

# Some People Made Money on Negative Oil Prices

Also TikTok key money, green structured notes and alternative data.

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By [Matt Levine](#)

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COMMENTS

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**In this article**

## Trade at settlement

At 2:30 p.m. New York time on Monday, April 20, the May West Texas Intermediate crude oil futures contract closed at negative \$37.63 per barrel. That was weird! We talked about it a lot, trying to piece together explanations for why a commodity that has essentially always traded at a positive price spent one day at an extremely negative price.

One fairly technical explanation that we discussed was the “trade-at-settlement” mechanism. In oil futures, you can do a TAS trade in which you agree, at some point during the day, to buy or sell oil futures at that day’s *closing* price, plus or minus a few pennies. So at 11 a.m. you can agree “I’ll sell futures at 2:30 today, at whatever the settlement price is then.” You might do that if you are benchmarked to the settlement price, if you are some sort of passive-ish trader whose job is to reflect the official daily price of oil rather than to time your trades exactly right.

If you do a TAS trade, someone is on the other side. If you are signing up to sell oil futures at the still-unknown settlement price, someone else is signing up to buy them. Perhaps both sides are “natural”; you’re looking

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to sell at whatever the settlement price is and someone else is looking to buy at whatever that price is and you just pair off. But perhaps not. Particularly on April 20, one day before the May WTI contract expired, you might expect a lot of passive-ish oil investors to want to get *out* of that contract, at whatever the settlement price was that day, and not a lot to want to get in. So there'd be a lot of natural TAS sellers and not a lot of natural buyers.

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So who would be the buyers? Arbitrageurs, prop traders, market makers, that sort of thing; people who are in the business of taking the other side of trades that people want to do and profiting from them. These people are not looking to buy oil futures at whatever the settlement price is, they don't need any oil futures, they just do that trade because other people want to. They are looking to be flat, to make a profit on the trade and end up not holding any futures. So they will buy futures from regular investors using the

TAS mechanism, and sell the same number of futures at around the settlement time. If they buy 1,000 TAS futures contracts during the day, they will look to sell 1,000 futures at right around the settlement time, leaving them with zero futures at the end of the day. If they sell the futures for more than the settlement price, they will make money (because they are buying the TAS futures at the settlement price, plus or minus a few pennies).

Here is one really dumb simple way for that to work. You buy 1,000 futures via TAS during the day. You conclude that a lot of people are selling and no one is buying (except you). You think, well, okay, I have to sell 1,000 futures before 2:30, because at 2:30 I am going to get 1,000 futures at whatever the price is then. So you start selling. You sell 100 futures at \$10, and the price goes down. You sell another 100 at \$5. You sell another 100 at \$0. You sell another 100 at -\$5. Et cetera; you keep selling—into very thin liquidity, because there are not a lot of natural buyers—and the price keeps going down. By the time you are done, it is 2:30 and the price is -\$37.63. The average price that you got, selling your 1,000 contracts, was, say, -\$15: You started selling at +\$10 and finished at -\$37.63 and averaged your way down. But then at 2:30 you *buy* 1,000 contracts—the contracts you prearranged to buy using the trade-at-settlement mechanism—for -\$37.63. You paid people an average of \$15 to take oil off your hands, and people paid you \$37.63 to take oil off their hands, and you made an average of \$22.63 per barrel moving the oil.

One thing to say about this stylized example is that you are totally happy to sell oil at negative prices: If the price keeps declining into the close, your average price is always above the closing price, and so selling at lower and lower (even negative) prices makes you more money on your TAS trades than it costs you on your spot trades.

Another thing to say about it is that it is sort of perfectly poised between “hedging” and “manipulation.” If you are in this position, about to receive 1,000 futures contracts at 2:30 p.m., it is totally reasonable to “pre-hedge” those contracts by selling an offsetting number of contracts right around 2:30 p.m., and you are plausibly doing sensible standard risk management by selling those contracts. On

the other hand you are also plausibly “banging the close,” manipulating the market, selling those contracts *in order to* push down the settlement price that you will pay at 2:30 p.m. There is barely even a difference between those things. Arguably the difference is that normal hedging is conducted carefully to minimize price impact, while manipulation is conducted sloppily to maximize price impact. Arguably the real difference is that manipulation is accompanied by emails and chats to your buddies saying “lol i am banging the close hope i don’t go to jail bro,” while hedging isn’t.

