

Commodity derivatives markets and financial stability

Remarks at FIA Forum: Commodities 2023



Federal Reserve
Bank of Dallas

DALLAS EL PASO HOUSTON SAN ANTONIO

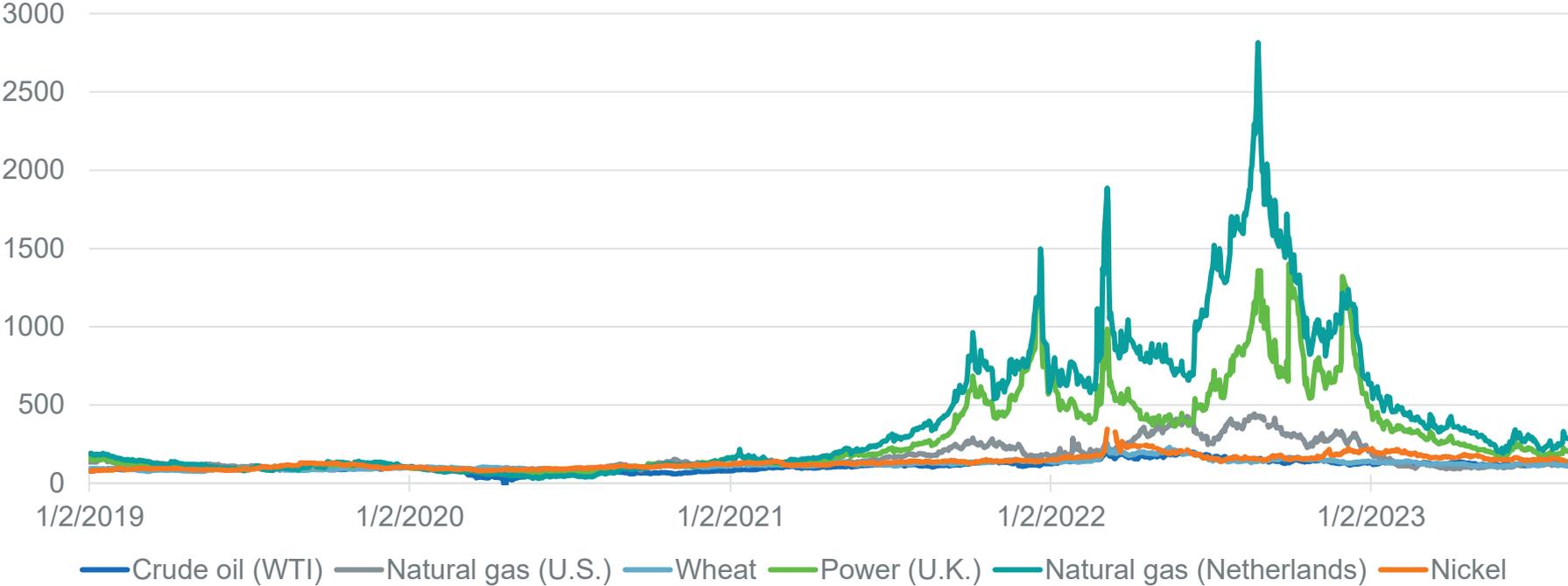
Sam Schulhofer-Wohl
Senior Vice President
September 13, 2023

The views expressed are my own and do not necessarily reflect official positions of the Federal Reserve System.

Perspectives on recent volatility

European energy markets saw extreme volatility ...

