

Accepted Manuscript

A Hybrid Spline-Based Parametric Model for the Yield Curve

Adriano Faria, Caio Almeida

PII: S0165-1889(17)30223-3
DOI: [10.1016/j.jedc.2017.10.009](https://doi.org/10.1016/j.jedc.2017.10.009)
Reference: DYNCON 3487

To appear in: *Journal of Economic Dynamics & Control*

Received date: 12 January 2017
Revised date: 18 July 2017
Accepted date: 31 October 2017

Please cite this article as: Adriano Faria, Caio Almeida, A Hybrid Spline-Based Parametric Model for the Yield Curve, *Journal of Economic Dynamics & Control* (2017), doi: [10.1016/j.jedc.2017.10.009](https://doi.org/10.1016/j.jedc.2017.10.009)



This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

A Hybrid Spline-Based Parametric Model for the Yield Curve*

Adriano Faria [†] Caio Almeida [‡]

November 7, 2017

Abstract

Empirical evidence indicates that both nominal and real yield curves in important markets have segmentation between their short end and their longer-maturity segments. This segmentation might affect term structure estimation, introducing distortions in longer-maturity yields, especially in parametric models. In order to deal with such segmentation, we propose a new model that combines the flexibility of spline functions with the parsimoniousness of a parametric four-factor exponential model. The short end of the yield curve is fitted using a B-spline function, while longer segments are captured by the parametric model. We illustrate the benefits of the proposed model for pricing and risk management purposes, using two examples: the real yield curve in the Brazilian government index-linked bond market, and the US Treasury nominal yield curve. We show that, in both markets, our model is simultaneously able to fit the yield curve well and to provide unbiased Value at Risk estimates for all tested portfolios of bonds, outperforming an important parametric benchmark model frequently adopted by central banks.

Keywords: Spline Models, Exponential Term Structure Models, Curve Fitting, Risk Management, Price Index.

JEL Code: C51, C58, G17.

*The second author acknowledges financial support from CNPq.

[†]Email: afaria@fgvmail.br, EPGE/FGV, Rio de Janeiro, Brazil.

[‡]Email: calmeida@fgv.br, EPGE/FGV, Rio de Janeiro, Brazil.

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات