Something different: BlockFi and Bitcoin Futures Arb

This post is a little different than my normal posts (it's not about SPACs, cable / media / Liberty, or cruise lines). I'm a complete tourist in the bitcoin and crypto space; to my detriment, I've never bought or sold one (though some friends and I bought a digital horse on a lark and, I have to be honest, we've been having too much fun being stable owners!). So just keep all of that in mind: I'm writing this post as a tourist who saw something that interested them, not because I have all or even any of the answers (again, my friends and I are having a blast co-owning a digital horse; if that doesn't scream "this guy knows nothing", I don't know what does!).

Anyway, I'm writing this post because Not Boring (a friend of the podcast!) posted "Is BlockFi the Future of Finance?" The article got a ton of wheels in my head spinning; I instantly signed up for a BlockFi account (if you don't have one; you are very welcome to sign up with my referral code and get some free Bitcoin. I love free money so I love to take advantage of those referral codes, but I will caution that BlockFi is not FDIC insured so you need to be a little careful with it) to check it out. My account still hasn't funded (I live in NY, which is prompting some barriers), but even without funding so much from Packy's article has stuck in my mind that I wanted to put those thoughts down on paper both because writing helps me think more clearly and with the hope that people who are a little more knowledgeable than me in the space might chime in.

The four thoughts that jumped out at me are:

1. Setting up the bitcoin futures arb trade and the risks involved
2. BlockFi blow up risk
3. Blockfi business model risk
4. Other regulatory risks

Let me start with the first one: setting up the bitcoin futures arb trade and the risks involved.

I don't think it's hard to guess why I'm interested in that one: a futures arb should be relatively risk free money. An example should illustrate this best: as I write this, (at night on April 21), bitcoin spot is trading for ~$54.5k. Bitcoin December futures are selling for ~$59.3k. The arb is pretty simple: buy bitcoin spot, sell the December futures, and you've created a risk free ~$5k/coin. That's a ~9% gross spread and a ~14% IRR through maturity.

Arb'ing a futures curve in contango is 101 level stuff for traders; I'm pretty sure they taught it in my undergraduate finance classes, and there's even an investopedia page devoted to it! So we're not talking about some unknown or hyper sophisticated trade here; this is the basics. In fact, arb'ing bitcoin should be a lot easier than arb'ing most futures markets. If oil is in contango and you want to take advantage of that, you need to figure out a place to store all of the oil you buy on the spot market (remember oil going negative? That was largely because no one had any place to store it so they couldn't take delivery!), and that storage has very real costs (remember all of those ships storing oil at the height of the pandemic last year?). Bitcoin should be different; because it's digital, the cost to store it should round to zero / you don't have the carry and storage costs you have to worry about with commodities.

So the 9% gross / 14% IRR are incredible numbers for a simple futures / contango arb. And, while reminding everyone that leverage is risky and nothing on this blog is investing advice, I think most traders would think a contango arb is the perfect place to use some type of leverage. If you levered the trade up with 50% debt, your returns to equity would be approaching 20% gross and over 25% IRR. Not bad!

Here's my question: why does this arb exist? It's not like this arb is a secret; Matt Levine has been mentioning it for years, here's another Bloomberg article highlighting it, and I was able to build a pretty simple futures arb model w/ excel + bloomberg in less than 10 minutes last night. So the arb is an open secret and it's not like there's big carry or operational costs to worry about. With oil last year, you could point to a reason the arb existed: in order to execute it, you needed to buy millions of barrels of oil and charter a freaking super tanker to store it. There aren't a ton of people in the world who can do that on short notice. With Bitcoin, you basically just need a trading account and an internet connection to do the arb. So why is this arb available?

I know some people will say, "it's because the big banks can't easily trade this stuff." And I think there is a kernel of truth there; I talked to three different event desks at big banks about executing this trade and all of them responded with blank looks and asked me to walk them through it. Perhaps I simply wasn't talking to the right people (my contacts at banks tend to be more on the value focused and event driven side, not the prop trading and futures side), but given how quickly word of profitable trades spreads I do think there's something to the "the banks can't do this yet" thesis.

Still, that can't be the whole story. There is a cottage

industry built around arbitraging and maximizing frequent flyer miles; it stretches my mind to believe that the world would put that much time and energy into frequent flyer miles but this massive arb that can (theoretically!) deliver above market returns with practically no risk wouldn't attract a following.