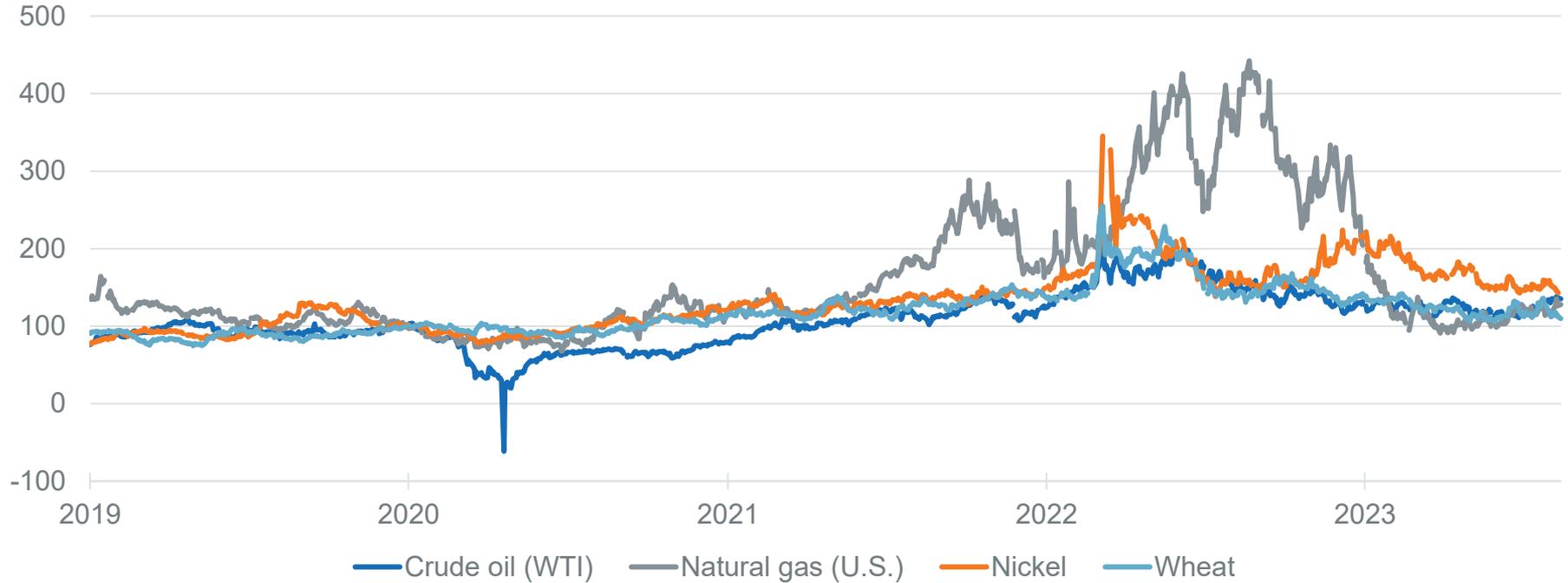
Futures prices (12/31/2019=100)



Generic first contracts. Crude oil: West Texas Intermediate. Data through August 14, 2023.
Source: Bloomberg, CME Group, Intercontinental Exchange, London Metal Exchange; author's calculations.

... but volatility was significant in other markets, too

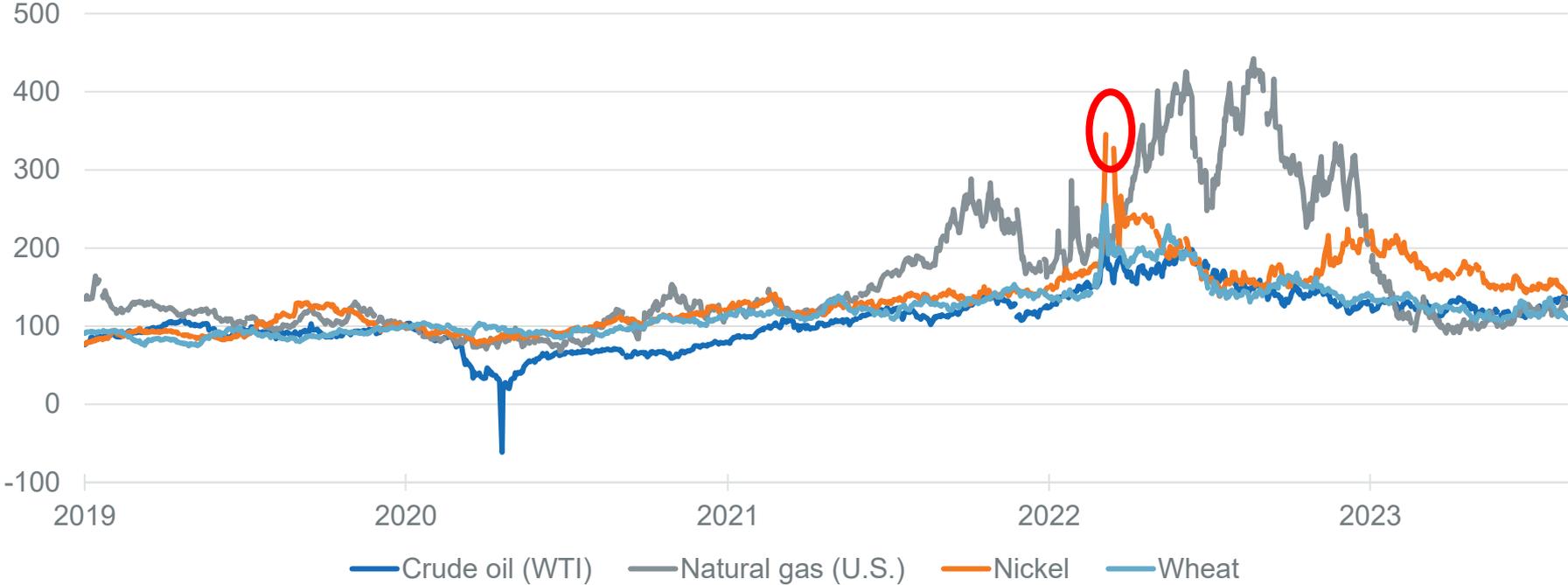
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Nickel trading halted

