



Yield Modelling in Support of Industrial Investment Planning

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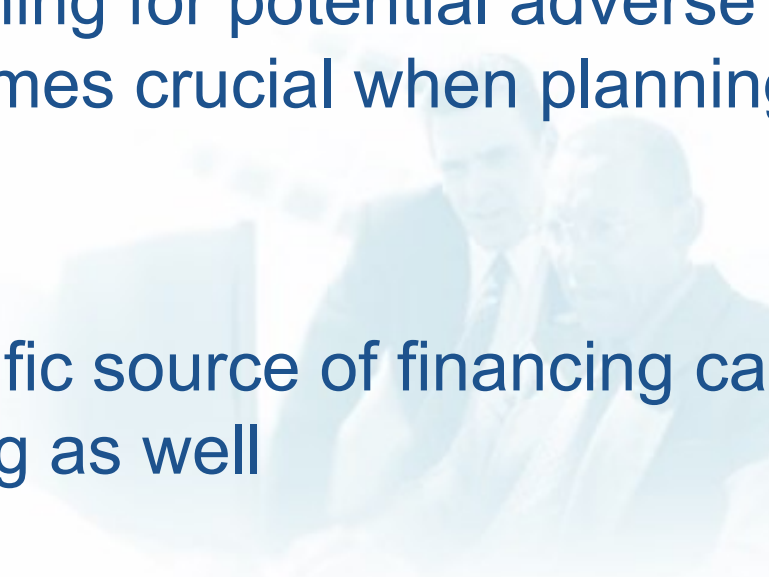


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- Why is the study important and necessary?
 - Assessment of interest rate risks needs to take into consideration differences in volatility of long- and short-term yields.
 - The need for an early warning for potential adverse economic conditions becomes crucial when planning for a longer period.
 - Planning for use of a specific source of financing can benefit from yield modelling as well
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Methodology in details

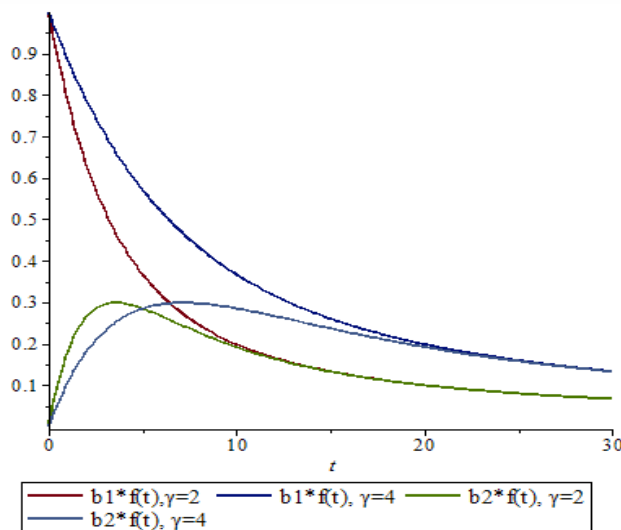
- Modelling different effects and reasoning

- The NSS model:

$$r(t) = \beta_0 + \beta_1 \left[\frac{1 - e^{-t/\gamma}}{t/\gamma} \right] + \beta_2 \left[\frac{1 - e^{-t/\gamma}}{t/\gamma} - e^{-t/\gamma} \right]$$

