

Issues to be addressed in the calculation of key parameters of the WACC in an era of deep uncertainty

PRESENTED BY

Francesco Lo Passo

SEPTEMBER 2023

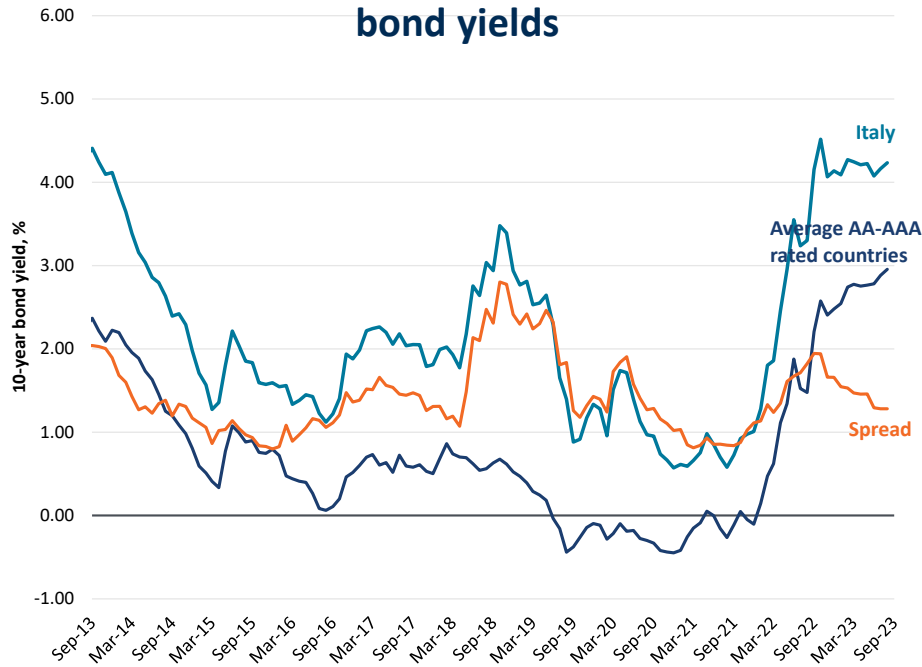


Introduction

- Has the past a good predictive ability of the future in presence of high uncertainty about unsystematic events?
- WACC/CAPM forward looking calculation requires to focus particularly on three parameters:
 - **Risk-free rate**
 - **Cost of debt**
 - **Beta**
- Parameters calculation based on historical data, in a context of uncertainty about yields, can lead to conservative estimates, either too low or too high
- The current context may require an easy-to-implement trigger mechanism with formulas that avoid discretionary evaluations