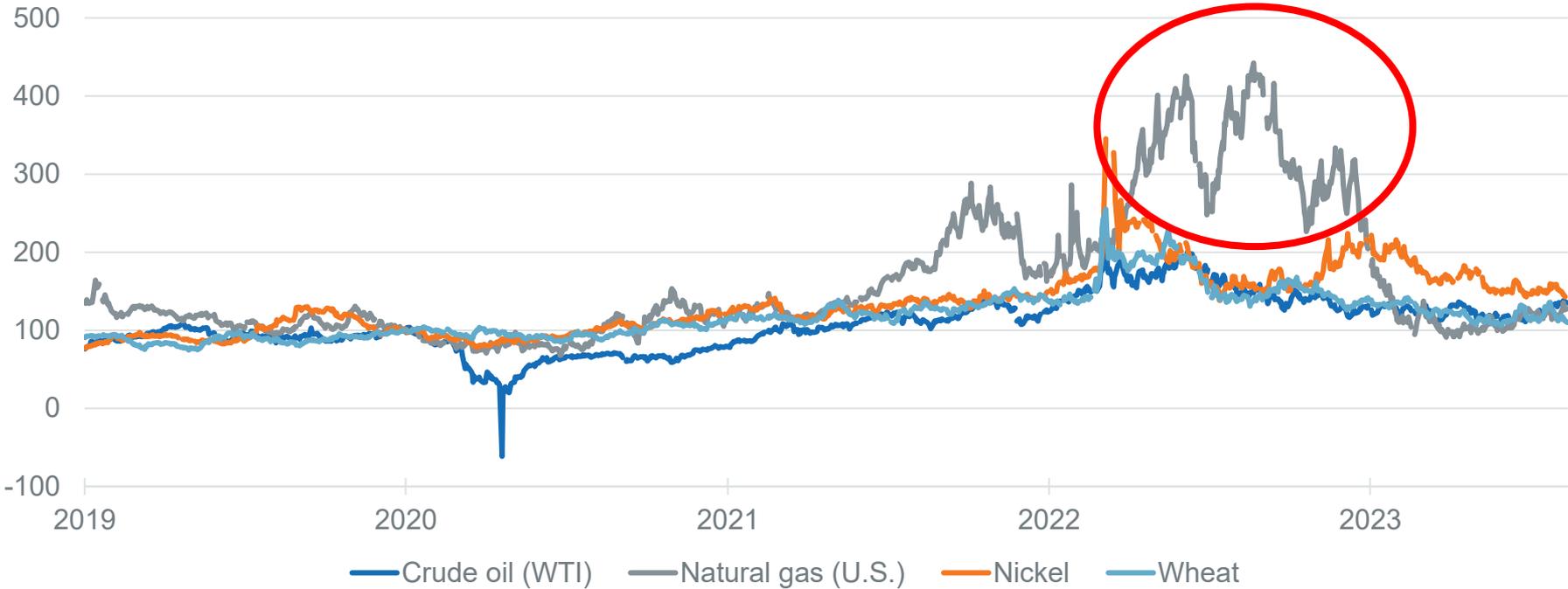
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European stresses spilled over to U.S. natural gas

