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Interest rate forecasts in times of financial crisis: What might be interesting to know?

Frederik Kunze [a,*], Jens Kramer [a], Norman Rudschuck [a,b]

[a] Department of Economics & Strategy, NORD/LB, Friedrichswall 10, D-30159 Hannover, Germany
[b] Institute for Risk and Insurance, Hannover, Germany

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ABSTRACT

As a basic requirement to be a feasible predictor for the shape of the yield curve survey forecasts should be cointegrated with the realized path of interest rates. The short end of the curve is determined to a large extend by the monetary policy of central banks. Especially in times of financial crisis uncertainty about the coming policies rises and leads to higher dispersion within survey forecasts as well as structural breaks within the long-run relationship. Using a simple empirical model it can be stated that emergence of uncertainty may be explained by worsening economic sentiment or liquidity constraints in the money market.

1. Introduction

As it is in the nature of things, banks, life insurers and other financial institutions are depending on interest rate forecasts — either on their own ones or on external views. To be able to deal with interest rate risks for example due to differing durations, the assessment of the actual yield curve is very important. But even more relevant for their investment decisions is the future development of national and international yield curves. Having had in April 2012 the U.S. Federal Reserve Bank's pledge to keep the short-term interest rates near zero at least until the end of 2014 (see Federal Reserve Bank (2012)), one could ask themselves about the long-term implications to insurance companies and other financial institutions. Especially for insurers there seems to be a severe and long-term impact of low interest rates – totally independent by regards to the short, middle or long end of the yield curve – and therefore affecting the companies' future profits. Unfortunately, in times of crisis, when expertise is even more required, forecasts have become more difficult and the range of views reveals to be quite widespread, not to say problematic. This uncertainty may not only become apparent in times of financial crises (e.g. the banking crisis caused by misjudgments of risks within the US property markets). In the past external shocks like 9/11 in 2001 or the Tōhoku earthquake and tsunami in 2011 followed by major nuclear accidents did also bring forth vital economic as well as financial consequences.

Life insurers in Germany do operate with an average duration of seven to eight years, nonetheless decision makers have an eye on the base rate of central banks as well to identify the period of low or high interest rates the economy is in. In 2008 the Federal

* Corresponding author. Tel.: +49 511 361 5380; fax: +49 511 361 98 5380.
E-mail address: frederik.kunze@nordlb.de (F. Kunze).

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Reserve as well as the European Central Bank have sounded the bell for a extended period of extraordinary low short-term interest rates. Those two as well as other central banks have even begun to buy government bonds in special programs of quantitative easing to lower yields for bonds with a maturity of five to thirty years. These so far unknown, unexpected and very drastic policy steps by decision makers were not well anticipated by analysts. The timing and the transparency of central banks communication play a major role when managing financial market expectations. Therefore it is one of the main goals of this paper in the present case, to reveal structural breaks in the forecasted time series and to find as well as assess possible explanations for that. As we will also show dispersion measures for the spectrum of professional forecasters coinciding with the structural breaks do qualify as reasonable indicators for financial crisis.

We have organized the structure of the paper as follows: After introducing the topic, we give a brief literature overview. Section 3 states the data and the methodology, before we present and discuss our results in the fourth part of the paper. Section 5 concludes.

2. Literature review

The expectations of professional financial forecasters about the future developments of financial and economic variables are of very high relevance for decision makers. The empirical assessment of interest rate forecasts for both long and short maturity interest rates is not at all a new field of activity in academics. There exists a vast literature dealing with the usefulness and evaluation of interest forecasts — both from individual professionals and survey of forecasters. With the beginning of the early 1980's academics focused on the evaluation of interest rate forecasts for almost the whole maturity spectrum. As usual applied econometricians originally concentrated on US data. A special attention has been paid to the evaluation of survey forecasts as the expectations of professional forecasters on future interest rates mark the fundament for far reaching decisions of both internal and external addressees. While interest rates on the long end of the yield curve are driven by the forecasters' expectations about the stance of the economy in the future whereas the influence of central banks' monetary policy as a reaction to present and anticipated developments of the economy governs to a great extend the short end of the yield curve.

Friedman (1980) presented an analysis of three and six months survey forecasts among others for the three and twelve months Treasury Bill rate and came to the conclusion that the survey forecasts have been biased and inconsistent. In the decades to come a vast literature dealing with the rationality, consistency as well as usefulness of interest rate forecasts evolved.

Belongia (1987) compared the survey forecast as well as the individual forecasts for the US Treasury Bill rates from June 1982 to December 1986 with a simple naïve forecast and market based forecasts. He reported that the economists' forecasts where subject to large errors. Simon (1989) examined interest forecasts of 30 professional analysts. Going a bit further than Belongia (1987) he utilized a random walk forecast as comparison and came to the conclusion that the analysts were only marginally better than the random walk forecast. Dua (1988), for example came to the conclusion that during periods of high volatility survey forecasts became much more inaccurate. Kolb and Stekler (1996) went one step further and centered on the individual forecasts of the analysts in the Wall Street Journal. Most worth mentioning is their result that both the individual forecasts and the survey forecast did not perform better than a naïve forecast. Leitch and Tanner (1991) argued that conventional error measures like the root-mean-squared error or the mean absolute error in fact did show very often that a naïve forecast performed better than the forecasts by professional analysts. But they did further state that this result might be misleading as the error measures were not closely related to the profits resulting from the forecast.

Spiwoks (2003) analyzed 10 year German government bond yields by using a number of different statistical concepts. He came to the conclusion that analysts follow a so-called topically orientated trend adjustment behavior. Brooks and Gray (2004) analyzed the survey forecast for long term US Treasury bond yields for 43 periods (from 1982 to 2003). The authors reported a two out of three chance to predict the directional change wrong. Later Benke (2006) also performed an evaluation of forecasts for the 10 year German government bond yield. He stated that the average analyst's performance according to the directional accuracy was worse than 50%. Mitchell and Pearce (2007) evaluated interest rate forecasts from the Wall Street's panel of economists from 1982 to 2002 and came to the conclusion that the forecasts where mostly unbiased. But like Benke (2006) the authors did state that the directional accuracy was not better than randomly tossing a fair coin.

Gubaydullina et al. (2011) did test whether survey forecasts for twelve countries including Germany, the US and the UK can be characterized by a status quo bias and came to the conclusion that this holds for the majority of the survey forecasts. One empirical work that sheds some light to the rationality of forecasts in the UK stems from Chortareas et al. (2012). The authors did concentrate on survey forecasts for the three months inter-bank rates and the ten-year gilts. One major finding was that forecasts were not unbiased and that degree of unbiasedness increases with both forecast horizon and maturity.

Whereas the statements above mostly focus on the quality of forecasts in comparison to the realized path of interest rate movements the importance of the analysis of developments in the variety of professional forecasts over time should not be missed out. Especially in times of financial crisis and global financial turmoil the usefulness of economic forecasts is broadly put into question. One reason for that is the uncertainty of forecasters when it comes to the reaction of political decision makers to economic downturn as well as financial distress of entities like banks, insurance as well as industrial companies or lately member states of monetary unions like the EMU.

In this context external shocks like natural disasters or terrorist attacks should not be missed out. As it has been demonstrated by the history of the last decade major global economic imbalances or downturns may also show up on the scene in the aftermath of events with no economic cause. Especially for insurance companies – including reinsurers – these events with high severity and