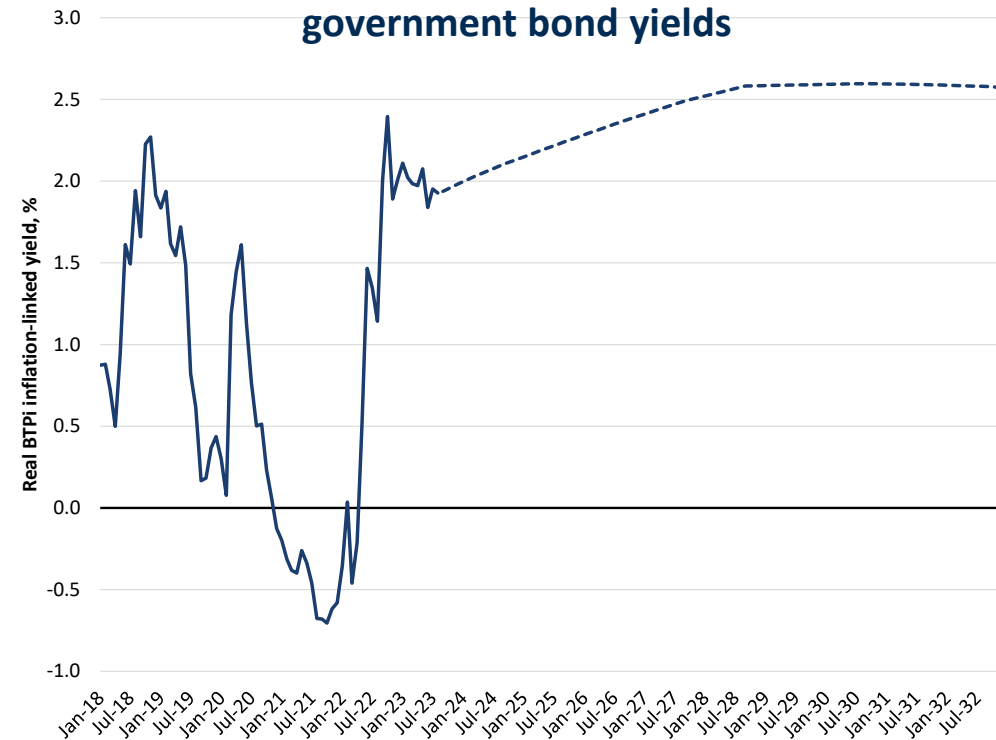
Risk-Free Rate

Evolution of 10-year government bond yields



- **Nominal government bond yields increased by more than 3% in the last couple of years**
- **Nominal risk-free rate value for Italy reasonably higher than 4%**

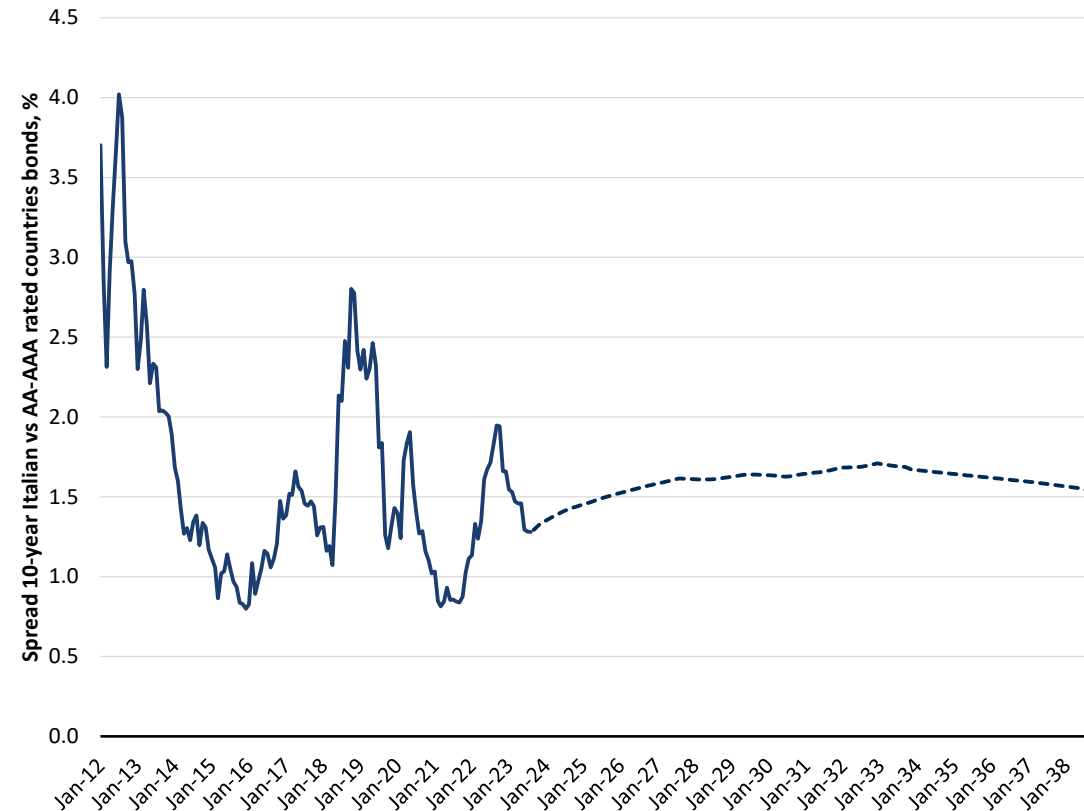
Evolution of real inflation-linked government bond yields



- **Real yields increased significantly as well, from negative values to current and forward-looking values higher than 2%**

Country Risk Premium

Evolution of the spread between government bond yields in Italy and in highly rated countries

