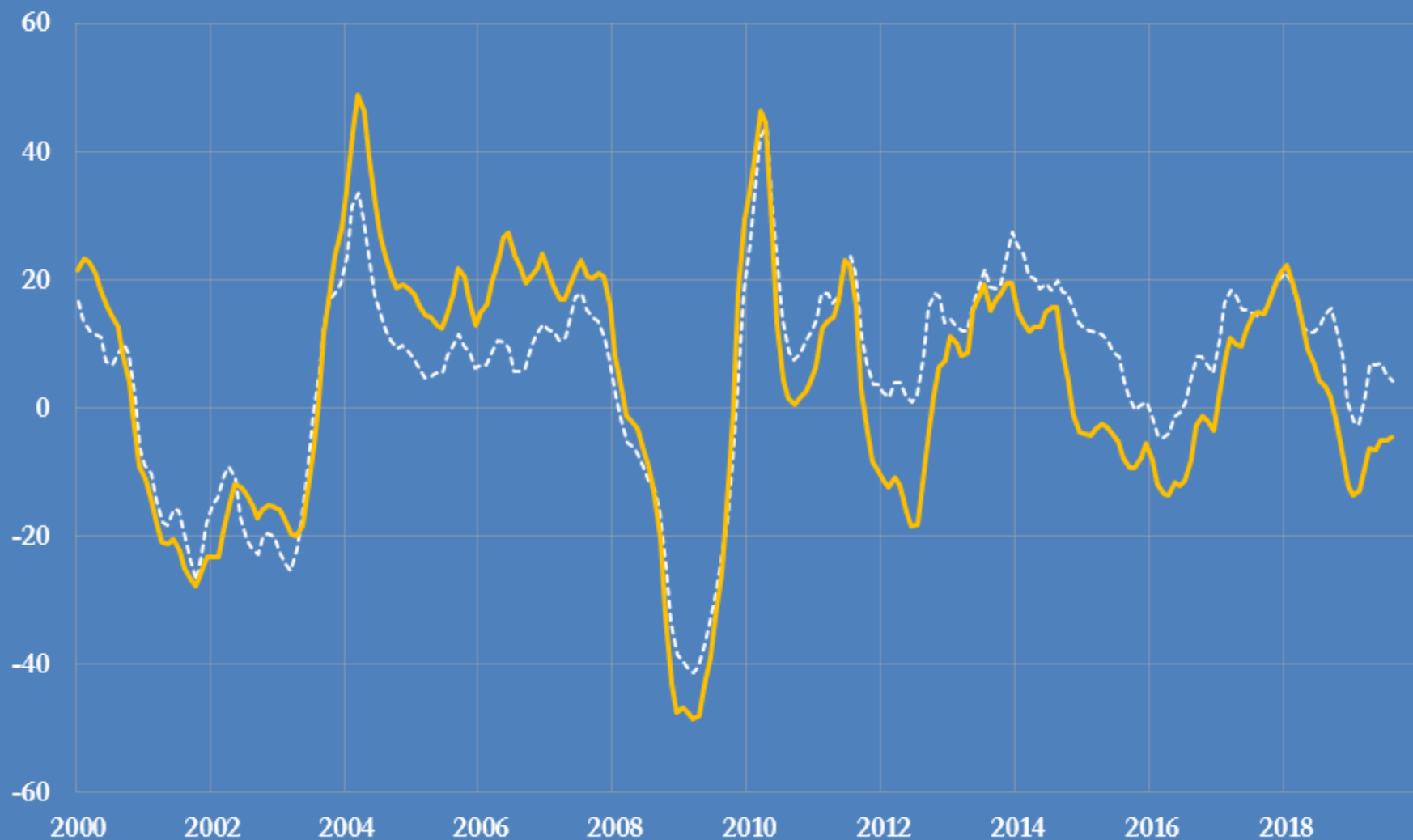
Price difference Brent month 1 and month 7 (U.S.\$/bbl)
Contango (-) or backwardation (+)

