WACC
for legacy telecom infrastructures

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Workshop BEREC – Cullen

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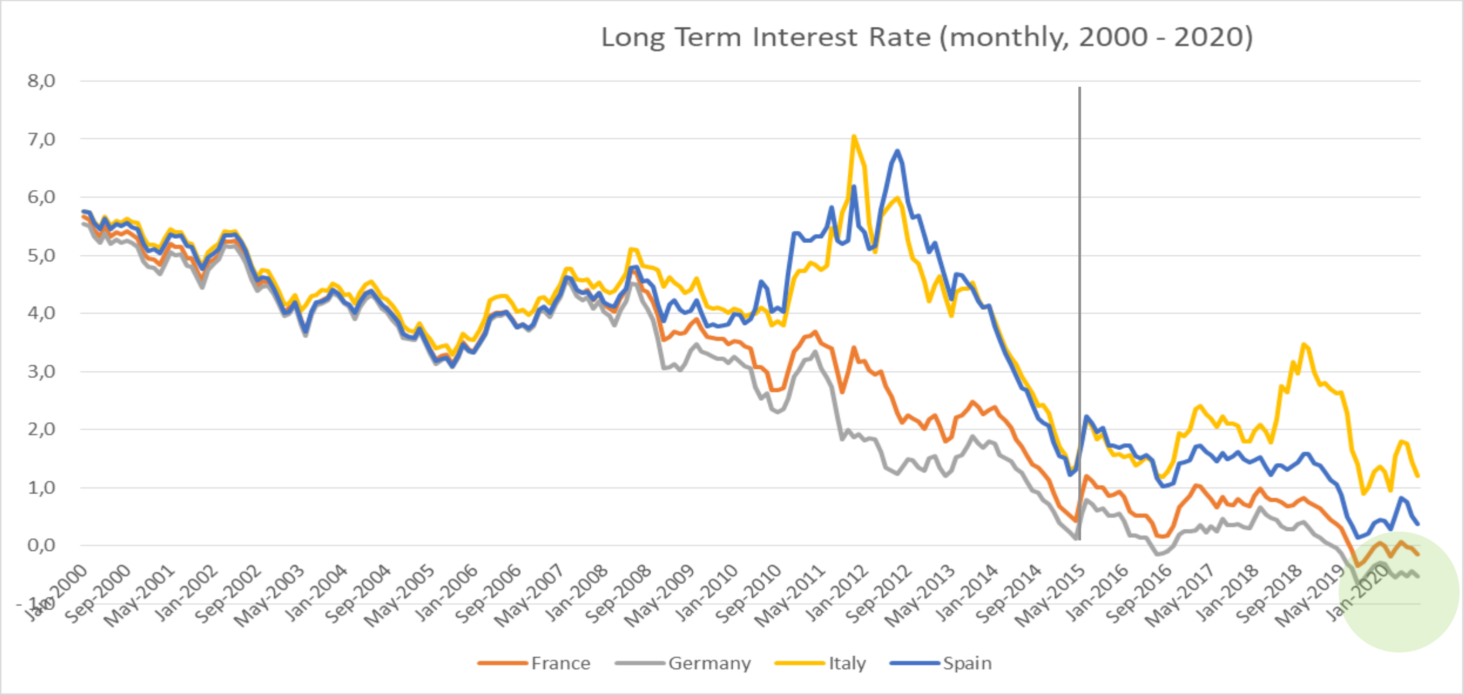
Long Term (10 Y) Interest Rates



Quantitative easing
Low levels since 2015
Negative in France and Germany since 2019. Minus 0,3% in France and Minus 0,5% in Germany in september 2020

The EC WACC Notice for legacy assets and its first implementation in 2020 - Some key features

- Standard WACC formula with the Capital Asset Pricing Model (CAPM) underpinning the cost of equity component
  - « ERP - the return in excess of the RFR expected by investors for additional risk. »

- RFR based on the 5 year average of the 10-year government bond. « An adjustment for central bank quantitative easing programmes is not necessary. »

- Union-wide ERP. « The Commission considers it appropriate to estimate the ERP using historical series ».
  - Berec report based its assessment on DMS estimates (historical data since 1900) when available (Note: but also, for 15 countries, for which DMS data is not available, on calculations based on P/E ratio – Non historical data).

Key issues – cost of debt

- Low interest rates have undoubtedly allowed operators to raise « cheap » debt in recent years.

