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From Meltdown to Reform: The Yuan You Bao Crisis

Ziyi Yan

University of Washington, Seattle, USA
ziyiy2004@gmail.com

Abstract. In April 2020, Yuan You Bao, a retail financial derivative product launched by Bank of China, encountered unprecedented losses when the NYMEX WTI May futures contracts settled its price at -$37.63 per barrel. This incident reflects the cruel reality about China's retail finance ecosystem by revealing the structural weakness in product design, disclosure, and risk controls. This paper aims to apply a qualitative method, combining regulatory documents, media reports, and comparative international frameworks on investor protection and product governance, to analyze. Problems addressed in this research are purposed to conclude why a commodity derivative reached mass-market shares, and how institutional risk management malfunctioned, as well as what measures of reforms are worth considering to align retail-facing derivative products with long-term stability. Methods applied include timeline reconstruction, stakeholder analysis, and comparison to EU MiFID II product-governance and PRIIPs disclosure regimes and U.S. Title VII (Dodd-Frank) conduct standards. The research finds there is a mismatch between product structures and investor capacity, insufficient margining and position-limit safeguards, delayed rollover safety protocols, and limited updated risk communication. From the macro-perspective, this incident indicates that the financial market in China requires further regulatory methods, including robust product-approval committees, negative-price logistics, suitability gating, and pre-contractual information disclosures. The paper draws a conclusion that the financial crisis should catalyze governance and regulation upgrades across Chinese banks and accelerate rule-making that balances financial innovation for protecting investors' stakes.

Keywords: Yuan You Bao, negative oil price, retail derivatives, product governance, investor protection

1. Introduction

On 20 April 2020, the NYMEX WTI May 2020 contract closed its price at -$37.63 per barrel, the first ever negative settlement in the 37-year history of the benchmark contract. The reality demonstrates the extreme storage scarcity and market stress under the impact of the COVID-19 pandemic [1]. In China, the financial retail derivative, Yuan You Bao, launched by Bank of China (BoC) synthetically refers to front-month WTI, and recorded losses that exceeded principal for its clients as the settlement price became negative. BoC later acknowledges its investors' losses and commits to fight for clients' interests. Meanwhile, oversight institutions and other banks in the Chinese financial market moved to reexamine or suspend similar products [2,3].

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This study is dedicated to studying the case of Yuan You Bao to reveal the vulnerabilities at the intersection of innovation, governance, and suitability of retail finance in China. The research addresses four problems: (1) Product-complexity versus investor-capacity mismatch; (2) Flaws in risk management design; (3) Execution of emergency response measures; (4) Inadequacy of oversight and disclosure regimes for financial derivative products. A document-based case study and comparative analysis against international investor-protection frameworks (EU MiFID II product governance and PRIIPs KID; U.S. Title VII business-conduct rules) [4–6] are used as research methods.

The broader implication of the study is not restricted to a single product. As household participation and fintech distribution grow, regulatory standards must anticipate tail scenarios and integrate platform controls, transparency in contractual disclosures, and rigorous suitability gating. The remainder proceeds as follows: Section 2 focuses on the product and market context; Section 3 reconstructs the timeline; Section 4 analyzes root causes; Section 5 reviews regulatory responses; Section 6 compares global practices; Section 7 distills lessons for Chinese banks; and Section 8 concludes.

2. Background: product and market context

2.1. Yuan You Bao from BOC: structure and target segment

The retail derivative product, Yuan You Bao, grants the investors the rights to take synthetic exposure to front-month WTI futures through cash-settled positions referencing exchange prices. The entry price to purchase positions in the product is low. The channels to open or close positions are convenient, through the mobile or online official platform of BoC, with relatively low minimums. If any loss or profit occurs, they would be automatically assigned to the holders' CNY account. The reference of this product is from the expiring front-month contract to the next month on a preset schedule, looking to keep exposure near the most liquid part of the curve.

Such product design brought delivery-month dynamics, which is usually the expertise of professional futures traders, into a retail instrument. Because of the traits of the front-month contract, the product raises basis and roll risks and implicitly embeds the leverage-like economics and logistics constraints in the payoff [7].

2.2. Oil market stress in early 2020

The pandemic of COVID-19 slashed global financial markets, especially in global oil demand, due to social distancing and lockdowns, pushing inventories sharply higher and rendering the WTI curve into a market state in which storage capacity is scarce. As tanks filled and pipeline nominations tightened, the prompt WTI contract increasingly decoupled from deferred maturities, with delivery logistics rather than macro expectations setting the marginal price. Into expiry, long holders became unable or unwilling to deliver, confronting a crowded exit while storage was diminishing, which further led to fragility in the order-book. In this case, the all-in logistics cost of assuming delivery could exceed the immediate value of the crude oil, implying the prompt barrel is economically negative. On April 20, 2020, the contract of the NYMEX WTI May 2020 settled its price at -$37.63 per barrel, a benchmark settlement price that ever occurred in the history of oil markets. Official market structure reviews and academic work carefully analyzed the incident for the sake of the episode's storage and microstructure mechanics. For Yuan You Bao, such dynamics automatically

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transmit into investor P&L unless the product rolls earlier. The circumstances and conditions above explain how near-month prices detached and why losses were both sudden and severe [1, 7].