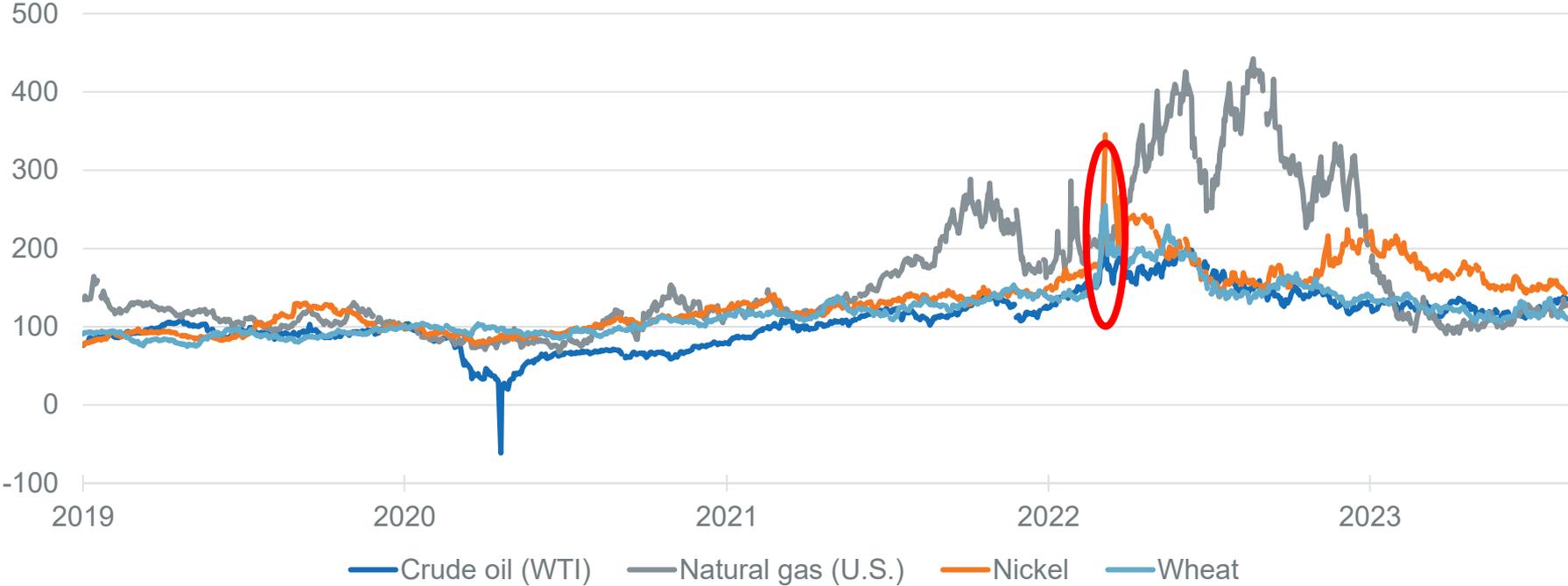
Futures prices (12/31/2019=100)



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Wheat prices spiked

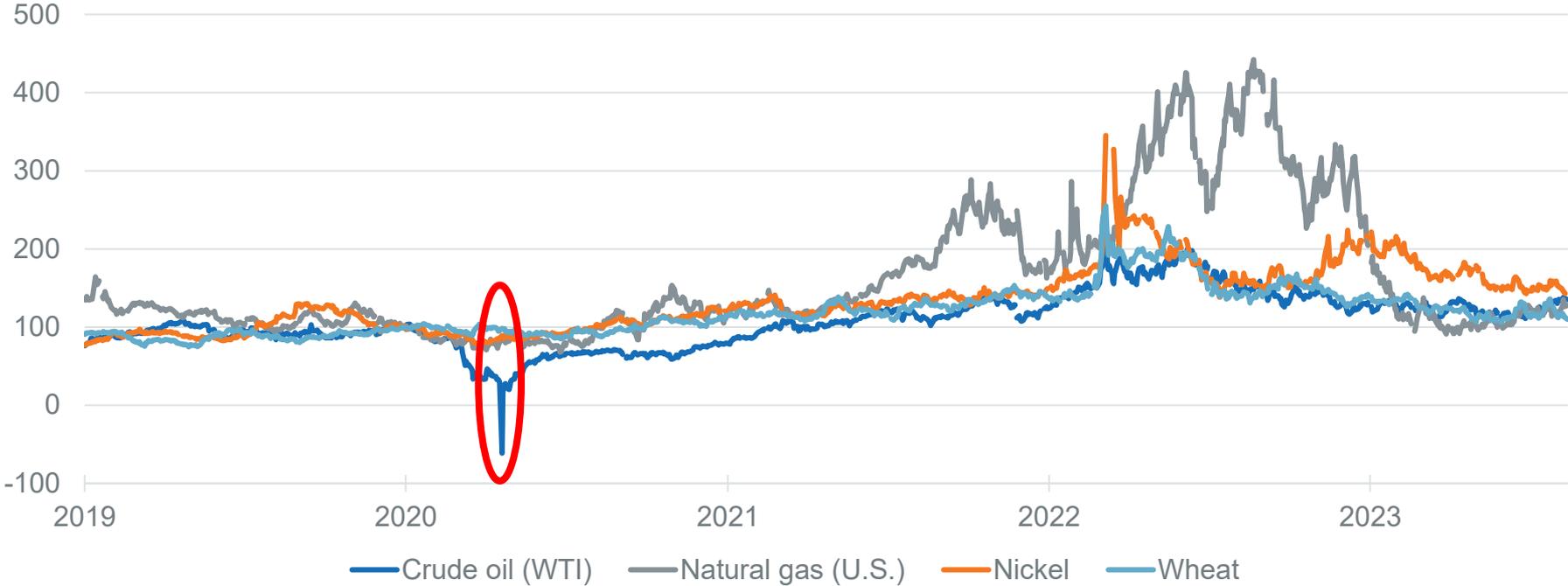
Futures prices (12/31/2019=100)



