

Disagreement in expectations and the credibility of monetary authorities in the Brazilian inflation targeting regime

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Abstract

Based on market expectations reported by the Central Bank of Brazil for the SELIC interest rate, the IPCA inflation, the exchange rate (BRL/USD) and the growth rate of industrial production for four different forecasting horizons, this work analyzes the term structures of disagreement in expectations regarding the future values of these variables. It also investigates the driving factors of disagreement, paying special attention to the influence of monetary authorities' credibility. An extensive regression analysis shows that the levels of the term structures of disagreement are negatively related to the output gap (although this result is not very robust); and that the levels of the term structures of disagreement in expectations about the IPCA inflation rate and the SELIC interest rate have a strong negative relationship with central bankers' credibility; this relationship is positive in the case of the growth rate of industrial production.

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Resumo

Com base nas expectativas de mercado divulgadas pelo Banco Central do Brasil para a taxa de juros (SELIC), a inflação medida pelo IPCA, a taxa de câmbio (R\$/US\$) e a taxa de crescimento da produção industrial para quatro diferentes horizontes de previsão, este trabalho analisa as estruturas a termo das divergências de expectativas quanto aos valores futuros dessas variáveis. Ele também investiga os fatores determinantes das divergências, em especial, a influência da credibilidade da autoridade monetária. Uma extensa análise de regressão mostra que os níveis das estruturas a termo das divergências são negativamente relacionados com o hiato do produto (embora este resultado não é muito robusto); e que os níveis das estruturas a termo das divergências nas expectativas sobre a taxa de inflação (IPCA) e a taxa de juros (SELIC) têm uma forte relação negativa com a credibilidade do banco central; esta relação é positiva no caso de a taxa de crescimento da produção industrial.

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Palavras-chave: Divergência de expectativas; Política monetária; Credibilidade; Estrutura a termo

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1. Introduction

Based on market expectations reported by the Central Bank of Brazil (CBB) for the future behavior of the SELIC interest rate, the inflation rate (as measured by the IPCA index), the exchange rate (BRL/USD) and the growth rate of industrial production for four different forecasting horizons, this work studies the dynamics of the term structures of disagreement in expectations regarding the future values of these variables. It also investigates the factors that explain their behavior, especially the role played by the credibility of monetary authorities and the business cycle. In an inflation targeting regime as the one prevailing in Brazil since June 1999, credibility can be measured according to the capacity of targets pursued by monetary authorities to attract inflation expectations.

The main results of the paper are: (i) the term structures of disagreement in expectations are, on average, positively sloped, with the exception of the term structure of disagreement in expectations regarding the future values of the growth rate of industrial production, which is negatively sloped; (ii) the standard deviations of the four time series representing disagreement about the future evolution of the growth rate of industrial production and the inflation rate decrease with the forecasting horizon; they increase with it in the case of the exchange rate (BRL/USD) and are insensitive to it in the case of the SELIC interest rate; (iii) regressions relating the levels of the term structures of disagreement in expectations to their potential macroeconomic determinants show that there is a negative relationship between the former and either to with the output gap or our measure of monetary authorities' credibility; (iv) the exception is the level of the term structure of disagreement in expectations about the growth rate of industrial production, which loads positively on our credibility index. These results support the idea that credible monetary authorities make inflation expectations converge to the targets they pursue, therefore reducing its dispersion.

Contributions (i), (ii), (iii) and (iv) are novel not only in the Brazilian literature dedicated to economic studies, but also in the international literature devoted to emerging economies. The Brazilian literature lacks studies analyzing the evolution of concrete measures of disagreement in expectations; furthermore, it lacks studies characterizing its hypothetical dependence to the forecasting horizon or the specific variable being forecasted. Likewise, there are no studies relating time series of disagreement measures to the observed paths of relevant macroeconomic variables. Finally, there is no research about the potential link between disagreement in expectations and Central Bank credibility.¹ Thus, results (i), (ii), (iii) and (iv) fill some important gaps in the literature applied to Brazil, in particular, and emerging economies, in general.

Evidences (iii) and (iv) are also novel at the international level, since there are no studies relating the credibility of monetary authorities in countries adopting the inflation targeting regime with disagreement in expectations concerning the future values of macroeconomic variables. The analysis of the term structures of disagreement in expectations is also an important contribution, for the most important paper dealing with this issue ([Andrade et al., 2014](#)) does not link the common trends followed by the time series that comprise these curves (namely, their level) with their driving factors.

The economic literature regarding disagreement in expectations (especially on the fields of macroeconomics and finance) has emphasized the fact that agents may disagree about the future behavior of the economy. Although articles discussing expectations' dispersion are numerous, we can classify them into four groups. The first group comprises papers trying to characterize disagreement by means of time series, aiming at explaining its course in light of the observed behavior of potentially relevant macroeconomic variables (for example, the output gap and the volatility of shocks affecting the economy), measures of the degree of independence of monetary authorities and their transparency standards.² The second group includes articles studying the sources of disagreement in agents' expectations, which can stem from a priori heterogeneous beliefs, differences in the models used by agents to assess the economic environment, differences in the information set that each agent uses to infer the current state of the economy, diversity of interpretations about new information revealed to the public, diversity of views about the nature of changes occurring in the economic

¹ [Garcia and Guillén \(2014\)](#) do not assess the hypothesis that credibility changes may affect disagreement in expectations about future values of inflation; also, the authors do not analyze the connection between credibility and disagreement in expectations concerning other macroeconomic variables (such as the growth rate of output).

² In this group we can include [Mankiw et al. \(2003\)](#), [Filardo and Guinigundo \(2008\)](#), [Ehrmann et al. \(2010\)](#), [Dovern et al. \(2012\)](#), [Siklos \(2013\)](#) and [Sill \(2014\)](#).

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