Source: ICE Futures, @JKempEnergy

MSCI equity market indices, 2000-2019

United States and World ex United States

Percent change from prior year, three-month average



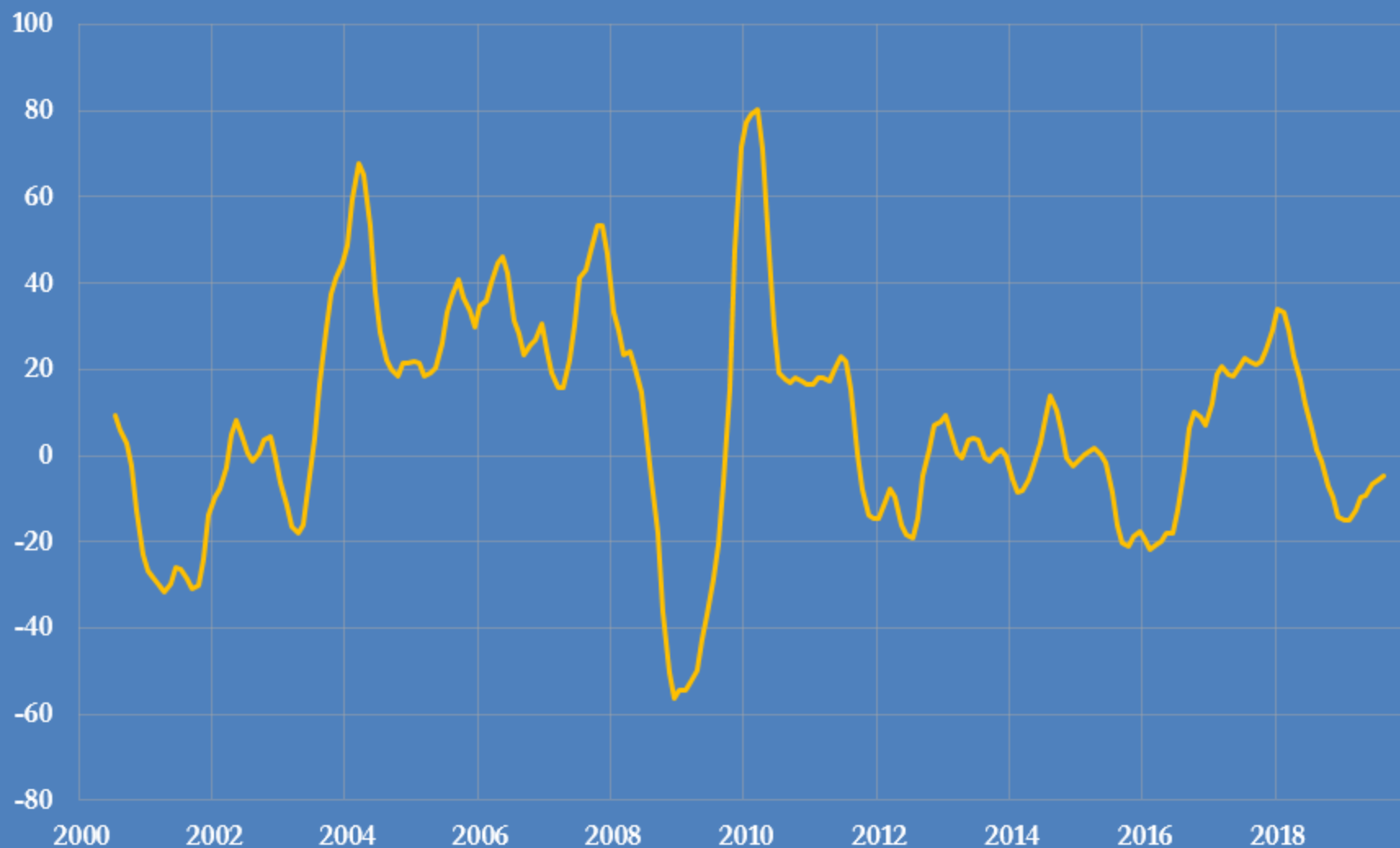
----- United States
—— World ex United States

Source: Refinitiv
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MSCI equity market indices, 2000-2019