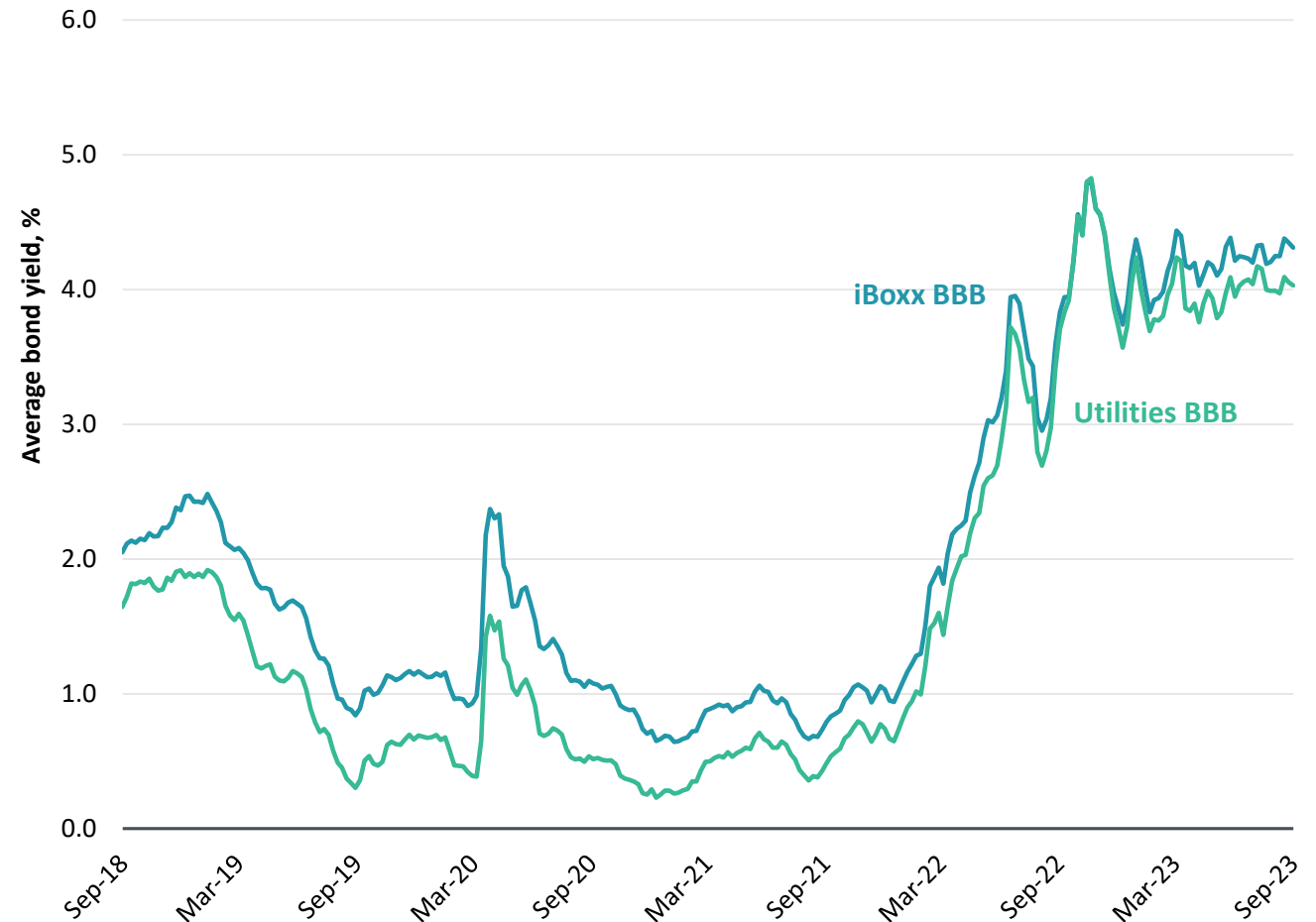


Country risk premium for investments in Italy – measured through the spread over highly rated countries – which remains high and rising

Cost of Debt

- Corporate bonds indices yields show a consistent trend, with interest rates above 4%
- Regulated companies with even higher cost of new issuances