A third thing to say about it is that the world rarely works like my stylized example, and this is not a risk-free trade. Sometimes there will be a big buyer on the other side, and the price will go *up* into the close, and you will lose a fortune doing this trade. If you are planning to make a fortune doing this trade, it helps to know what the overall balance of supply and demand is; if you are confident that there’ll be no big buyers, then your selling will reliably move the settlement price. The foreign-exchange trading scandal a few years back was in part about this: Banks would agree to buy currencies at a fixing price at a specific time later in the day, and they’d pre-hedge that risk by selling the currencies in the minutes leading up to the fix—which is fine!—but then they’d also chat with their buddies at other banks to find out who was buying and selling so they could more efficiently manipulate the fixing price.

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Anyway I described this hypothetical TAS oil trade back in April, but it was pretty hypothetical. “The trading at settlement mechanism failed,” a commodities trader had

told Bloomberg News at the time, so there was some indication that this might have actually happened, but it's not like I could point to anyone who had actually done this trade and made a killing.

But now I can! Bloomberg's Liam Vaughan, Kit Chellel and Benjamin Bain report:

Regulators, oil executives, and investors have struggled to understand how a commodity at the heart of almost every aspect of global trade had fallen so far that buyers had to pay counterparties to take it off their hands.

But for a small group of veteran traders at a tiny London firm called Vega Capital London Ltd., the mystery mattered less than the results: They pocketed as much as \$500 million that day, according to people familiar with the matter, who spoke to Bloomberg Businessweek on condition of anonymity. ...

On April 20, as Bank of China and others were selling May contracts, Vega's traders were hoovering them up in the TAS market, according to people familiar with the matter, agreeing to buy oil at whatever the settlement price turned out to be. Then, as the settlement time approached, they aggressively sold outright WTI contracts and other related instruments, contributing to the downward pressure on the price. Vega stood to profit if it managed to buy oil through the TAS market more cheaply than the oil it sold through the day. ..

There you go. Someone did the trade, and made money. That is all I can say, though. Was the trade "we facilitate transactions for real-money investors by buying their contracts in the TAS market, hedging our risk in the outright

market, and in expectation collecting a reasonable spread for our efforts”? Was it “we agree to buy oil from real-money investors at the settlement price, and then manipulate that price to hose those investors and make a killing for ourselves”? It is *very* hard to tell the difference between those two things:

Buying TAS and selling outrights before and during the settlement is a well-known strategy that dates back to the pits, according to market participants, but it carries considerable risk. Selling futures can quickly turn into losses if a bigger player shows up and starts buying. “It’s a big poker game,” says Greg Newman, founder of energy-trading firm Onyx Capital Group.

There are also rules that forbid trading with the goal of deliberately affecting the settlement. In 2008, Dutch firm Optiver was sanctioned by the CFTC for abusing the TAS mechanism and boasting about its exploits in emails. And in 2011 the agency introduced a rule prohibiting a practice known as “banging the close,” which it defines as trading heavily during the settlement period in one market to influence a larger position elsewhere.

But proving manipulation requires the government to demonstrate intent, which is difficult without incriminating communications such as text messages.

Right, again, the practical difference between hedging and manipulation is whether regulators can find dumb chat messages. “Now regulators at the U.S. Commodity Futures Trading Commission, the U.K.’s Financial Conduct Authority, and CME Group Inc., owner of the Nymex exchange where the trading took place, are examining whether Vega’s actions may have breached rules on trading

around settlement periods and contributed to oil's precipitous fall," so I suppose they will try.

## The stupid TikTok thing

Ugh, really?

President Trump said he was ready to approve a purchase of the Chinese video-sharing app TikTok, but only if the government received "a lot of money" in exchange—an assertion of presidential power that appeared to lack precedent.

Microsoft Corp. said it hoped to acquire TikTok's business in the U.S. and three other countries. Mr. Trump said he told the company's chief executive Satya Nadella that "a very substantial portion of that price is going to have to come into the Treasury of the United States, because we're making it possible for this deal to happen."

One problem here is that historically when the president of the United States says something, that has represented a policy of his administration, but when President Trump says something, that just represents the crankish views of a guy who watches way too much television, and people are continually forced to treat the latter like the former. "It is completely unorthodox for a President to propose that the U.S. take a cut of a business deal, especially a deal that he has orchestrated. The idea also is probably illegal and unethical," says some poor law professor who was called to comment on this dumb, dumb stuff. Imagine calling a law professor to comment on your uncle's drunken rants at Thanksgiving. "Uncle Don, I have a law professor on the

line and he tells me that your proposal is illegal and unprecedented,” you say, as though Uncle Don might care, as though “illegal” is a relevant category to apply to his unserious mumbling. Though also he is the president so it may happen?

