Cheap Money, Geopolitics and Supernormal Backwardation of the WTI Forward Curve

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Debate continues regarding how geopolitical risk and speculation in oil futures markets influence price outcomes. As oil prices skyrocketed into triple-digits in the late 2000s and early 2010s—levels not seen since the immediate aftermath of the Iranian Revolution—a large literature emerged to assess how much, if any, of this rise in prices was due to "speculation" as oil futures contracts had been "financialized." As oil prices rose above $100 a barrel in 2008, alarms were raised before the U.S. Senate Committee on Homeland Security and Government. Proposals were presented to the Commodity Futures and Trading Commission (CFTC) for stricter regulations on derivative positions to limit speculation in futures markets. Several comments submitted to the CFTC in 2011 supported stricter regulation, arguing that commodity index funds and other vehicles had indeed allowed speculative activities in futures markets to exceed significantly the more tethered trading that supported physical-market activity and hedging.

The CFTC approved a final rule for position limits on futures and swaps on October 18, 2011. The new rule, which CFTC said was authorized by the Dodd-Frank Wall Street Reform and Consumer Protection Act legislation, included the New York Mercantile Exchange WTI contract and "establishes that no trader may hold or own a position in the same commodity if the position exceeds a spot-month position limit of 25% of the 'estimated spot-month deliverable supply'." The rules also provided that non-spot month limits would bar traders from holding positions that exceed 10% of the first 25,000 contracts and 2.5% thereafter for either all months combined or an individual month. At the time, it was suggested that these rule details were not sufficiently restrictive. The rule was challenged in court and reissued in 2016 but in the end, no final rulemaking has been implemented. The CFTC published a new notice of proposed rule-making in the Federal Register on February 27, 2020.

The same debate on the influence of speculation on oil price formation in WTI futures pricing took hold again during the period in 2021 and early 2022 when Russia amassed troops on the border of Ukraine. Oil prices rose from $76 a barrel at the beginning of January 2021 to $120 in early June 2022. The policy salience of the issue was driven home over the course of 2022 by rising global concerns about inflation and US President Biden's intense focus on the impact of high gasoline prices on American consumers. As the US President seeks policy levers to bring down the price of oil, surprisingly little debate has focused on the inflationary role of money manager speculation in oil futures markets and related policy remedies. A rare exception was the Citi research brief from June 2022, which explained that passive investors were "longer positioned than ever" based on "price momentum and strong backwardation" and it noted that "investor positioning remains tilted toward West Texas Intermediate US based futures markets given higher margin requirements on European exchanges."

Our inquiry, which does not cover the period of extreme volatility that erupted after Russia's invasion of Ukraine, albeit consistent with price movements in the ensuing months, offers further evidence that speculative activity linked to geopolitical risk is influencing oil price outcomes. Specifically, we investigated the possibility that speculative activity in the most liquid short tenor spot month contracts for West Texas Intermediate crude oil (WTI) on the New York Mercantile Exchange (NYMEX) has contributed to repeating patterns of sharply steepening slopes in the WTI forward curve in the 10-year time period from 2011 to 2021. After controlling for macroeconomic variables, physical

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market fundamentals, and basic arbitrage, we find statistically significant evidence that calendar spread behavior is partly explained by speculative activity related to assessed geopolitical risk. Specifically, we find evidence that speculators buy the geopolitical risk and sell the event. Moreover, we find that cheap credit has served as a catalyst for amplifying the effects of geopolitical risks on oil futures prices. This research thus contributes to the body of empirical evidence that justifies stricter position limits and/or margin requirements for early tenor oil futures contracts.

Since financial and geopolitical variables together explain a very significant percentage of the variation in WTI forward curve slope historically, we suggest that regulators need to pay special attention to the effect of speculative activity during and around periods of low interest rates and heightened geopolitical risk. Our analysis contributes to evidence needed to support mechanisms to limit volumes for early tenor oil futures contracts and to investigate the large role of passive investors in fueling upward price movements, with an eye to discouraging such investors from exacerbating the negative financial effects of geopolitical crises. This is consistent with recent recommendations that US exchanges need to strengthen volatility-based margin requirements. We sharpen this policy recommendation by suggesting that CFTC should require US exchanges to set margin call requirements, especially for early-tenor contracts, based on volatility not only of the front month contract but also on the degree of market backwardation. Needless to say, these margin requirements should be lowered for positions that are probably held to hedge physical exposure as contrasted with speculative positions. Toward that end, to aid policy makers in acting under Section 5 authorities to address unreasonable fluctuations, and to allow researchers like ourselves to shed further light on the problem and potential remedies, we suggest that CFTC should require and release to the public a more transparent and detailed breakdown of positions held in WTI futures in order more easily to identify the volume of positions held by passive investors and/or financial speculators and their effects on price fluctuations.