Emerging markets

Percent change from prior year, three-month average



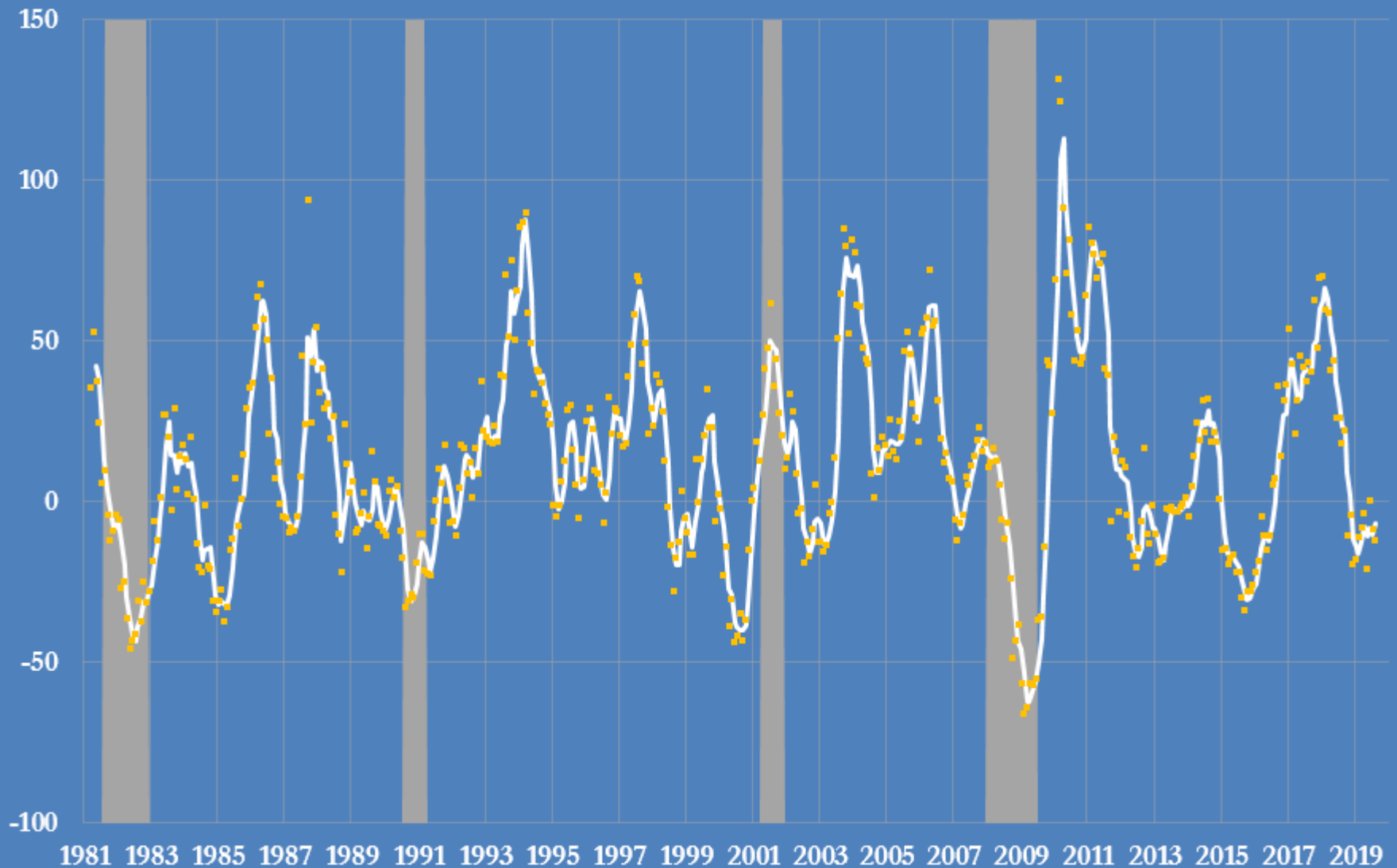
Source: Refinitiv

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Caterpillar Inc share price, 1981-2019

