Commodity derivatives markets and financial stability
Remarks at FIA Forum: Commodities 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)

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

Futures prices (12/31/2019=100)

Source: Bloomberg, CME Group, London Metal Exchange; author’s calculations.
Nickel trading halted

Futures prices (12/31/2019=100)

Source: Bloomberg, CME Group, London Metal Exchange; author’s calculations.
European stresses spilled over to U.S. natural gas

Futures prices (12/31/2019=100)

Crude oil (WTI) | Natural gas (U.S.) | Nickel | Wheat

Source: Bloomberg, CME Group, London Metal Exchange; author’s calculations.
Wheat prices spiked

Futures prices (12/31/2019=100)

Source: Bloomberg, CME Group, London Metal Exchange; author’s calculations.
WTI crude went negative

Futures prices (12/31/2019=100)

A new age of volatility?

Futures prices (12/31/2019=100)

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

Generic first contracts. Data through August 14, 2023.
But we’ve seen this before

Futures prices (12/31/2019=100)

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 ...

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

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