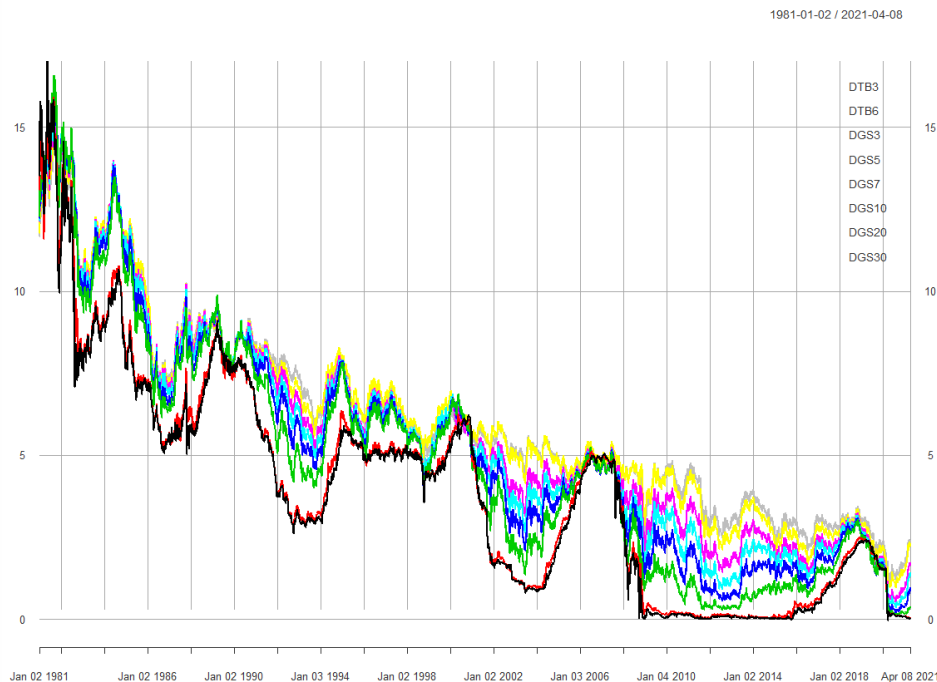
$$r(t) = \beta_0 + \beta_1 \left[\frac{1 - e^{-t/\gamma_1}}{t/\gamma_1} \right] + \beta_2 \left[\frac{1 - e^{-t/\gamma_1}}{t/\gamma_1} - e^{-t/\gamma_1} \right] + \beta_3 \left[\frac{1 - e^{-t/\gamma_2}}{t/\gamma_2} - e^{-t/\gamma_2} \right]$$

- The role of γ in our analysis:



