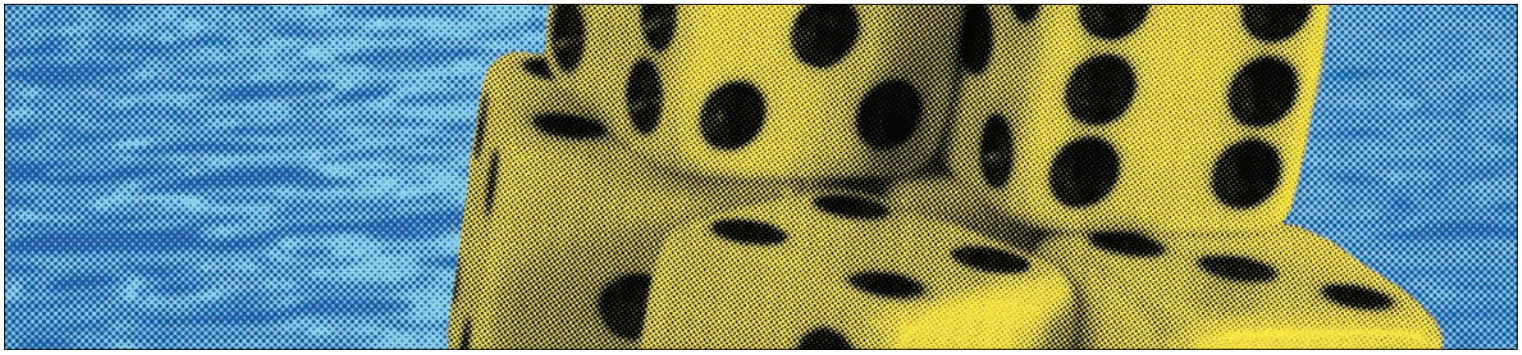
FOOD & WATER WATCH

The Water Futures Market: Gambling With Our Water



Financial speculators can now make money by gambling with our most precious resource — water — and profiting from water shortages driven by climate chaos. In December 2020, following a devastating wildfire season and anticipating another major drought in California, the Chicago Mercantile Exchange (CME) launched the world's first water futures market.[1] Nasdaq Veles California Water Index Futures allows investors to bet on the future prices of water entitlement trades in California.[2]

The launch was received tepidly by California farmers and was condemned by the global water community, including the United Nations Special Rapporteur on the human rights to safe drinking water and sanitation.[3] Far from being a sure-fire way of managing the risks of price swings from drought, the water futures market is vulnerable to market manipulation and excessive speculation, creating new risks that could increase water prices for everyone.

Water Futures Overview

What are Nasdaq Veles Water Futures? They are contracts that allow investors to speculate about the future price of the Nasdaq Veles California Water (NQH2O) Index. These contracts are cash-settled, so at the end of the contract, the physical asset — the water entitlement — is not exchanged. Instead, investors exchange the cash difference between the contract price and the index price.[4]

What is the Nasdaq Veles California Water Index? The company WestWater Research established an algorithm for estimating the cash price for the exchange of water allocations in California. Veles Water Limited, a financial firm focused on water, and NASDAQ created the NQH2O Index based on this algorithm. The NQH2O Index is derived using an estimate of the volume-weighted average of prevailing prices in California's surface water market and four adjudicated groundwater basins.[5]

How does water futures trading work? Investors enter into contracts with each other to bet on the future price of the Index. Each contract is for 10 acre-feet of water (3.3 million gallons) and lasts up to two years.[6] The seller of the contract is betting that the Index price will fall, and will get paid if correct, while the buyer of the contract is betting that the Index price will increase, and will get paid if correct. At the end of the contract, investors who bet correctly will profit, or the investors can sell and buy contracts as prices change over the course of the contract.[7]

What was the approval process? It relied on self-certification. The CME, which is registered and regulated by the Commodity Futures Trading Commission (CFTC), serves as the exchange for and has self-regulatory responsibilities over futures contracts like Nasdaq Veles Water Futures. CME only had to self-certify that the water futures would not violate the law or regulations.[8]

When will regulators review water futures? CFTC staff have indicated that they do not thoroughly evaluate self-certified futures products unless there are more than 10,000 open contracts.[9] For water futures, this would be the equivalent of 100,000 acre-feet of water — roughly 10 percent of the annual volume leased or sold in California in recent years. Water futures contracts will continue to fly under the radar of federal regulators up to this large threshold.[10]

Increased Water Prices

Water futures gambling could increase water prices in the real world, affecting communities across California. In general, futures markets have always been prone to market manipulation and have increasingly suffered from excessive speculation.[11] California lacks price transparency in its water markets,[12] making its water futures especially vulnerable. CME successfully petitioned the CFTC to treat the data and methodology behind its price index as "confidential business information."[13] This means there is insufficient public information to ensure that trades are accurate and representative.