percent change from prior year, monthly and three-month average

NBER U.S. recessions shown

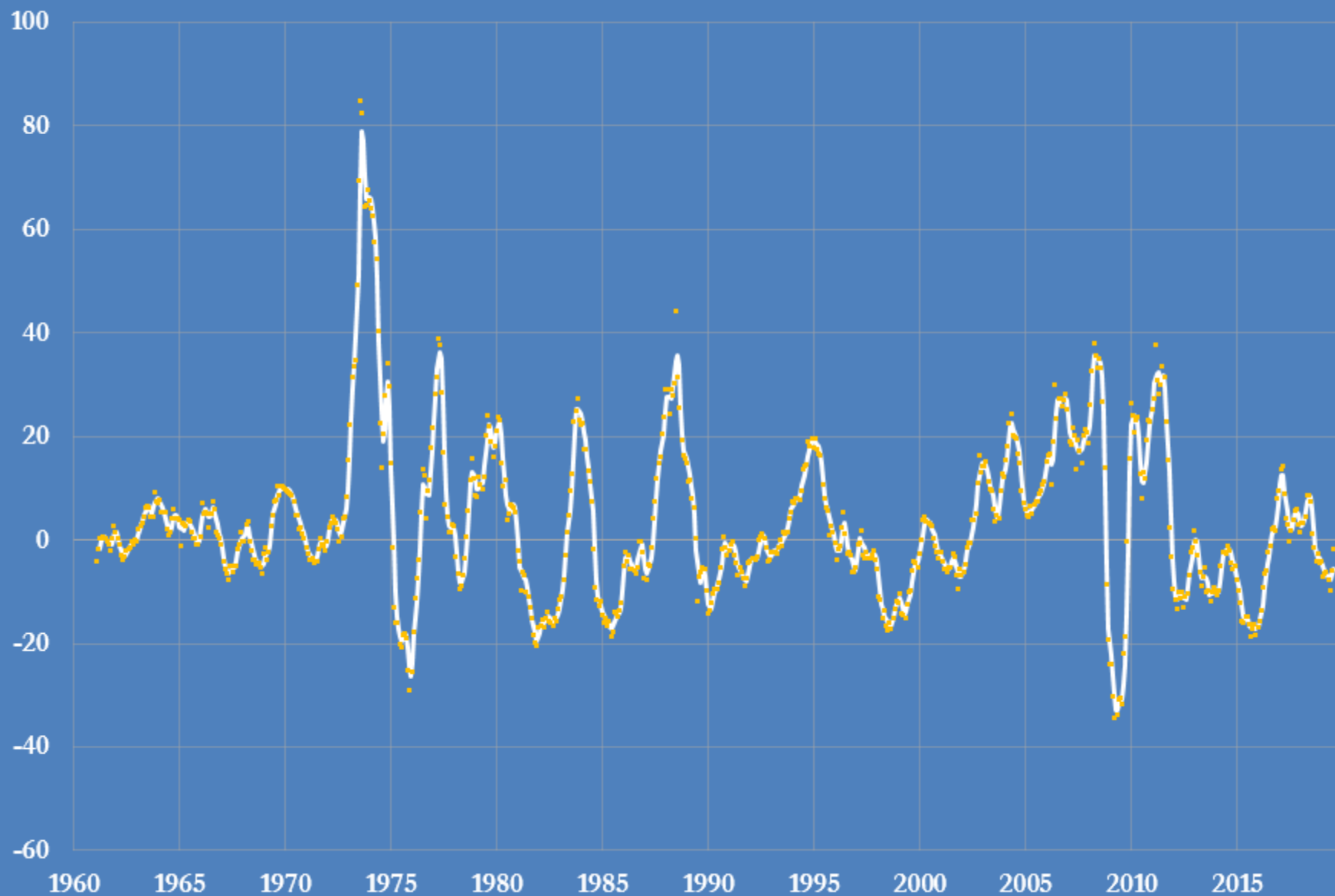


Source: New York Stock Exchange

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Non-energy commodity prices, 1960-2019