Data inputs

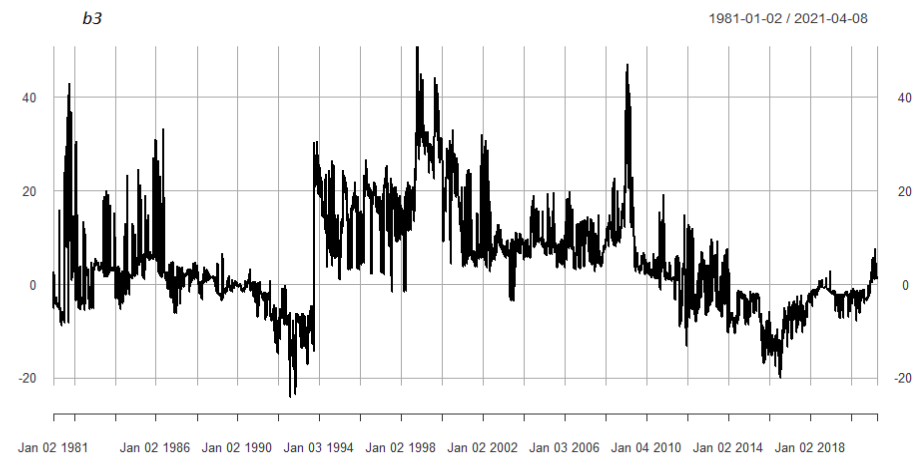
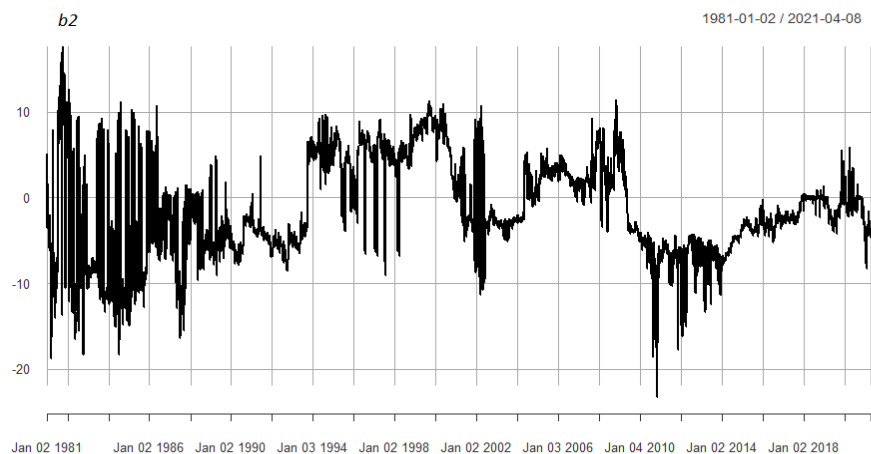
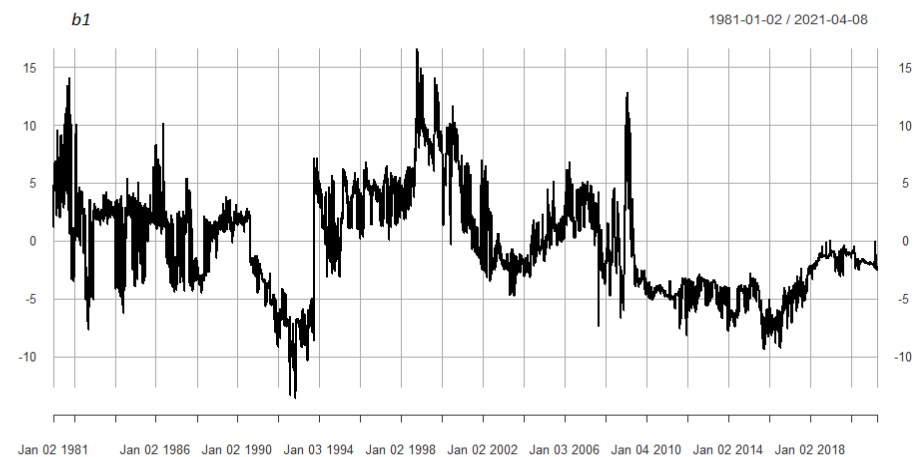
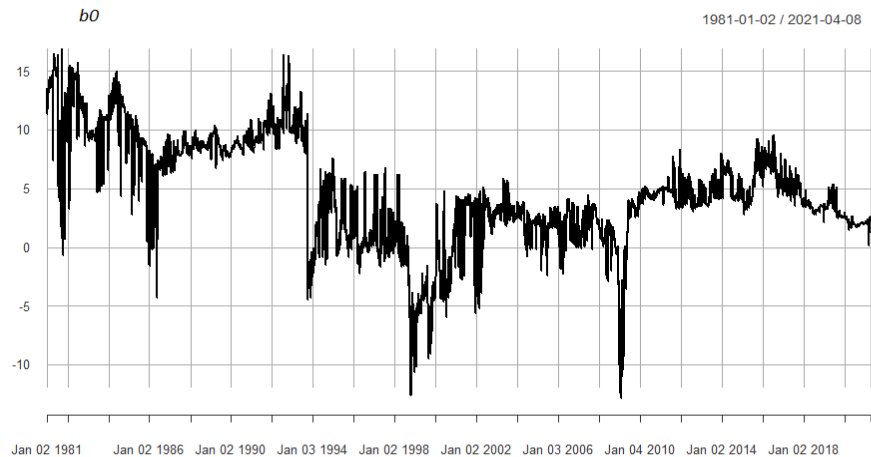
- Three distinct effects
 - Short-, mid- and long-term effects separated



Gap analysis and discrepancies in real estate and stock markets can be used to include country and sector specific characteristics in the investment analysis.

AI approach combined with traditional methods to avoid pitfalls with non-stationary time series analysis with black-box methods.

■ Numerical results and parameter time series





■ Main conclusions

- 1) Analysis of yield curves can be a very useful tool in support of investment planning for industrial enterprises.
- 2) Our findings demonstrate, that studying changes in the estimates can be equally important, as the estimated values themselves, as it helps figure out how the importance of different factors evolves.
- 3) Practitioners can use the results of this study as a support tool during their investment decision-making process. Different parts of the planning process can be improved – from risk assessment to discount factor estimation.



In fine...

THANK YOU FOR YOUR ATTENTION!