Market manipulation: Investors could seek to drive up the price of water entitlements to inflate their profits from water futures contracts. An investor can acquire futures contracts equivalent to 350,000 acre-feet of water (114 billion gallons). This is 19 percent of the estimated deliverable supply of water underlying the Index, and 31 percent of all water traded in California each year from 2009 to 2018.[14] Such large contract holders would have a strong incentive to manipulate the water entitlement market because of the tremendous profits that could be made with their future positions.[15] Manipulation of markets that rely on price indices is a practice that some observers contend is rampant.[16]

Excessive speculation: Just four speculators purchasing the maximum number of water futures contracts could possess futures in an equivalent amount representing more than all the water that is actually traded in California annually.[17] A large presence of "massive passive" speculators in the California water market could send signals that water prices will increase and that holders of water entitlements should not sell or lease their entitlements soon. This could lead to physical water hoarding and drive prices upward, as occurred in commodity markets in 2007 and 2008.[18]

Loss of Small Farms

If the water futures market were to lead to real-world price increases, the most immediate impact would be on California's agricultural industry, potentially driving out small producers and incentivizing further farmland consolidation.

With climate change causing extreme drought, and the prospects of a new state groundwater law, farmers are already seeking other water options, such as acquiring surface water allocations or planting higher-value crops. But these options, which are already too expensive for many smaller farms, would be out of the question with higher prices for water entitlements.[19] Larger farms with existing access to water entitlements and economies of scale would be better positioned. Agricultural users remain the largest sellers of existing water entitlements,[20] and large farmers could profit if they sell before the bubble bursts. It is even possible that large industrial farms will seek to hedge on the futures market rather than conserve water during the drought.[21]

Added costs could also spur more consolidation in the already consolidated agriculture sector. In California, the median size of crop farms has steadily increased since 1987,[22] with the largest 5 percent of properties accounting for just over half of California's cropland.[23] While these large farms have gotten even bigger, California lost 1,000 farms in 2017 to 2018 alone, most of them smaller farms.[24]

Time to Ban Water Futures

Congress, or the CFTC, must stop water futures trading. Water is a basic human right on which everyone depends for life, and it must be managed and protected as a public trust resource for public benefit.

Endnotes

1 Chipman, Kim. "California water futures begin trading amid fear of scarcity." *Bloomberg*. Updated December 7, 2020; CME Group. [Press release]. "CME Group to launch first-ever water futures based on Nasdaq Veles California Water Index." September 24, 2020.

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4 CME Group. "CFTC Regulation 40.2(a) Certification. Notification Regarding the Initial Listing of the Nasdaq Veles California Water Index Futures Contract. CME Submission No. 20-399." Letter to the Commodity Futures Trading Commission (CFTC). November 19, 2020 at 2; CME Group. "Understanding the Water Futures Market." July 2021 at 7 to 10.

5 CME Group (July 2021) at 11 to 13.

6 *Ibid*. at 9; Dezember, Ryan. "CME, Nasdaq to launch water futures contract." *Wall Street Journal*. September 23, 2020.

7 CME Group (July 2021) at 16 to 17; Bruno, Ellen and Heidi Schwiezer. "Why Wall Street investors' trading California water futures is nothing to fear — and unlikely to work anyway." *The Conversation*. April 15, 2021.

8 17 CFR. § 38.4 2020; CME Group (November 2020) at 4.

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10 Food & Water Watch calculation based on Schwabe, Kurt et al. "Water markets in the western United States: Trends and opportunities." *Water*. Vol. 12, No. 1. January 2020 at 6.

11 Markham, Jerry W. "Manipulation of commodity futures prices — The unprosecutable crime." *Yale Journal on Regulation*. Vol. 8, Iss. 2. 1991 at 281; Verstein, Andrew. "Benchmark manipulation." *Boston College Law Review*. Vol. 56, Iss. 1. January 2015 at 215, 216, 226, 229 and 272; Marrin, Peter. "Funds seen as driving excessive speculation in commodity futures markets." *SNL Energy Daily Gas Report*. November 7, 2011; Chowdhury, Anis. "Food price hikes: How much is due to excessive speculation?" *Economic and Political Weekly*. Vol. 46, No. 28. July 2011 at 12 to 15.

12 Bruno and Schwiezer (2021); Ayres, Andrew et al. Public Policy Institute of California. "Improving California's Water Market." September 2021 at 16; 17 C.F.R. Part 38 App. C(c)(2) (saying that in making determinations of susceptibility to manipulation, "appropriate consideration also should be given to the commercial acceptability, public availability, and timeliness of the price series that is used to calculate the cash settlement price.")

13 CME Group. "FOIA confidential treatment request." Letter to the CFTC. November 19, 2020. On file with Food & Water Watch; CME Group. "Supplemental Submission: CME Submission No. 20-399." Letter to the CFTC. November 19, 2020.

14 Position Limit is 35,000 contracts. Food & Water Watch calculation based on CME Group (November 2020) at 15; Schwabe et al. (2020) at 6.

15 17 CFR § 38 App. C(c)(2).

16 Verstein (2015) at 215, 216, 226, 229 and 272.

17 Food & Water Watch calculation based on CME Group (November 2020) at 15; Schwabe et al. (2020) at 6.

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