



Subjective interest rate uncertainty and the macroeconomy: A cross-country analysis [☆]



Klodiana Istrefi ^{*}, Sarah Mouabbi

Banque de France, Paris, France

ARTICLE INFO

Article history:

Available online 20 July 2017

JEL classifications:

C32
E43
E47
F44
F47

Keywords:

Interest rates
Subjective uncertainty
Surveys of professional forecasters
Macroeconomic fluctuations
Structural VAR

ABSTRACT

We ask whether uncertainty about interest rates is important for economic activity. The effects of interest rate uncertainty on the economy are examined through the lens of a small VAR where the assumption that uncertainty can affect real activity contemporaneously but not *vice versa* is indeed in line with the data. Our measure of uncertainty stems from professional forecasts of short- and long-term interest rates and accounts for both disagreement among forecasters and the perceived variability of future aggregate shocks. Studying a panel of countries we find that subjective interest rate uncertainty has large, negative and persistent effects on the economy.

© 2017 Elsevier Ltd. All rights reserved.

1. Introduction

Interest rate uncertainty is a major concern for central banks. Recent evidence of this is provided by the tapering episode in the US or the sell-off episode in the euro area in late April 2015, despite unchanged quantitative easing implementation details. In each case, interest rate uncertainty perceived by market participants led central banks to refine their language in an attempt to manage expectations. From a macroeconomic point of view, there are at least three reasons why concerns about interest rate uncertainty are warranted. First, it might reflect uncertainty about monetary policy itself (see [Creal and Wu, forthcoming](#); [Istrefi and PiloIU, 2014](#); [Baker et al., 2016](#)). Second, at least at maturities beyond the direct control of central banks, it relates to financial uncertainty. As emphasized by [Ludvigson et al. \(2015\)](#), the latter is particularly important for business cycle fluctuations. Third, with a Taylor-rule specification in mind, interest rate uncertainty might reflect uncertainty about the systematic component of monetary policy, hence about fundamentals (see [Orphanides, 2000](#)).

[☆] The views expressed in this paper are those of the authors and do not necessarily reflect the views of the Banque de France or the Eurosystem.

^{*} Corresponding author at: Banque de France, Direction des Etudes Monétaires et Financières, DGEI-DEMFI, 41-1403, 31 rue Croix-des-petits-champs, 75049 Paris, France.

E-mail addresses: klodiana.istrefi@banque-france.fr (K. Istrefi), sarah.mouabbi@banque-france.fr (S. Mouabbi).

This paper contributes to the empirical literature on uncertainty, emphasizing the economic effects of interest rate uncertainty.¹ To this aim, we make three distinct contributions. First, we build measures of interest rate uncertainty based on forecasts of short- and long-term interest rates, 3 months ahead, stemming from Consensus Economics surveys (CE). Our measures account for two components, disagreement among forecasters and the perceived variability of future aggregate shocks, in line with [Lahiri and Sheng \(2010\)](#), thus representing subjective interest rate uncertainty. In contrast to [Lahiri and Sheng \(2010\)](#), we enhance the estimation of the second component by using a stochastic volatility model rather than a GARCH-type model. This allows the perceived variability of future aggregate shocks to be time-varying and stochastic.

The second contribution relates to the identification of subjective interest rate uncertainty shocks. Our approach relies on assumptions for identification that are supported by the temporal ordering of the data used in the analysis. More specifically, the effects of interest rate uncertainty are measured by using a structural VAR, where the timing of surveys is exploited at the identification stage. CE surveys are available on a monthly frequency, and forecasts are made generally within the first 10 days of the month. During this period, contemporaneous monthly data on economic activity are not known. Typically, the first indicators on industrial production, prices and employment for a particular month only start to become available during the second part of the month. Therefore, by construction, the CE forecasters information set includes only past realizations of macroeconomic data when surveys are filled out. Thus, the temporal ordering of the data justifies a recursive identification scheme where subjective interest rate uncertainty can affect real activity contemporaneously but not *vice versa*. Our identification strategy is similar in spirit to that of [Leduc and Liu \(2016\)](#) which also relies on the timing advantage of Michigan survey data relative to the timing of macroeconomic data releases to identify the effects of consumer uncertainty shocks on the macroeconomy.

