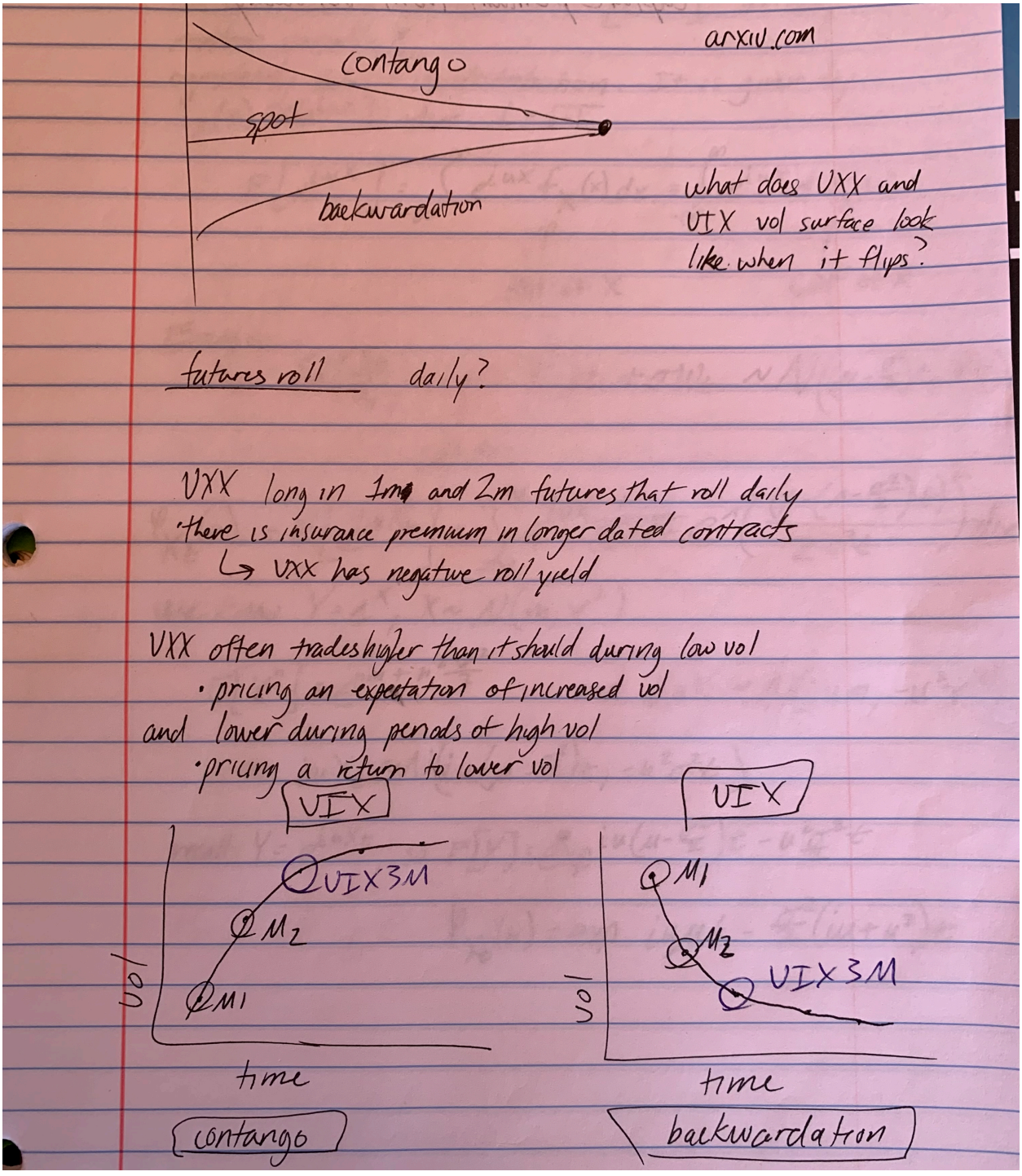
Initial Notes:



Non-code research

Strategy in human terms:
Quite simply, short VXX when $VIX < $VIX3M and vice versa.
Reason:
Capturing the perpetual decay of VXX caused by the mechanics of how it's maintained, aka 'futures roll cost'.

INTERESTING NOTE:
Said strategy is *long* when VIX is in backwardation, and *short* when in contango.

I do not understand the futures roll cost as much as I would like to. I intend to be able to explain this far better than I currently can. I did a sub-par job of illustrating this point on the board last Tuesday.

I will begin the presentation with backtest results and personal motivation.

Code research

There are two things that I'd like to do with code:

1. **Determine what options I should buy when the VIX and the VIX3M flip**
   - **In the money, out of the money, how far?**
   - For simplicity, could assume at the money.
   - **Would need data for VXX calls and puts**
   - Unsure how much value or ability I will have to make meaningful insights by analyzing all of the possible TTM options. That could get too much for me to digest.
2. **Analyze the VIX and VXX vol surface when the flips occur.**
   - This will likely be a visual observation.
   - **Would need data for VIX calls and puts**

Suspect that more ideas will occur during the data analysis process. For ingestability, 2020+ data should be fine – but I'm happy to look at more if you have it. Recall that VXX was retired and recreated in 2019 with the B series. Not sure how your data provider handles this.