And here *we* are, talking about it. It goes endlessly, pointlessly on:

“It’s a great asset,” Mr. Trump said of TikTok. “But it’s not a great asset in the United States unless they have the approval of the United States.”

Later in the day, he was asked to clarify his remarks. “It would come from the sale,” Mr. Trump said. “Whatever the number is, it would come from the sale. Which nobody else would be thinking about but me. But that’s the way I think. And I think it’s very fair.”

Clarifying! And:

“It’s a little bit like the landlord/tenant; without a lease the tenant has nothing, so they pay what’s called ‘key money,’ or they pay something,” Trump said.

Illegal! And:

“Right now they don’t have any rights unless we give it to them, so if we’re going to give them the rights then it has to come into this country.”

Look I am not unsympathetic to the idea that property is a social construct, that property rights do not exist as a matter of external reality or natural law but are created by government and social structure, but I tend to expect



those views from socialists, you know? Not Republican U.S. presidents. Back in President Trump's second week of office I made the modest suggestion that the rule of law is good for business, and that a president who doesn't believe in it might turn out to be bad for business. Honestly he has mostly been better for business than I expected, but still, I bet Microsoft would be happier right now if it had rights. "America: We will expropriate the assets of foreign companies if someone pays us a big enough bribe" is a rule that might maximize short-term revenue, but there are problems in the long run.

This is all as dumb as it is possible for a thing to be, and presumably not meant very seriously, and I hate myself for writing about it, but I do have to say that if you are just going to *sell* merger approvals then you might as well *auction* them. Let Microsoft offer \$5 billion to the Treasury for approval to buy TikTok, and let Facebook Inc.—which is arguably threatened by TikTok's popularity and benefiting from its potential shutdown—offer \$10 billion to the Treasury for denying that approval. Whoever pays the most can write the law, etc. etc. etc., all entirely as the Founders intended, this is all great, just great, you love to see it.

Microsoft are no dummies, of course, so in their press release they have to pretend that this is a thing:

Microsoft fully appreciates the importance of addressing the President's concerns. It is committed to acquiring TikTok subject to a complete security review and providing proper economic benefits to the United States, including the United States Treasury.

Man, I know that move. When your clueless boss wanders

into the room, glances through your presentation and says “this is good but we need to talk about how we will address the problem of interstellar dragons,” you put in a bullet point like “also we will take all appropriate measures to address the problem of interstellar dragons” and hope no one asks you about it. Don’t ask Microsoft what the proper economic benefits to the Treasury would be! (Presumably it would pay taxes?) That’s not the point! The point is to say President Trump’s words back to him, so he will be soothed until he finds another dumb thing to talk about.

## **Green structured note**

Oh lovely:

On Friday, BNP sold A\$140 million (\$101.12 million) of 8-year bonds that pay a fixed coupon plus a potential return tied to the performance of a “forward-looking” climate transition index, the first of its kind, investors said.

As large asset managers reshape their investment strategies away from dirty investments, the ‘A+’-rated bond adds to the \$350 billion in green bonds expected to be issued globally this year.

Developed by the French bank in collaboration with Monash University, ClimateWorks Australia and the ESG arm of corporate governance consultant Institutional Shareholder Services, the index uses scenario weighting and company data to chose those likely to do well from the transition to a decarbonised world.

Australia’s First State Super, a A\$125 billion pension

fund, QBE Insurance, and the government-funded Clean Energy Finance Corporation (CEFC) invested in the bond, which builds on a similar European equity-linked green bond issued by BNP in 2014 that was not forward looking.

Investors will receive an undisclosed fixed coupon linked to BNP Paribas' green bond program, plus a potential "green premium" stemming from the performance of the new Australian index. BNP will use the proceeds to invest in certified green projects and hedge the exposure to the index.

Do you want to make the world better with your investment dollars? Then you could buy stock in environmentally friendly companies, sure, that's *one* approach. But what if you could do something more ... complicated? What if you could buy a bond from a French investment bank whose return is linked to a proprietary index of environmentally friendly companies? You are not actually investing money in the environmentally friendly companies, but BNP Paribas SA will use some of the proceeds to "hedge the exposure to the index" (i.e. buy stocks of environmentally friendly companies) and I guess the rest to invest in other green projects. It's all green enough, and pleasingly complicated.