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Source: Bloomberg, CME Group, London Metal Exchange; author's calculations.

WTI crude went negative

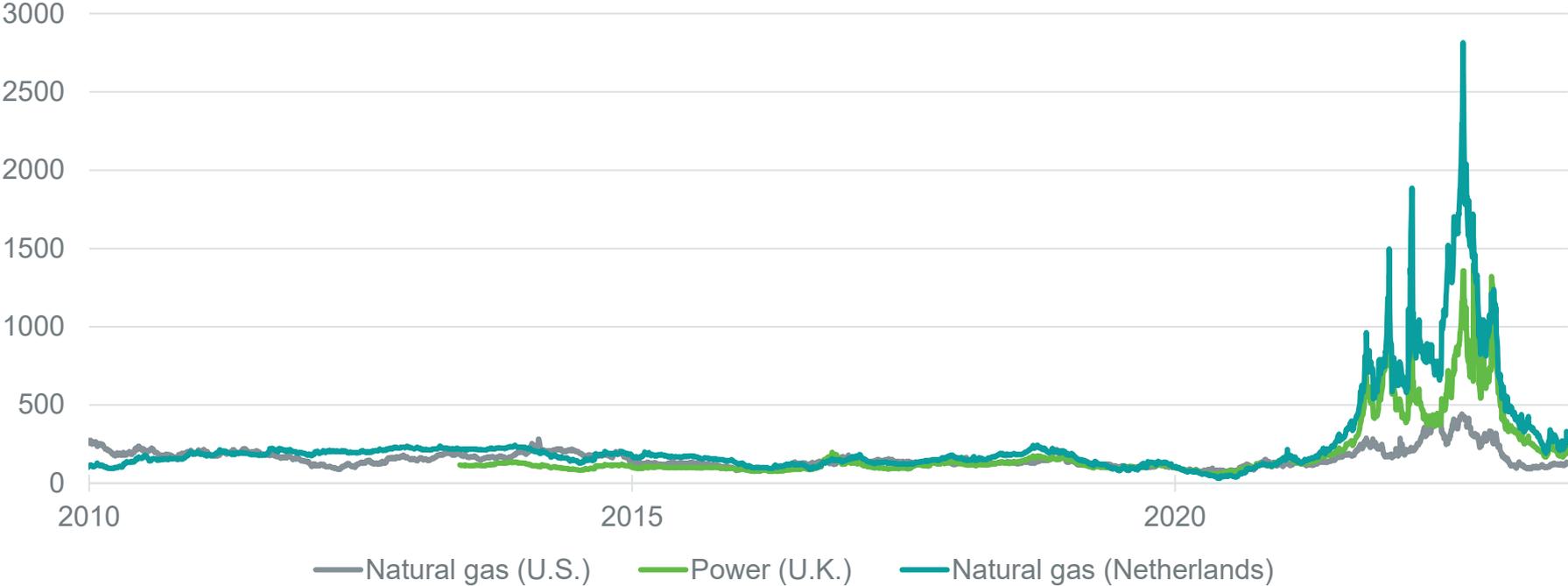
Futures prices (12/31/2019=100)



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A new age of volatility?