So my main question is why does this futures arbitrage / contango exist?

I'd also be interested in hearing from people who have successfully executed the futures arb. How'd you do it? Did you buy the futures directly with the CME? This is a little technical, but how did you manage the collateral / margin risk (my understanding is CME won't take bitcoin as collateral for the futures, so you need to put up cash. That could create issues with marks if bitcoin skyrockets; CME will ask you for more collateral and you'll need to find that cash from somewhere. You could probably do it by borrowing against your bitcoin at whatever firm is holding it, but that does create some timing and collateral risk). Have you looked at doing this with cryptos other than Bitcoin (just glancing, but the less liquid and more niche the crypto, the more juicy this basis trade is. I.e. etherum seems to be in steeper contango than bitcoin, so you could make even more attractive returns there, and smalelr and quirkier coins are in even bigger contango). Is there some type of strange counter party risk here that explains part of the alpha of the trade (most likely worries that whatever firm you're holding the bitcoin at goes BK and creates issues with your deliverable, so the above market returns are from accepting some remote counter party risks)? Are there any others risks that I'm missing here / that would help explain this return?

That's it for point / thought #1. Let's turn to thought #2: BlockFi blow up risk.

This one is pretty simple: it feels like BlockFi is taking on absolutely enormous risk. I'm sure this is not just BlockFi specific, but that every shadow bank crypto company is taking similar risk. It feels like a given that these firms blow up at some point, and given they are all taken the same risk I would guess they all blow up in spectacular style together.

When discussing this risk, I think it's important to keep Archegos in mind. The basic story there was pretty simple: a bunch of banks lent money to Archegos; Archegos had pretty much the same assets / stock that they used to borrow from each bank, so when Archegos blew up, each bank rushed to sell the same assets and you saw blue chip legacy media stock like Discovery or Viacom dropping by >50% in a week.

So just keep that in the back of your mind when thinking about BlockFi and their peers. BlockFi will currently let you borrow against Bitcoin at 50% LTV (so if you have $10k in Bitcoin, BlockFi will give you a $5k loan); I'm not sure how that doesn't eventually end in tears. A likely scenario would look something like this: Bitcoin drops 10%, so BlockFi and any other firm that's lending against Bitcoin issues small margin calls to people who have borrowed. The borrowers sell some bitcoin to meet those margin calls, and that selling pressure drives Bitcoin down even further..... which leads to more margin calls, which leads to more selling, etc.

Again, that scenario is far from farfetched. It certainly looks a lot like what happened to Archegos... but I think it's even more likely here. Every crypto-type asset has a pretty

high beta to other crypto assets, so I think BlockFi (and peers!) could be in for the worst of all worlds in a drawdown: one crypto goes down, causing a margin call. The margin called clients sell their other cryptos to meet the margin call, driving other cryptos down causing margin calls for other customers, who sell other cryptos..... and suddenly you have contagion and a panic across the entire space.

*Update: As I got ready to post this article, WSJ published "Behind Bitcoins weekend slide", which details how Bitcoin had a steep drop that was, in part, fueled by highly leveraged traders getting liquidated, which caused a larger drop and lead to a "vicious cycle" of liquidations. Remember that Bitcoin had been on quite the run recently, so the drop basically erased 3 weeks of gains. It's also telling that some offshore accounts are giving a lot more leverage than BlockFi (apparently Binance will give >100-to-1!), so even if BlockFi's remains somewhat reasonable on leverage you could certainly get to a scenario where more aggressive lenders start a liquidation / margin call cycle that eventually gets to the more conservative lenders. If just a quick correction can cause that much liquidation, imagine how bad it could get if you saw a drop that erased more than three weeks of gains..... **End update**

I don't know. Maybe I'm wrong. But this year is less than four months old and we've already seen Robin Hood almost go down because their retail customers were making too much money buying / squeezing Gamestop and a bunch of banks get burned lending to Archegos. If we ever see a crypto bear market, it just seems too obvious that we're going to see a wave of margin calls that lead to a bunch of accounts getting wiped out and the lenders being on the hook for making up a lot of margin balance. If and when that happens, I suspect you will see crypto prices plummeting and these shadow banks taking

huge write offs on their margin balances.