2.3. Retail investment growth and suitability frictions

In China, the rapid expansion of retail participation has outpaced the average gains in financial education, rendering wide heterogeneity in risk management and product understanding across households. Low entry thresholds alongside persuasive marketing narratives can attract unsophisticated investors' attention, unknowingly exposing them to risks that are basically path dependent. Under this circumstance, logistic-sensitive products through distributing channels can allevitate mis-suitability risk without rigorous gating. Empirical evidence on Chinese retail investors consistently demonstrates the case of lower financial literacy correlating with poorer investment outcomes. The analysis further proves the need for standardized, scenario-based disclosures and tighter suitability screening as marketing complex commodities [8,9].

3. The incident: timeline and immediate fallout

3.1. Lead-up and position management

Weeks ahead of the expiry of the May 2020 WTI contract, caution and warning signs already emerged in both market structure and operational guidance. The futures curve slipped rapidly into contango as storage capacity was running out of space. More importantly, exchange operators explicitly prepared participants for the possibility of negative prints, especially for control environments. On April 3, 2020, CME Group tagged certain energy futures and options as eligible for negative prices, a measure that allowed electronic trading systems and risk models to process negative values. Then, CME Clearing published an advisory highlighting how its clearing systems would handle a value below zero in order to ensure markets functioning in stress. Against this backdrop, in terms of retail-linked instruments tracking the front month, the product-governance playbook would include earlier rules-based roll windows, hard auto-liquidation triggers, and explicit client communications that negative prices could mechanically transmit into cash-settled payoffs. After the incident happened, the U.S. CFTC further investigated and analyzed the impact by documenting how liquidity thinned and order-book conditions worsened into the settlement window, indicating the reason that "near-expiry" microstructure should not be left to discretionary judgment when the end-users are households [10, 11].

3.2. The day of collapse

May WTI (CLK20) fell from $17.73 at the beginning of the U.S. session on April 20, 2020. At the end of the day, its price settled at -$37.63 per barrel, which achieved the first-ever milestone of negative settlement in the 37-year history of the contract. The seducing factors include vanishing storage capacity and a rush to exit positions as delivery loomed. The CFTC's interim report underscores the unprecedented speed and magnitude of the crush, particularly between 1:00 p.m. and 2:30 p.m. ET. For Yuan You Bao, the settlement was not a footnote but the input itself—Bank of China announced its investors would settle their holding positions at -$37.63. Therefore, the decision from the product retailer transmits the benchmark's negative price directly into client profit and loss [1, 12].

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3.3. Investor impact and market reaction

The switch from negative settlement to retail accounts' losses was at lighting speed and socially salient. News and reports soon unveiled the scale of losses and exposure, which estimates more than 60,000 investors affected and around RMB 10 billion (roughly US $1.4 billion) once negative territory is included. Consequently, several Chinese banks suspended the opening of new positions in similar oil-related offerings, while oversight institutions launched a formal investigation into the questions of design and distribution of Yuan You Bao. Bank of China acknowledged its misconduct in the risk management and stated it was "deeply disturbed" by clients' losses. To compensate those affected, BoC announced it would cover up to 20% of original investments with compensating losses recorded below zero. These official responses and actions reflected both conduct expectations from the public and the reputational costs of the firm. The industry suspensions, supervisory scrutiny, and partial redress bookend the incident's instant phase and set the stage for subsequent controversies on product governance, suitability, and disclosure across Chinese retail finance systems [2, 3,13]. As an immediate response to the consequences brought by the April 20, 2020 settlement, Chinese officials expressed supervisory concern on the issue of the structural design and distributing channels of retail "paper crude" products. The China Banking and Insurance Regulatory Commission (CBIRC) started an inquiry into how these instruments were designed, marketed, and risk-managed while selling to market investors, mainly focusing on Yuan You Bao [1]. Meanwhile, several major banks halted the opening of new positions in similar oil-linked offerings, claiming the need for reassessment of potential risk and clients' worries under the extreme market conditions [12]. The actions taken acknowledged that a financial derivative product, referencing the front-month contract, could transmit delivery-month pressure directly to household accounts, raising skepticism about suitability screening and disclosure standards for complicated derivative products' exposure.