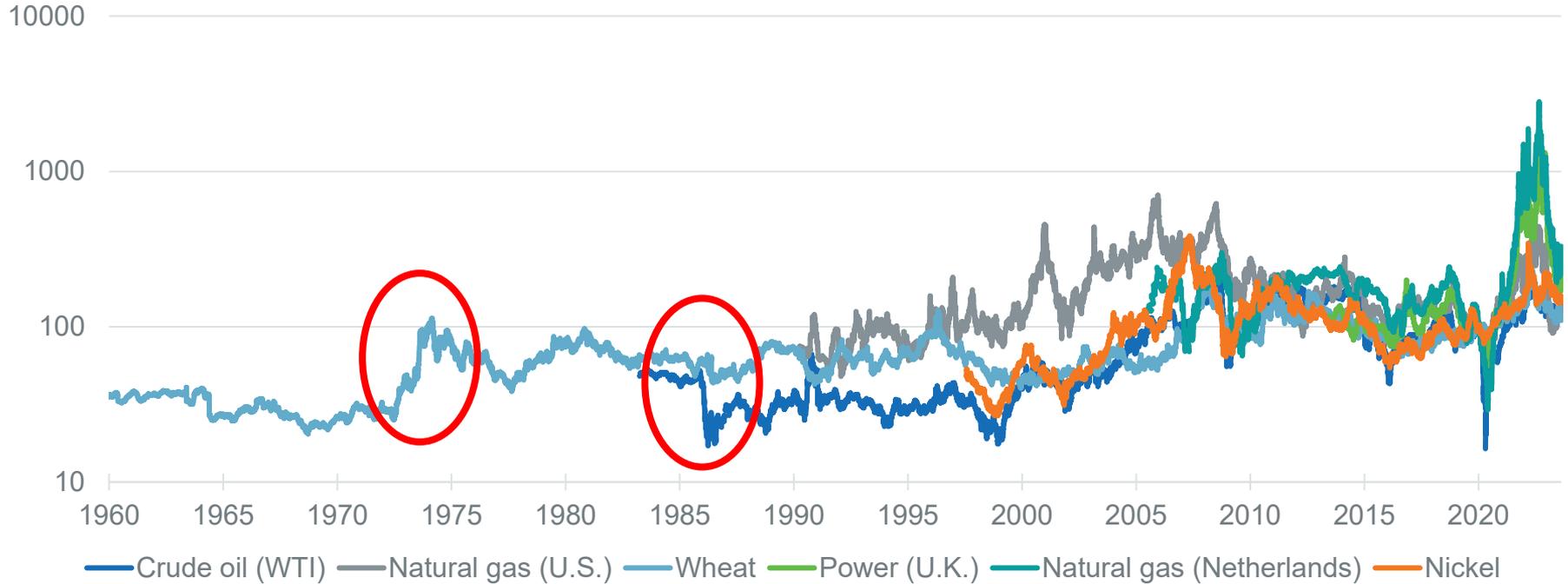
Futures prices (12/31/2019=100)



Generic first contracts. Data through August 14, 2023.
Source: Bloomberg, CME Group, Intercontinental Exchange; author's calculations.

But we've seen this before

Futures prices (12/31/2019=100)