Bonus blow up point: as I was finishing this up, I remembered FXCM blowing up because of a "Swiss currency trap." I believe FXCM was offering customers a lot more leverage than 50% (which BlockFi does), but I would also guess their customer base was a lot more diversified among currencies and the currency market is much more mature / settled / generally less volatile than cryptos. Just another example of how quickly these things can blow up, and (again) we're talking about things a lot less volatile and with much more history than crypto.

Let's turn now to point #3: business model risk

This risk kind of ties back to the arbitrage risk mentioned above. Right now, much of BlockFi's business seems to come from the Bitcoin futures trade. In effect, they attract depositors by paying way above market rates (8.6%!) and lend those deposits at ~15% interest rates to hedge funds capturing >20% annualized returns on the contango trade. Yes, they do other things (they're moving into Visa credit cards with bitcoin rewards, for example, and they obviously make money when people trade crypto on them), but the key draw for attracting customers and assets appears to be "look how much interest we can pay you on deposits," and they can only do that because they can lend money at such high rates and people can still make money on those loans by doing the arb.

That's a sweet business model while it exists. But I'm not sure how that trade can go on for even a medium amount of time.

Again, those numbers are insane. The average return from being in the stock market is ~8%, and BlockFi is offering that simply for parking your assets there! At some point, someone is going to encroach on one part of BlcokFi's business model, and when they do the whole thing falls apart. Perhaps other lenders are going to start underpricing BlockFi on loans, or the arbitrage trade will vanish and hedge funds will no longer be willing to borrow at 15% from BlockFi. Somewhat ironically, the easiest way this trade goes away is the trade continues to be profitable. Eventually, the big banks will get pestered so much (from very small time people like me!) that they'll get into offering the trade. And, once they do, they'll dominate BlockFi. Their funding costs are way cheaper, they already have traders and relationships with hedge funds, etc. They'll offer the trade with more leverage and less cost than BlockFi, and suddenly a key source of BlockFi's financials will have been arbed away (pun intended).

So what happens to BlockFi once that arb goes away? It seems like they're in a tough spot. Because BlockFi's deposits aren't FDIC insured, the company needs to offer a premium interest rate in order to attract deposits. But if the arbitrage trade / loans go away, how is BlockFi going to pay premium rates and still make money?

At that point, it seems like BlockFi is just another brokerage. But they're a brokerage exclusively focused on crypto. Again, that seems vulnerable; there's no reason that larger asset managers can't get into the crypto brokerage business at some point, and once they do it seems like BlockFi and the like are facing a tough competitive landscape. The larger / legacy brokerages have multiples of BlockFi's assets and trading relationships, so once they get started in crypto BlockFi's customer acquisition costs should go through the roof.

I don't know; maybe I'm being too pessimistic here. Maybe I just don't get it. But it seems like a lot of BlockFi's value rests on the arbitrage of the crypto basis trade and the fact larger players haven't moved into the crypto trading space yet (likely for regulatory reasons). Both of those should change in the near to medium term.

That brings me to my last point: other regulatory risks.

This section is pretty simple: I get BlockFi is complying with U.S. regulations (their FAQ page notes "BlockFi remains one of the few retail-focused interest-earning platforms that is also domiciled in the United States, regulated under US law, and that's also institutionally backed and doesn't have a utility token. That's important—we play by the rules"), but regulations can change and can change very quickly. I feel like it's inevitable that BlockFi (and peers!) faces some serious regulatory headwinds as they grow bigger. You can dream up regulatory risks on a bunch of different angles: increased capital requirements that decrease the attractiveness of funding the basis trade, increased compliance costs as they grow, etc. It's tough to say for sure, and this probably applies to FinTech in general and not BlockFi and the crypto brokerages specifically, but it feels like a big piece of their business model consists of not having to follow the same rules or being held to the same standards as "traditional" banks. It's hard to imagine the environment stays static like that for the long run; either bigger players will get laxer standards, or regulators will increase the burden on the smaller players.

Anyway, this post got a lot longer, more winding, and more bearish than I meant it to. My interactions with BlockFi have been really positive so far, and I'm really interested in the

bitcoin futures arb (again, the original point of the post was to highlight the arb and see if anyone else was trading it / had experience with it). But as I explored it, tons of questions kept popping up, and I wanted to lay them all down because they were sticking with me.

I don't have any answers, but I can't wait to see how the space evolves over the next few months / years (and maybe make some money arb'ing bitcoin futures while I'm at it!).