Third, we provide a multi-country dimension, by estimating the effects of interest rate uncertainty on a number of countries characterized by different economic structures and monetary policies. Our selected countries include the US, Japan, the UK, Canada, Sweden and four euro area countries: Germany, France, Italy, and Spain. The euro area group is particularly interesting as it shares a common monetary policy, and we measure uncertainty on the same short-term interest rate (i.e., the interbank rate) as perceived in these countries. Under our multi-country setup one can study if there is heterogeneity in the effects of uncertainty across different economies and if so, why? In this regard, we will exploit information on economic structures and institutional frameworks.

Focusing on the last two decades (when data availability allows), we find that interest rate uncertainty fluctuates substantially. Unsurprisingly, this measure spikes during the recent financial crisis for most countries, predominantly on short-term yield uncertainty.² Nonetheless, we observe substantial individual variation throughout the sample related to other important domestic events. Around these events, interest rate uncertainty increases considerably, often exhibiting the highest magnitudes in our sample. We find that shocks to interest rate uncertainty have large and persistent negative effects on industrial production and unemployment. Furthermore, these shocks are deflationary. There is substantial heterogeneity across countries, with the drop in production varying from 0.4 to 3.8 percent, within the year the shock hits. In response to this uncertainty, unemployment worsens with rates increasing by 0.15–1.2 percentage points. In addition, prices fall in response to interest rate uncertainty shocks, with producer prices falling up to 2 percentage points. Furthermore, the recovery of the economy to its initial levels is slow, taking about 3–5 years.

Short-term yield uncertainty is found to explain a large fraction of the variation in industrial production and unemployment. Results are the strongest for Spain where the share of the variation explained reaches up to 60 percent and 43 percent, respectively. Considering uncertainty on short versus long yields, the differences in the dynamic effects mostly appear on the quantitative side. Our findings suggest that subjective short-term yield uncertainty is more important for the economy than long-term yield uncertainty. When looking at disaggregated components of uncertainty, we find that both disagreement and the perceived variability of shocks push the economy in the same direction.

Overall, our paper shows that interest rate uncertainty has large negative effects on the economy, and those can be more adverse in some countries than others. A look into data patterns suggests that the effects of interest rate uncertainty are higher in countries with a larger share of interest-rate sensitive sectors and more labor market rigidities. This result highlights the importance of economic structures and institutional frameworks in propagating uncertainty shocks. Moreover, these findings draw attention to the role of central banks. To the extent that interest rate uncertainty relates to uncertainty about monetary policy, central banks can design operational frameworks and strategies to mitigate them (see [Ehrmann et al., 2012](#); [Bianchi and Melosi, 2014](#)). To the extent that interest rate uncertainty stems from fundamentals, central banks can take an active role in containing it.³ Indeed, during the Great Recession, many central banks across the world have taken this position. They have achieved this by communicating policies that inhibit uncertainty about the path of short-term interest rates (i.e., forward guidance).

With respect to the literature, our paper is closely related to [Creal and Wu \(forthcoming\)](#), who investigate the relationship between uncertainty about interest rates and economic fluctuations, for the US. Their interest rate uncertainty is extracted from the volatility factors of a term structure model with macro variables, thus rendering it an objective measure of uncer-

¹ The empirical literature on uncertainty includes, among others, [Mumtaz and Zanetti \(2013\)](#), [Fernandez-Villaverde et al. \(2015\)](#), [Jurado et al. \(2015\)](#), [Ludvigson et al. \(2015\)](#), [Baker et al. \(2016\)](#), and [Leduc and Liu \(2016\)](#).

² Throughout the paper we refer to interest rates and yields interchangeably.

³ In a model where central banks, firms and households have imperfect information about the current state of the economy, [Eusepi and Preston \(2010\)](#) show that communication allows agents to construct more accurate forecasts, leading to greater stability in observed output, inflation, and nominal interest rates.

Download English Version:

<https://daneshyari.com/en/article/11004873>

Download Persian Version:

<https://daneshyari.com/article/11004873>

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