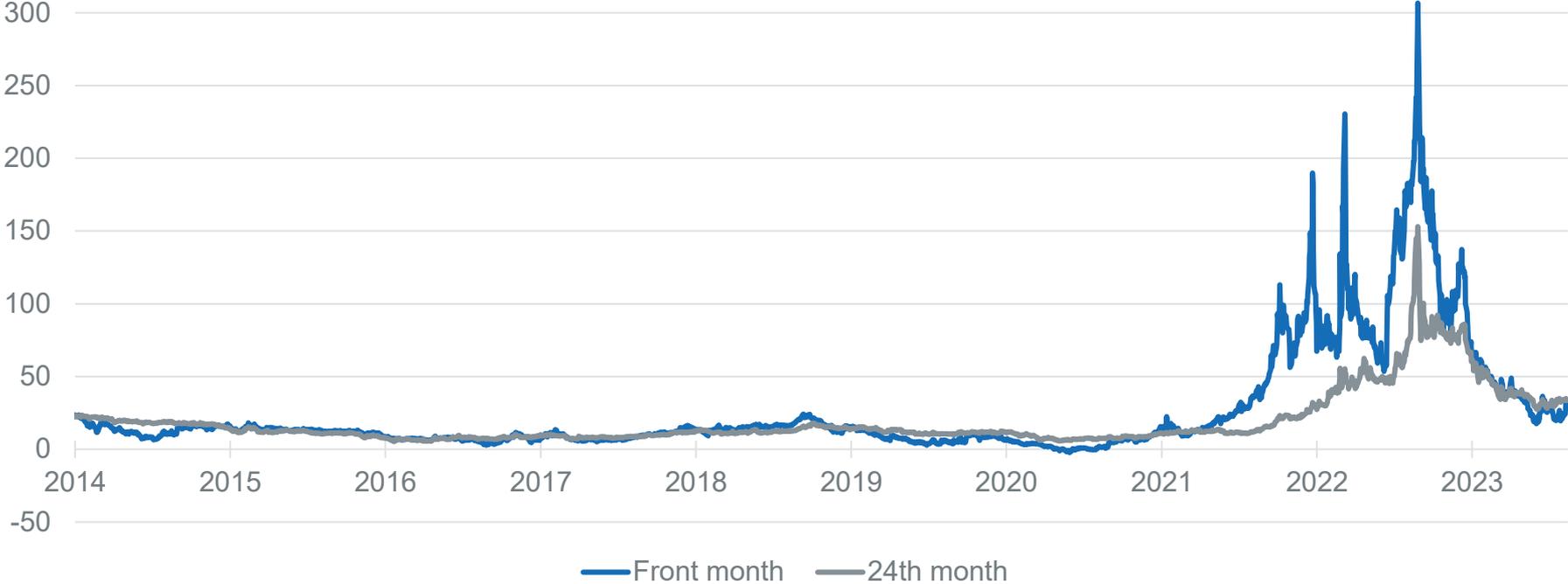


Generic first contracts. Crude oil: West Texas Intermediate. Data through August 14, 2023.
Source: Bloomberg, CME Group, London Metal Exchange; author's calculations.

Price signals and risk transfer

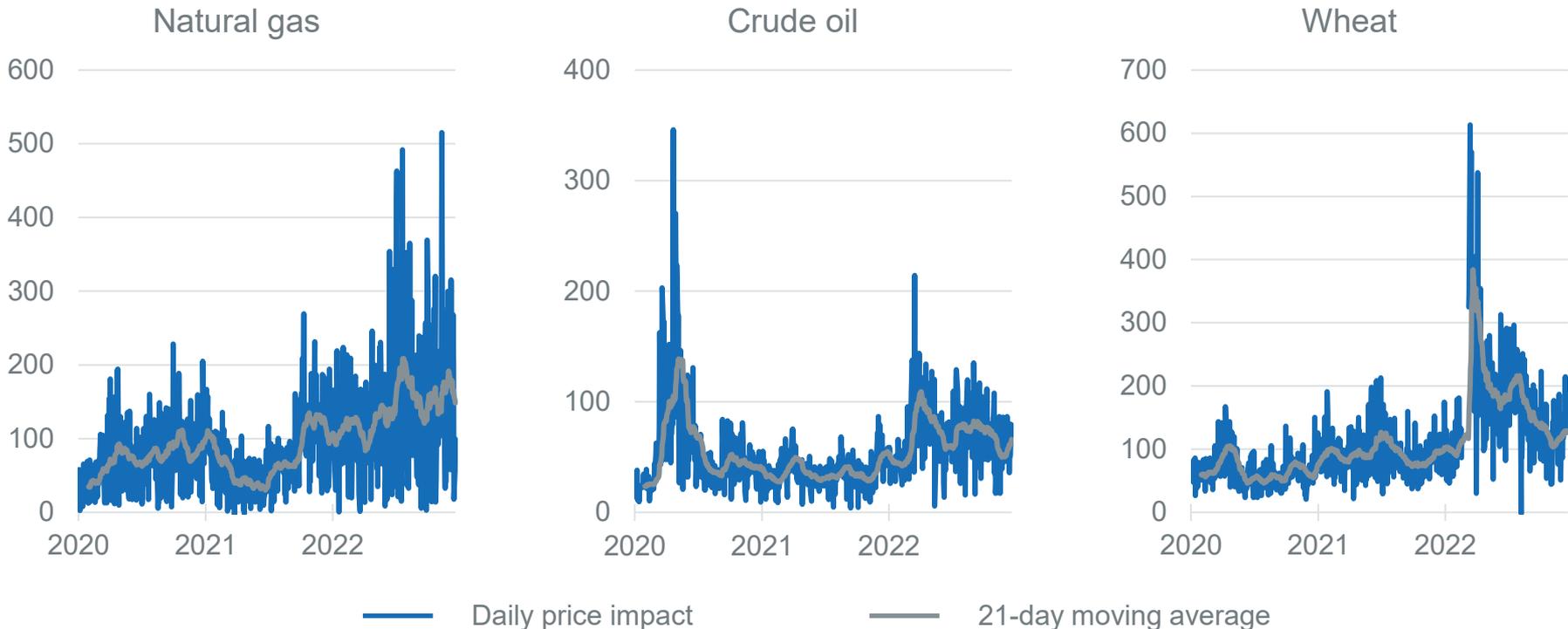
Natural gas spread signals physical incentives