percent change from prior year, monthly and three-month average

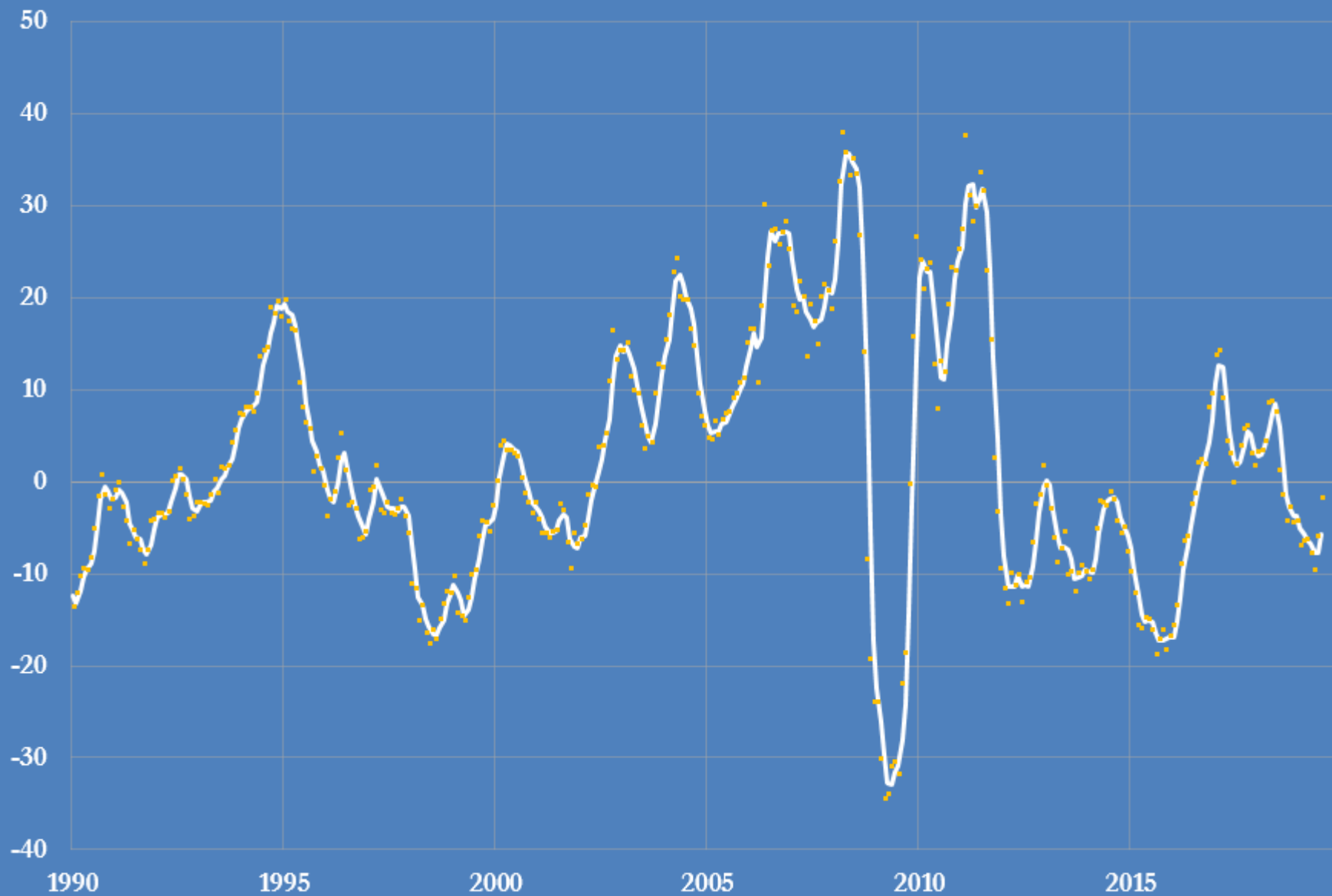


Source: World Bank

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Non-energy commodity prices, 1990-2019