If you like complex finance you should love socially responsible investing. First of all because it adds new complications, new variables to optimize for, new modes of investing, new arbitrages. We talked once about a proposal to break down green bonds into their elementary components, (1) a bond and (2) a promise to do green things, and to *trade them separately*. An entirely new financial instrument—one with no cash flows, just a promise not to pollute—could be created.

But also, more prosaically, socially responsible and green and environmental/social/governance investing are all new enough that there are still opportunities to recreate all of traditional finance, only “green” or whatever. You can have a green structured note; you can have an ESG credit default swap index; I bet you could do a socially responsible subprime mortgage synthetic collateralized debt obligation if you put your mind to it. All the complicated stuff that already exists can be adapted to green and ESG investing, and eventually will be.

## Efficient markets

My favorite bit of Michael Lewis’s book “Flash Boys” comes at the end of the first chapter. A guy named Dan Spivey has started a company called Spread Networks, which is building a fast fiber-optic connection between Chicago and New York that will reduce the latency of index arbitrage trading, and Spivey is pitching this connection to banks and hedge funds. The pitch goes about as well as possible:

All its creators knew was that the Wall Street people who wanted it wanted it very badly—and also wanted to find ways for others not to have it. In one of his first meetings with a big Wall Street firm, Spivey had told the firm’s boss the price of his line: \$10.6 million plus costs if he paid up front, \$20 million or so if he paid in installments. The boss said he’d like to go away and think about it. He returned with a single question: “Can you double the price?”

The lessons here are:

1. If you can buy better or faster data than everyone else,

- you have a big advantage and can make a lot of money.
2. If everyone can buy better or faster data, then everyone *has to*: If you don't, then you have a big *disadvantage* compared to the people who do, and you can lose a lot of money.
  3. Either way, the person *selling* the better or faster data can make a lot of money.

This is, for instance, the point of the controversy about the New York Stock Exchange's and Nasdaq's fees for market data: The stock exchanges offer different tiers of data for different subscribers, high-speed traders who want to be competitive feel compelled to pay for the highest tier, and the exchanges have a lot of room to charge whatever they want for it, subject to bitter regulatory fights.

But you could apply this model to any sort of data. Someone comes up with Data Set X, a set of satellite images of retailer parking lots or fill levels of oil tanks or sunspots or whatever. Someone buys Data Set X, it is helpful, and they make money. Other traders start buying Data Set X. It becomes standard. If you do not buy Data Set X, you are not fully informed, you have not fully diligenced your trades, your limited partners worry, you risk losing money on a mistake that you would not have made with Data Set X. So everyone buys Data Set X. This means, first of all, that no one makes any money trading on Data Set X anymore; its insights are more or less immediately incorporated into market prices, <sup>[1]</sup> and its unfair advantage has dissipated. But it also means that whoever is selling Data Set X makes a lot of money, because everyone has to buy it.

Anyway here is a fun story about alternative data. Mostly the thesis is that in weird times, like the present, alternative

data is popular: “A multibillion-dollar industry offering unusual data such as satellite imagery and measurements of social media sentiment is enjoying a boom in demand as hedge funds and companies hunt for clues on how to tackle the coronavirus crisis.”

But there is also a contrary viewpoint that actually it has been particularly useless and overrated in these weird times. Here, for instance, is this guy:

Anthony Lawler, head of GAM Systematic, said his firm used alternative data but added that such information had not been behind his funds’ gains last year, nor had it driven markets this year.

“Daily credit card data or footfall data didn’t lead the recovery in [stock] prices. What led the recovery was investor sentiment, animal spirits and a belief in a better future,” he said. “For none of that could you use innovative photographic, credit card or shipping data.

“We remain of the view that alternative data is creating value for the data providers, but not yet the investors.”

That’s a good quote, but the point I want to make is about the word “yet.” You’d sort of expect a life cycle in which (1) initially alternative data is promising but not very useful, so hedge funds buy it but it doesn’t work very well, so it creates value for data providers but not for investors, (2) then alternative data becomes more refined and useful, so hedge funds buy it and it works, so it creates value for data providers *and* for investors, but (3) then alternative data becomes ubiquitous, so hedge funds all buy it and the advantage of using it is competed away, so it once again creates value for data providers but not for investors.

# Things happen

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1 Which is arguably a reason not to buy it—"we don't need to look at Data Set X because the market price fully incorporates it"—but if you are running a data-driven hedge fund you can't really go around saying "meh the market price is efficient, let's not invest in research."

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