- Is the cost of debt observed over the past five years a good proxy of cost of debt raised in the past to finance the legacy assets?

  - Results should at least be cross-checked with publicly available cost of debt as per Operators' balance sheets.

Key issues – cost of equity and the ERP (1)

- Is historical data a good estimator of expected equity returns as per the CAPM model?

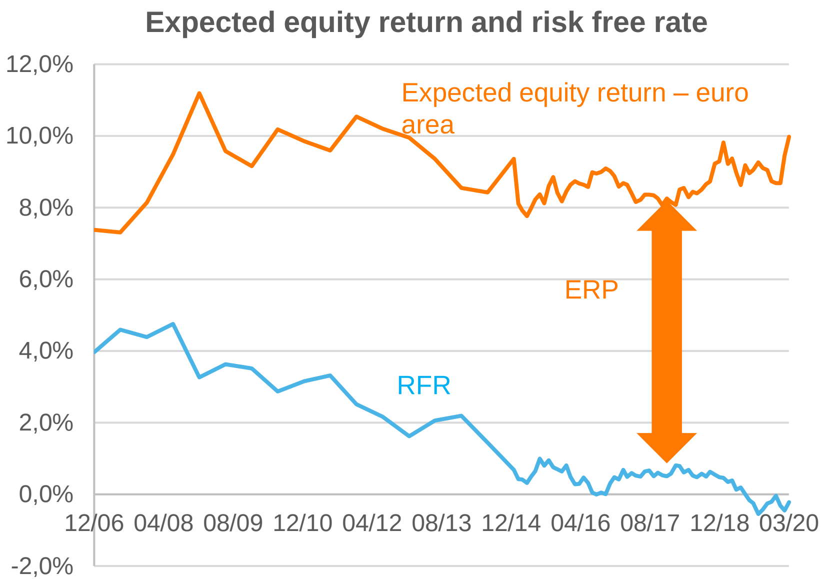
- In theory, forward looking methods are better suited to assess investors expectations.
  - Ex-ante estimates of the ERP based on the dividend growth model
  - Surveys

- In practice, empirical evidence over the recent years shows that historical data underestimates the ERP.

- Adding up an RFR calculated over the past 5 years to a very long term (120 years) historical estimate of the ERP significantly underestimates the expected return on equity markets today.

  - **Significant under-valuation of the WACC for legacy assets based on BEREC's June report.**
  - **Significant divergence from financial analysts estimates of the WACC for the telco sector.**

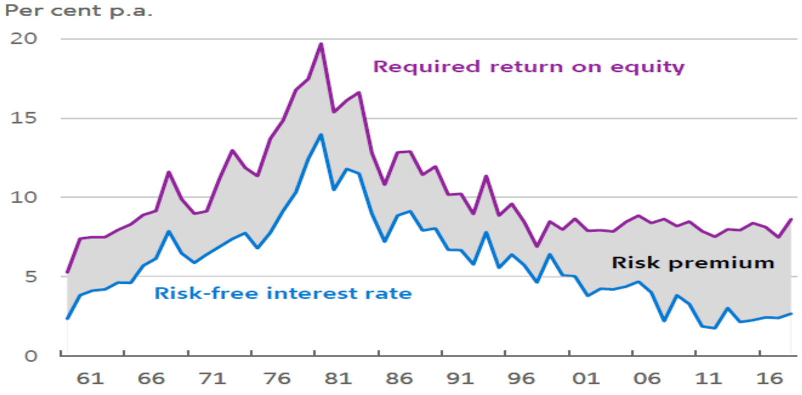
Key issues – cost of equity and the ERP (2)



Source: BMA study for Orange

Negative co-movements between risk premium and interest is a new phenomenon after 2007-08