percent change from prior year, monthly and three-month average

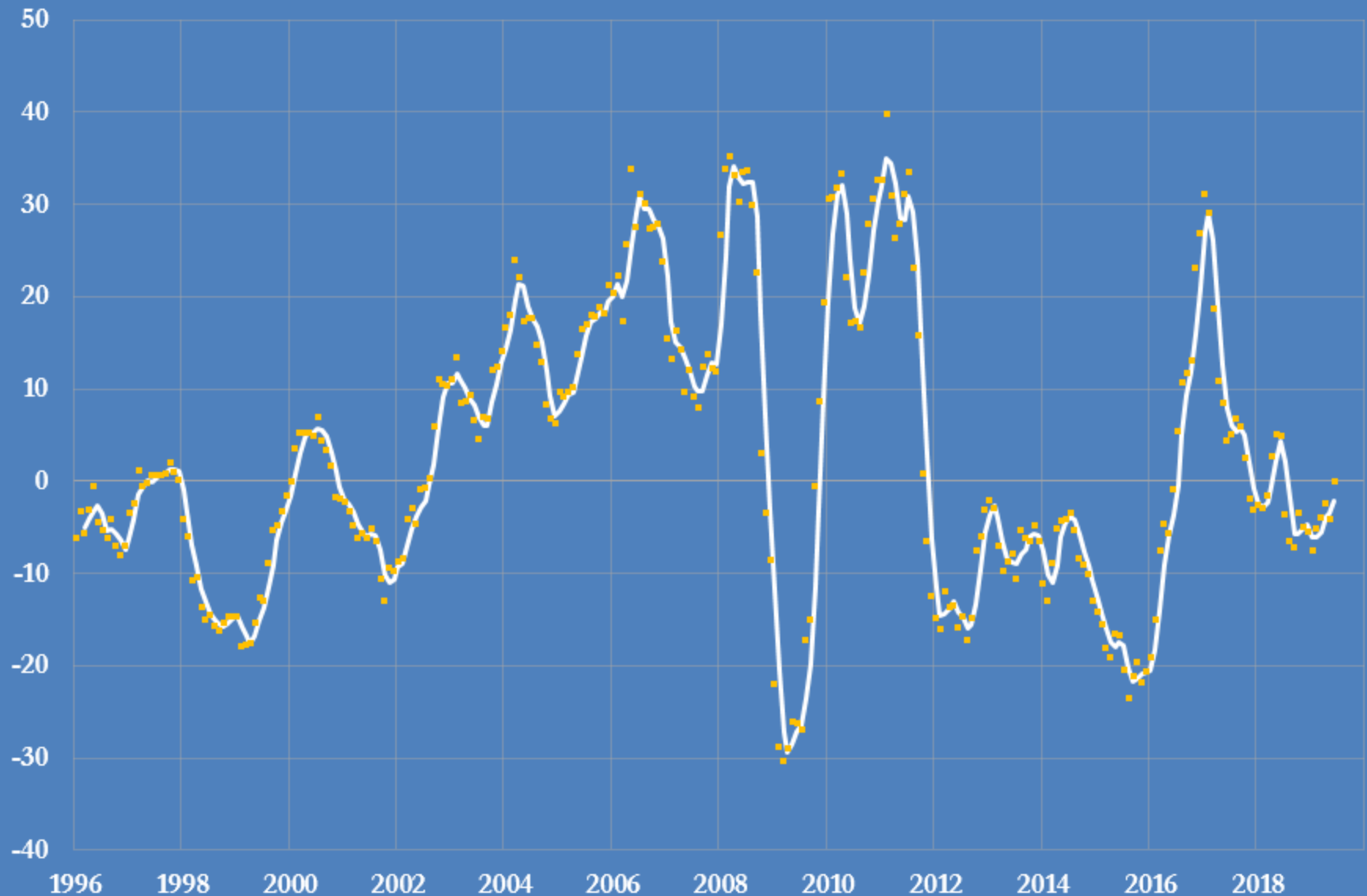


Source: World Bank

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Non-fuel commodity prices (ex precious metals), 1996-2019