4. Root causes: product, disclosure, and operations

4.1. Product-design fragilities

At the core of the losses was a design decision to reference the front-month WTI contract and to maintain the retail exposure to the delivery period. Such a decision maximized headline liquidity. The "imported" delivery-month microstructure into a mass market product, however, rendered basis swinging against deferred contracts alongside highly variable roll yielding in pronounced backwardation. At the time of inventories being scarce and the curve moving into super-contango, the prompt contract detached from the rest of the strip. Through the CFTC's interim staff report, the negative prices are associated with storage constraints and cash-and-carry pressure [1, 2].

The central issue lay in the negative prices being a contemplated scenario at the clearing level before the collapse, which CME flagged energy futures and options as eligible for negative prices as well as publishing a clearing plan elaborating how systems would deal with negative options underlying [3,12]. For those products that mechanically reference the expiring contract, they should have embedded negative price logic, with floors and caps on notional exposure. Meanwhile, rules-based early-roll protocols should be in place when delivery month stresses approach. The lack of such guardrails in the retail instrument magnified tail losses when the benchmark printed below zero [3,12].

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4.2. Inadequate disclosure and suitability governance

A second seducing factor lay in how the BoC positioned and managed the product for retail distribution. As complicated, path-dependent risks are distributed through official channels, there are three critical aspects—standardization, pre-contractual disclosures and target market definitions—to consider carefully. Under European Union regulations, MIFID II product governance requires manufacturers and distributors to specifically elaborate the definition of the target market ex ante, align charging structures, and monitor distribution outcomes. PRIIPs demands a Key Information Document (KID) with scenario-based performance, risk summaries, and cost transparency targeted for ordinary investors [7,10]. Generally, there are already working frameworks operationalizing suitability through gating, plain-language risk explanation, and ongoing oversight. In contrast, Yuan You Bao's disclosures and distribution management have not paid enough attention to the possibility of negative settlement. Such misalignment between product complexity and investor capacity left funding exposed to a downside that they had never imagined. Therefore, the lesson learned is straightforward: retail-oriented products should proceed to adopt KID-style, scenario-based protocols, and target-market gating, which are all explicitly illustrated in ESMA's MiFID II product governance guidelines and in the updated PEIIPs RTS [7,10].

4.3. Operational execution under pressure

Eventually, the problem became more severe as the operational controls were proved to be ineffective once prices became negative. The CFTC report highlights how liquidity tightening and volatility intensified when the settlement window was approaching. In this case, automation and real-time client communication are critical for retail products that simulate exchange benchmarks [1]. CME's April 2020 advisories clearly advised the market infrastructure to be "negative-capable" so that systems would keep functioning even if the prices were beyond the zero threshold [3,12,13]. For Yuan You Bao, public statements from the Bank of China admitted that its clients were confronted with severe financial losses and later committed to protecting its investors' best interests. Regulatory actions came right after the BoC announcement on the issue. The oversight institution in the financial market fined BoC over irregularities in the loss-making crude products after scrutiny. The incident signals that ex-ante operational readiness, rather than ex-post redress, is the decisive margin of safety for financial derivatives.

5. Comparative analysis: missed warnings and better practices

5.1. Pre-emptive rollover and risk limits

Global dealers, who launch commodity ETNs and organize notes, strictly follow a series of processes of risk management: early roll protocols, position caps near delivery, and circuit breakers that set automatic switches to less risky contracts as storage constraints lead to abnormal market reaction in the front month. The purpose of such a system is to separate retail exposure from the microstructure of the delivery month. There is a need for pre-warning triggers, like the legal memoranda in April 2020 that flagged negative price and urged companies to enforce early roll protocols, so that it won't be too late to take actions before the danger zone. In conclusion, the signals ignored were not only the occurrence of negative prices, but also the missing of predefined triggers to reduce the risk exposure of retail products before settlement weeks [7].

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5.2. Disclosures and investor understanding

Despite the inevitable nature of potential risks that come along with financial derivatives, standardized disclosure is another efficient way for the market to consider the long term. The EU PRIIPs KID concentrates the trading mechanics of complex retail products into three criteria—scenario-based performance, cost breakdowns, and a summary risk indicator—which assists the public investors to comprehend the logistics and to force issuers to explicitly explain path-dependent risk [14, 15]. Similarly, MiFID II product governance demands a documented target market, pre-launch pressure testing, and distributor oversight to maintain high-beta instruments independent of unsuitable segments [16]. In the U.S., Title VII business-conduct rules focus on pre-trade disclosures and suitability-adjacent obligations for finance companies that issue derivatives to the public, which further institutionalize channels to communicate risk and worst-case outcomes [17]. What was absent from regulators' actions in the finance market of China and BoC was a KID-style, scenario-rich summary, as well as rigorous target-market gating, which filters out non-targeted investors.

