



Contents lists available at ScienceDirect

Emerging Markets Review

journal homepage: www.elsevier.com/locate/emr

Testing the liquidity preference hypothesis using survey forecasts



Jose Renato Haas Ornelas^{a,b,*}, Antonio Francisco de Almeida Silva Jr.^{c,d}

^a Banco Central do Brasil, Brazil

^b University of Miami, United States

^c Banco Central do Brasil, Brazil

^d Universidade Federal da Bahia, Brazil

ARTICLE INFO

Article history:

Received 22 May 2014

Received in revised form 20 March 2015

Accepted 2 April 2015

Available online 9 April 2015

JEL classification:

C58

E43

E58

G1

Keywords:

Liquidity preference hypothesis

Interest rates

Term premium

Survey forecast

ABSTRACT

We evaluate the liquidity preference hypothesis (LPH) for the term structure of interest rates in a different way. Instead of using bond returns as traditional approaches, we use interest rate surveys with market expectations in order to evaluate LPH. This approach allows us to disentangle the effect of the changes in interest rate expectations from the liquidity premium. We found empirical support for the LPH with Brazilian data using both traditional and survey methods. However, the evaluation with interest rate surveys gives a higher statistical confidence level than the traditional approach when we perform tests for term premium monotonicity.

© 2015 Elsevier B.V. All rights reserved.

1. Introduction

There is a vast research on the term structure of interest rates, and one of the oldest issues in this literature is the liquidity preference hypothesis¹ (LPH). This hypothesis states that the term premium increases monotonically over time to maturity. This means that the expected returns on government securities should monotonically increase over time to maturity. One problem with the empirical investigations of the term premium is that it is not directly measurable. The yield of long-term bonds embeds the market expectations

* Corresponding author at: SBS Quadra 3, Bloco B – Asa Sul, Brasília, DF, Brazil.

E-mail address: jrenato.ornelas@globo.com (J.R.H. Ornelas)

¹ See McCulloch (1975), Fama (1984), Boudoukh et al. (1999) and Kessel (1965). It is worth mentioning that the literature on testing LPH uses mainly the US data.

for future short-term interest rates plus a term premium. Both can vary over time, and it creates a challenge for isolating term premium on a time series. In order to disentangle short-term interest rate expectations from term premium in bond yields, traditional literature usually uses time series of ex-post returns (see, for instance, Fama, 1984 or Patton and Timmermann, 2010). However, these time series must be long enough to mitigate the effects that arise from variations in future short-term interest rate expectations and term premium, as well as measurement errors. Also, the presence or absence of a rare event in the sample time period may induce a bias when using ex-post returns, if the sample size is not long enough.² The article of Elton (1999) describes the problems arising from the use of realized returns on asset pricing tests.

An alternative approach to investigate LPH is to use surveys with market expectations instead of using only data from security prices and returns. Several decades ago McCulloch (1975) mentioned this possible approach, but at that time the data were not reliable, nor long enough. Nowadays, data is no longer an issue. Kim and Orphanides (2007, 2012) and Swanson (2007) show how one can calculate the term premium using survey data for the US market. This approach mitigates problems from variations in the short-term interest rate expectation as we account for expectations in an explicit way. Therefore, we are able to isolate and extract the term premium from bond yields by using expectations of short-term interest rates over the bond life.

This paper uses this novel approach to test the monotonicity of the interest rate term premium, i.e., it aims to test if the LPH holds for the term structure of interest rates. Therefore, the main contribution of the paper is using interest rate surveys with market expectations in order to evaluate LPH, instead of relying on bond ex-post returns as the traditional literature. The strength of this approach is that it allows us to split the effect of interest rate expectation movements (expectation hypothesis) from the liquidity premium in a clearer procedure. The problems from variations in the short-term interest rate expectations are mitigated because we take expectations in an explicit way. The approach allows us to extract the term premium from bond yields by using expectations of short-term interest rates over bond life. To the best of our knowledge, we are the first to formally test LPH using survey data.

We measure the term premium and test LPH for the Brazilian term structure using a survey of market expectations for the Brazilian monetary policy interest rate decisions carried out by the Central Bank of Brazil. This survey covers more than ten years of daily observations, and is therefore a valuable and unique source of information. We also use data from Brazilian term structures of interest rates. With this dataset, our approach consists of using the market expectations for future short-term interest rates to calculate the term premium for maturities up to 12 months. Our analysis strongly supports that term premia monotonically increase over time to maturity during our sample period. The term premium increases between two and four basis points for each additional month of maturity. These pairwise increases are statistically greater than zero, no matter whether we tested it separately or jointly. The traditional method produces much higher term premia, but also much wider standard errors. This suggests that the survey method is more precise. Overall, we found strong support for the liquidity preference hypothesis in the Brazilian market using the survey method, and weaker evidence using the traditional method.

In order to use survey forecasts to calculate the term premium, we need to check for possible biases. Otherwise the bias may be “transmitted” to the term premium. If we have an upward bias on surveys, our term premium may be biased downward, and vice-versa. Our results show that survey forecasts are an unbiased estimator of future monetary policy interest rates for our sample period.

This paper is structured as follows: Section 2 reviews the literature on LPH testing; Section 3 describes the dataset; Section 4 describes the method for estimating term premium and presents some descriptive statistics; Section 5 shows some interesting results when we condition term premium structure to the slope of term structure; Section 6 formally tests for the monotonicity of the term premium structure; and Section 7 concludes.

2. Literature review

There are two fundamental hypotheses on interest rate term structures. According to the pure expectation hypothesis, the forward rates are unbiased estimates of future spot rates. A more general specification of the

² This is related to the so-called peso-problem, which is the effect on statistical inference caused by a very low-probability event that do not occur in the sample.

Download English Version:

<https://daneshyari.com/en/article/5063180>

Download Persian Version:

<https://daneshyari.com/article/5063180>

[Daneshyari.com](https://daneshyari.com)