Percent change from prior year, monthly and three-month average

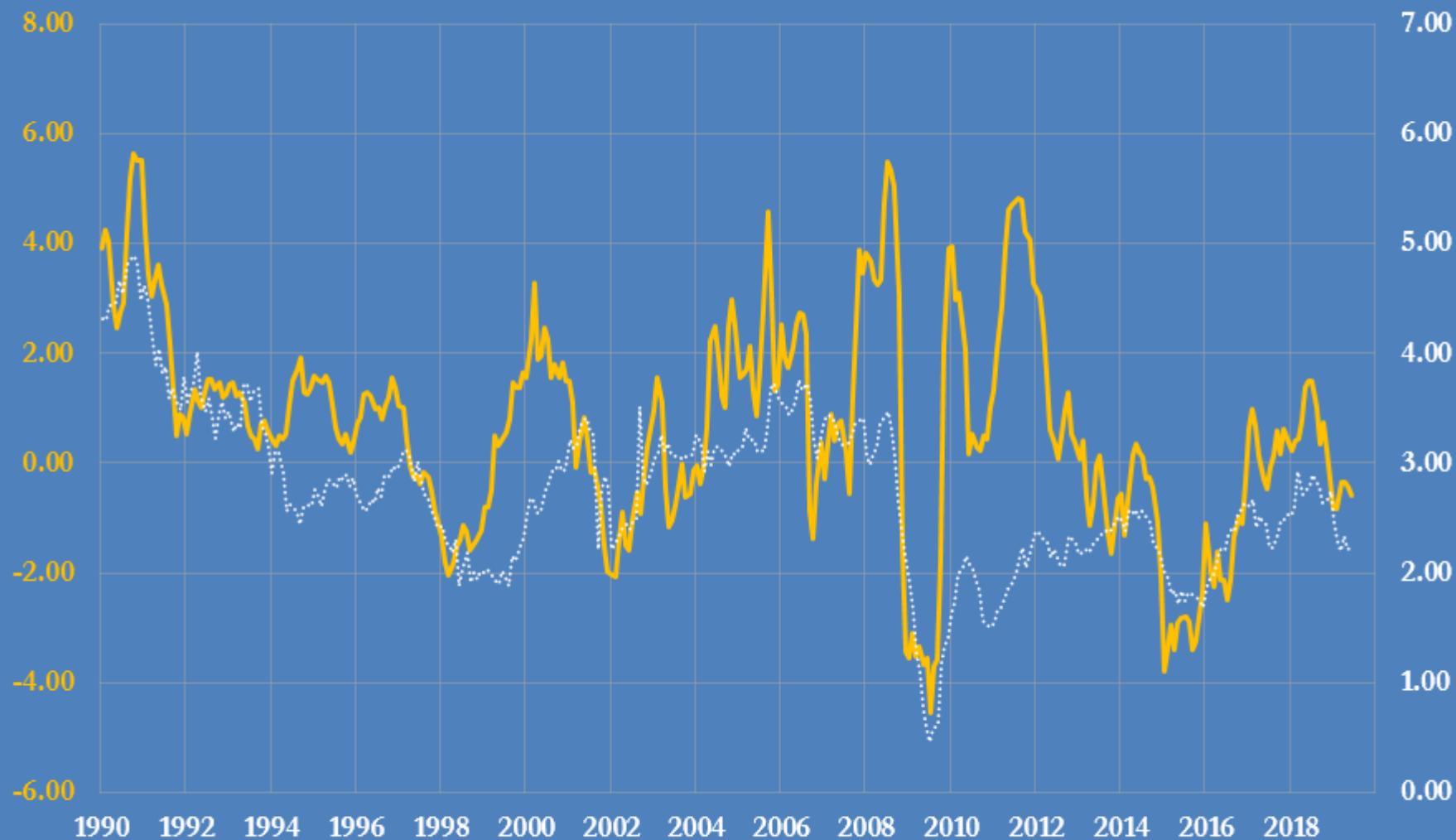


Source: United Nations Conference on Trade and Development

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U.S. consumer price inflation, 1990-2019

PCE deflator, percent change from prior year



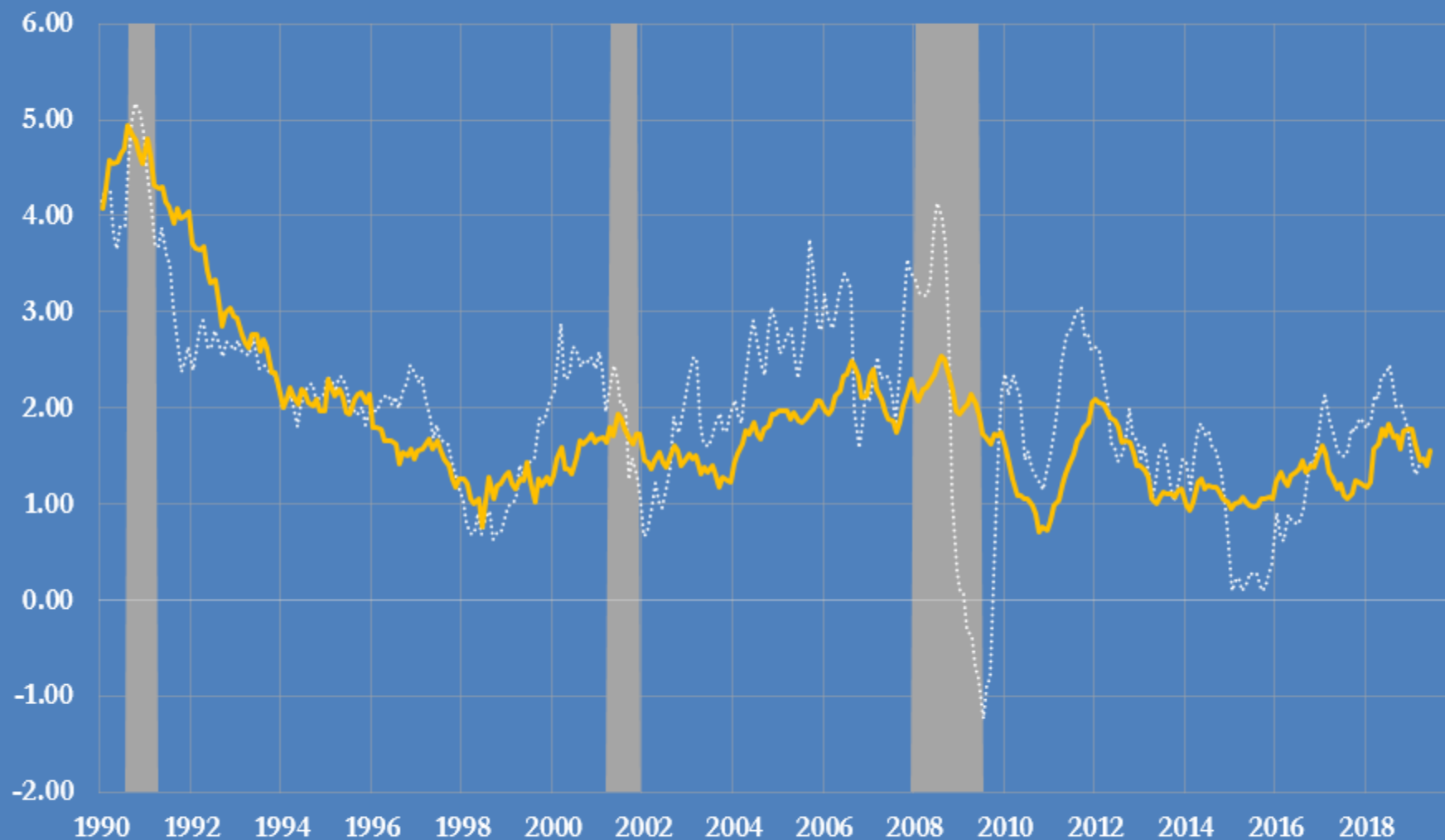
— PCE goods (left-axis)
..... PCE services (right-axis)

Source: Bureau of Economic Analysis
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U.S. consumer price inflation, 1990-2019

PCE deflator, all items and market-based PCE ex food and energy

Percent change from prior year, NBER recessions shown



■ NBER recession
..... PCE all items
— PCE market-based ex food and energy

Source: Bureau of Economic Analysis
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