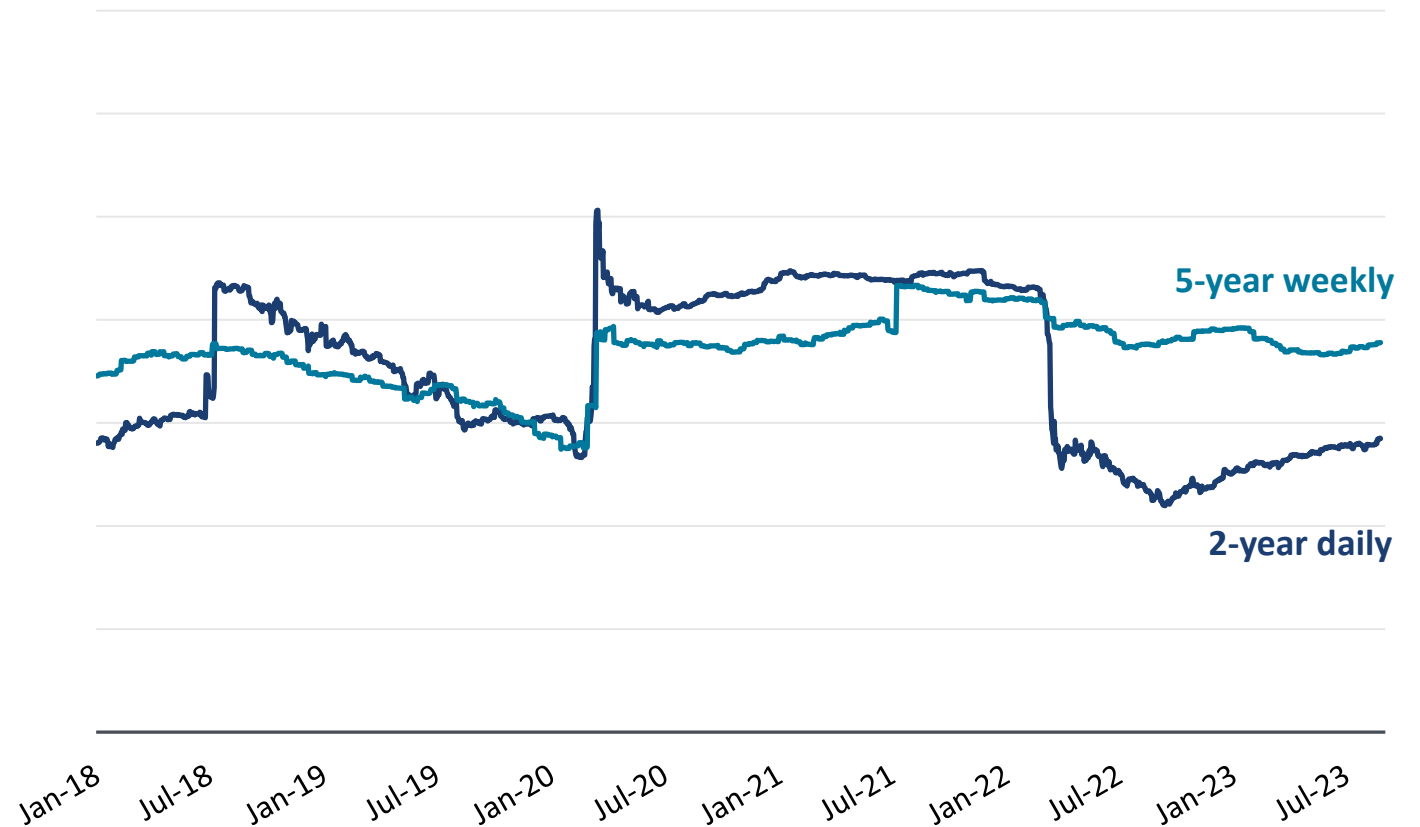
Evolution of BBB corporate bonds indices yields



Beta

- Covid's departure from the 2-year beta estimation interval caused a mismatch between 2-year and 5-year betas
- What time horizon to consider?
 - 2-year beta underestimates true beta, as unsystematic events such as Covid allow for more precise identification of the parameter
 - 5-year beta potentially overestimates true beta, but long time horizon allows identification of the parameter over more observations including unsystematic events

Analysis of the rolling asset beta of a group of energy networks



Concluding Remarks

- Recent market data suggest a WACC value that is substantially higher than in the past
 - An illustrative calculation shows an increase in WACC of more than 3.5% in nominal pre-tax terms
- To fully capture changing market conditions some changes in the WACC calculation methodology are necessary (e.g., historical averages vs. forward rates)