5.3. Evidence on retail capability

A main prerequisite that all healthy finance markets should acquire is to clearly understand their participants' nature and protect their best interests. Empirical studies demonstrate there are different levels of financial literacy, risk comprehension, and product knowledge existing in Chinese households. For people with lower financial literacy, it is more common for them to have poorer performance in investment. In this case, such a pattern underscores the impact of mis-suitability risk when high-volatility, path-dependent derivatives are flowing into the market at a large scale [8, 9, 18]. Therefore, it is necessary to tighten suitability thresholds while advocating better investor education on topics of commodity term structure and rollover mechanics. In addition, for the sake of the long-term good of the market, there should be ongoing monitoring of distribution results for tracking the deviation of the actual target market from the intended market. If markets were not carefully overseen, market microstructure shocks could convert into household balance-sheet shocks [18].

6. Lessons and implications for Chinese banks

6.1. Product governance

It is necessary for Chinese banks to institutionalize a committee, which oversees oversight of risk, trading, and legal compliance, empowered to block retail products that fail to meet the pre-launching requirement. These requirements include but are not limited to explicit simulations of negative price prints, storage-scarcity spikes, as well as illiquidity in the delivery window [4]. For reference, MiFID II's product-governance frame provides useful insights into the foundations: institutional issuers must clearly define a target market, perform ex-ante stress testing, and ensure the distribution channels are in accordance with the potential investors' risk profiles. Since exchanges and clearing systems in the international market had already been operating under negative-price eligibility before the collapse, it is essential for product committees to require negative-price logistics to be embedded into retail payoffs and clients' profile information from the beginning.

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6.2. Risk systems and operations

The risk management modelling and calculation, used by Chinese banks, should be appropriately updated and modified based on the factual changes. To match product complexity, banks need to implement negative-price processing among their pricing models, margin engines, and risk dashboards. Therefore, it is possible for banks to reflect the exchange and clearing guidance executed in early April 2020 to keep systems "negative-capable" under zero [3, 12, 13]. Additionally, distributing platforms should activate intraday auto-liquidation thresholds corresponding to real-time volatility and liquidity metrics. It is possible, hence, for holding positions to be deducted ahead of extreme settlement circumstances becoming reality [1]. The importance of these actions is underscored by post-event enforcement, which criticized dealers for their control deficiency.

6.3. Suitability, disclosures, and education

Despite the cautionary signals by engineering that try to prevent complex risks, the burden shifts to suitability and disclosure. By adopting PRIIPs-style disclosures, the Chinese financial market could force issuers to provide scenario-based analysis, transparency of cost breakdown, and worst-case illustrations in a form of standardization and comprehensiveness [5]. In addition to that, MiFID II practice indicates tightening retail access gating through knowledge tests and minimum financial-buffer requirements prior to selling high-beta, logistics-sensitive derivative products to the public [4]. Moreover, U.S. Title VII business-conduct standards pay attention to pre-trade disclosure and suitability-adjacent obligations for dealers, offering additional reference materials for documenting and conflicts [6]. Empirical evidence from the incident of Yuan You Bao and the Chinese financial market suggests a huge gap in financial literacy and risk management among the ordinary investors. As a result, complex derivatives tend to be mis-sold or misunderstood, leading to poorer outcomes condensed among lower-literacy groups [8, 9,18]. To pivot the market into the appropriate track, banks in China should deploy real-time alerts and pre-trade warnings in their market models.

7. Conclusion

The Yuan You Bao episode was a live-fire test of retail commodity finance in China. It showed how delivery-month mechanics—especially the potential for negative prints—can pass straight through to household accounts when products sit too close to expiry and lack hard guardrails. The result was losses that, for many investors, exceeded principal. The swift mix of suspensions, investigations, and partial compensation underscored not only regulatory concern but also the reputational cost of distributing logistics-sensitive exposures to the mass market [6, 13].

A practical path forward emerges from established regimes. MiFID II/PRIIPs and U.S. Title VII point to three priorities: governance with clear target-market discipline, early-roll rules, and stress-test gates; systems that natively handle negative prices, automate margining, and rehearse escalation; and disclosures/suitability built around short, standardized, scenario-based summaries and meaningful eligibility thresholds [4–6]. Baking these into product design and distribution would cut both the frequency and severity of retail harm without freezing financial innovation.

This study draws on secondary sources and lacks transaction-level or supervisory data. Future work should add investor surveys, platform telemetry (margin calls, auto-liquidations, alert logs), and structured interviews with banks and regulators to probe behaviors and to assess the bite of post-2020 reforms. As retail participation deepens, the mandate is clear: pair innovation with protection,

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and let governance, robust systems, and plain-spoken communication carry the weight of that promise.

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