Chart 4

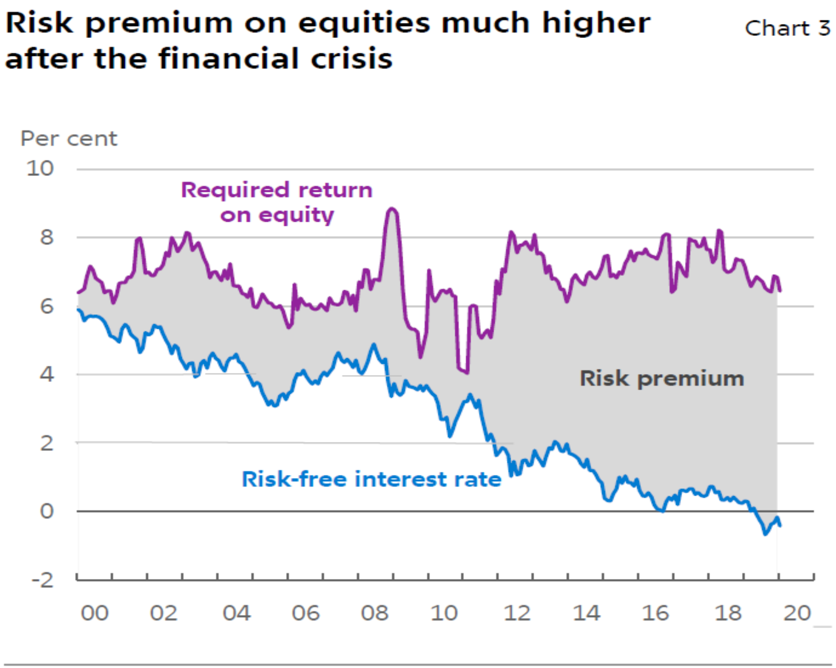


Note: Based on US data. The risk-free interest rate is the yield to maturity of 10-year US government bonds.

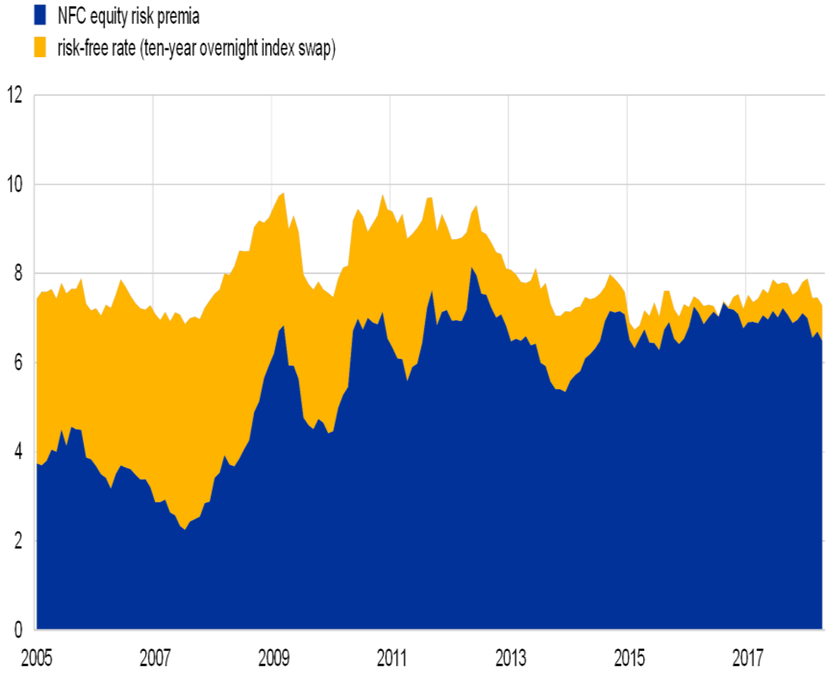
Source: Prof. Damodaran, Stern Business School (NYU), data available on website.

Source: Autrup and Hensch (2020)

Key issues – cost of equity and the ERP (3)



Source: Autrup and Hensch (2020) for the Danish equity market



Source: Geis, Kapp and Kristiansen, 2018, for the Euro area equity market

Key issues – cost of equity and the ERP (4)

- Recent survey results (Pablo Fernandez and al., IESE)

- **Survey 2019:**

« Due to quantitative easing, many respondents use for European countries a Rf higher than the yield of the 10-year Government bonds »

- Survey 2020:

« Many respondents use for European countries a Rf higher than the yield of the 10-year Government bonds ».

« More than fifty respondents provided answers at the beginning of March and later, considering the coronavirus. Most of them increased MRP by 2%. »

Concluding remarks

- Cost of equity did not fall while interest rates dropped significantly due to QE.
- For the past several years, historical data (RFR + ERP) underestimates investors expected returns on the equity market.
- This results in a severe under-estimation of the WACC.

→ Orange strongly supports any evolution of the current regulatory environment that would appropriately take into account the empirical evidence available throughout the Euro area equity markets.

Merci

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