

French auction strategy

An alpha strategy on French nominal bonds

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Process and key assumptions

- The French treasury runs a medium term auction and a long term auction per month. These auctions are announced on the Friday preceding the auction
- The key assumption is that government bonds will reduce in price, going into the auction, in order to make way for excess supply

The steps

- I download data for active French nominal bonds from Reuters
- I proceed to clean the data (removing errors, putting into correct date format and structure)
- I download from AFT the data on past auctions



Strategies

Naive strategy

The naive strategy consists of selling the bond on the Friday of the announcement vs a near bond and closing the position on the auction day

Future Strategy

The future strategy consists of selling the 10-year bond on the Friday of the announcement vs the 10-year OAT future, and closing the position on auction day

Relative Value Strategy

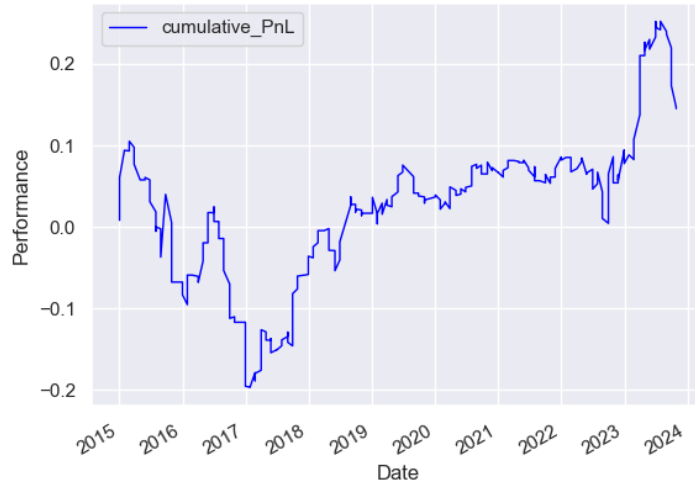
The RV strategy consists of opening a position on the Monday before the announcement and closing the position on the evening of the announcement. For each day we forecast the most likely bonds to be auctioned, given the cash price relative to cash prices in that maturity bucket and given the current issuance of those bonds relative to the average issuance in the maturity bucket



Relative Value Strategy

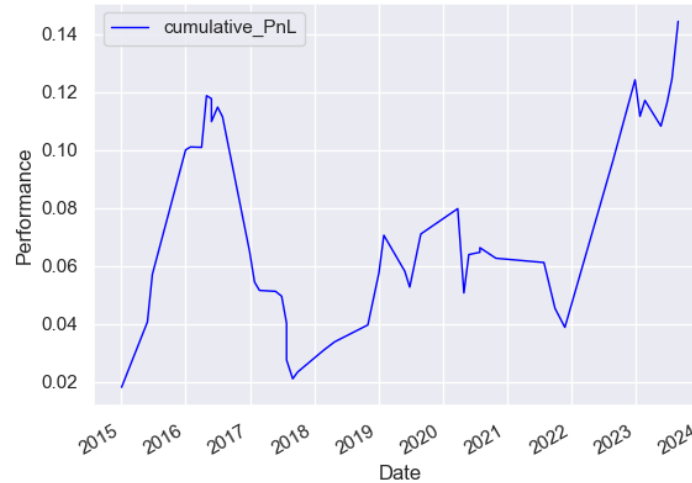
- Based on the assumption that the bonds that have the highest probability of being tapped are those which have a lower relative issuance and higher relative cash price
- 'Relative' means within its maturity bucket – e.g. a 20-year bond will be more likely to be tapped if, within its maturity bucket, it has a higher cash price than its peers and a lower amount outstanding than its peers
- Each Monday before the long term auction announcement I analyse the previous two years and select 3 bonds according to the above methodology
- On that Monday evening I implement the trade: I sell (or rather, in a benchmarked portfolio, don't buy) the bond vs I buy two adjacent bonds (or just one when two are not present). Therefore, each Monday before the announcement I am operating either a butterfly or a curve strategy which I close on the evening of the Friday announcement, at closing prices
- The strategy is weighted according to an illustrative benchmark and the PnL over 8 years is 0.47%, annualizing at 6bp per annum.

Performance



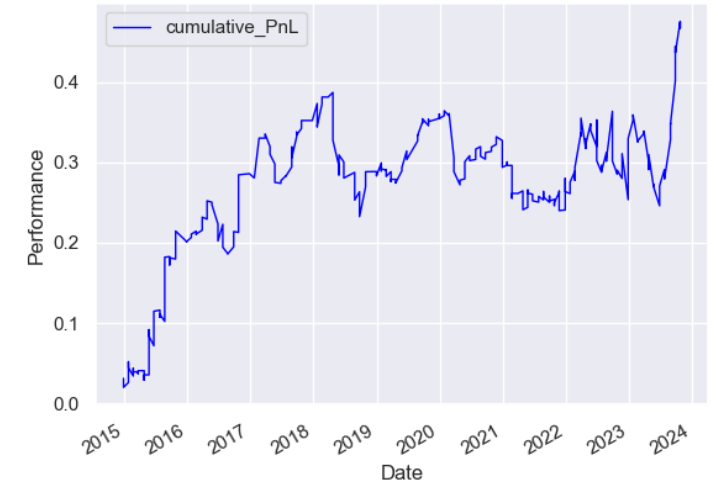
Naïve Strategy

- The naïve strategy focuses on concession post-announcement



Future Strategy

- The future strategy trades less often as it only focuses on 10-year taps



RV Strategy

- The RV strategy has more forecasting power as it is based upon a study of past auction price and issuance data

Final Notes

- All strategies are scaled according to PTF sizes
- Taking the first portfolio of 20bn into consideration, in the absence of a benchmark to look at, I build an illustrative benchmark
- I assume, of my 20bn portfolio, that 20% of the portfolio (and benchmark) is invested in France, i.e. 4bn
- I assume the benchmark is made up of 250m of GTFRF2Y, 950m of GTFRF5Y, 1.65bn of GTFRF10Y and 1.15bn of GTFRF30Y. The sizes are chosen specifically in order to come to a weighted average duration of that of the French debt (8.5 years) according to <https://www.aft.gouv.fr/en/node/452>
- The relative weights of the 4 benchmark bonds in the portfolios are 1.3%, 4.8%, 8.3% and 5.8% respectively. The relative duration, by multiplying the bond duration by the weights, is 2.46 years, with approximate durations, for the 4 buckets, of 0.02, 0.2, 0.74 and 1.5
- In the naïve strategy, bonds are purchased at the closing price of the auction day as I was not able to collate intra-day prices for bonds
- Reuters doesn't provide most prices for matured bonds, therefore I can't run the strategy on medium term auctions (3 to 8 years)
- Interesting point: shorting solely the bonds in auction (therefore being exposed to duration) leads to very positive PnLs (almost tripling one's investment over 8 years).