Spread between Netherlands and U.S. natural gas (\$/MWh)



Generic 1st and 24th month contracts. Data through August 14, 2023.
Source: Bloomberg, CME Group, Intercontinental Exchange; author's calculations.

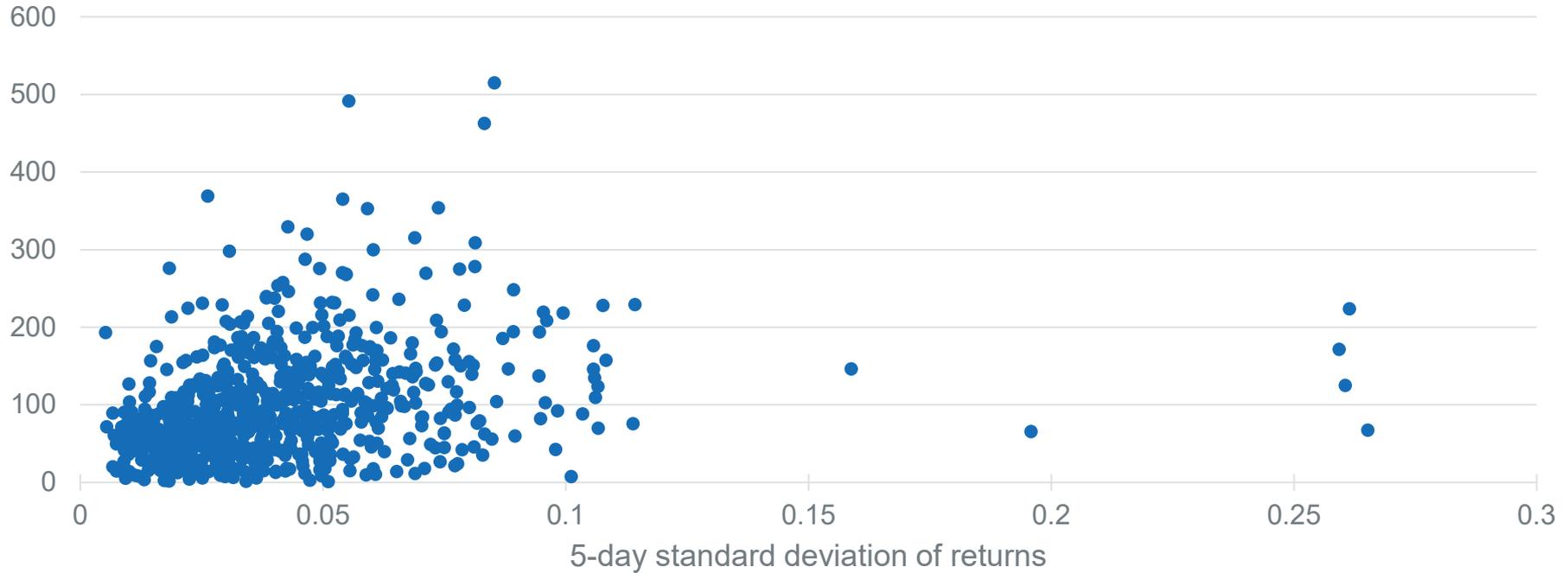
Price impact rose ...



Price impact is Kyle's lambda, the coefficient in the regression of price returns on net trades. Source: Refinitiv Tick History; Federal Reserve calculations; Financial Stability Board. Front-month contracts. Natural gas: Henry Hub. Crude oil: West Texas Intermediate. Wheat: Chicago Soft Red Winter.

... but price impact was generally in line with volatility

Kyle's lambda



Price impact is Kyle's lambda, the coefficient in the regression of price returns on net trades. Source: Refinitiv Tick History; Bloomberg; CME; Federal Reserve calculations; Financial Stability Board; author's calculations. Data for 2020-2022. Front-month contracts. Natural gas: Henry Hub.

Lessons learned

Thank you

Sam Schulhofer-Wohl
September 13, 2023