

A brief analysis of aggregate measures as an alternative to the median at Central Bank of Brazil's Survey of Professional Forecasts[☆]

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Abstract

This paper presents a brief analysis of representative measures of inflation expectations from Central Bank of Brazil's Survey of Professional Forecasts that are alternative to the median response. We build time series with the mode and core measures of inflation expectations from the panel of professional forecasts surveyed from January 2002 to September 2012. We compare them to the median response with respect to their predictive power in a 12-month-ahead horizon. We also compare the predictive power of the alternative measures with the realized core of consumer price inflation.

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JEL classification: E37; E58

Keywords: Inflation expectations; Market forecasts; Median; Core inflation; Trimmed core inflation; Brazil

Resumo

Esse artigo apresenta uma breve análise de medidas representativas alternativas à mediana da pesquisa de expectativas conduzida pelo Departamento de Relacionamento com Investidores e Estudos Especiais (Gerin) do Banco Central do Brasil. A partir do painel de expectativas coletadas de janeiro de 2002 a setembro de 2012, construímos séries históricas de núcleos e da moda das expectativas para a inflação, que, a seguir, são comparadas com a mediana em relação ao seu poder preditivo para o horizonte de 12 meses à frente. Comparamos também o poder preditivo dessas medidas com respeito ao núcleo de inflação do IPCA.

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Palavras-chave: expectativas de mercado; expectativas de inflação; mediana; núcleos aparados; Brasil

[☆] The author is thankful to Adriana Soares Sales and Andre Minella for comments and suggestions. Obviously, errors and omission are the author's sole responsibility. The views expressed in this work do not necessarily reflect those of the Central Bank of Brazil.

Peer review under responsibility of Peer review under responsibility of National Association of Postgraduate Centers in Economics, ANPEC.

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1. Introduction

Market forecasts surveyed by the Central Bank of Brazil since 1999 are reported daily at the institution's website and published weekly at the "Focus" reports. They have become an important reference to the discussion of macroeconomic prospects in Brazil, especially with respect to inflation. The univariate measures that are usually chosen to represent the panel of forecasts both at the "Focus" reports and at the Inflation Report (Chapter 6) are the median forecasts and their standard deviations.¹ Throughout the rest of the world, the use of the panel median or mean is also widely disseminated.²

Carvalho and Minella (2012) present a detailed study of the predictive power of the median forecasts surveyed by the Central Bank of Brazil for a 12-month-ahead horizon. They show that in the analyzed period, the median response does not present systematic bias, which implies a reasonable predictive power, in spite of their failure in efficiency tests. Other studies have investigated the predictive power of the median responses of Central Bank of Brazil's survey for varied forecast horizons.³

This paper assesses the predictive power of other measures representative of the panel of inflation forecasts surveyed by the Central Bank of Brazil. In particular, we build series of modes and core measures of inflation forecasts for a 12-month-ahead horizon.

Except for the symmetric trimmed mean core and for one of the asymmetric core measures, all measures that we investigate are statistically different from the median response. In terms of predictive power, all measures present systematic bias in the complete sample. The evidence of bias is slightly smaller for the median. However, this conclusion does not hold for shorter sub-samples. Furthermore, for the complete sample, the investigated measures are more appropriate proxies of the smoothed trimmed core inflation index than of the actual headline consumer price inflation. Except for the mode, the investigated measures do not present systematic bias when compared to the core inflation. Notwithstanding, for subsamples beginning in January 2003 or January 2004, which are less contaminated by the confidence crisis that had hit the economy in previous years, all measures present systematic bias when compared to the inflation core.

2. Building measures that are representative of the panel of inflation forecasts

Aggregate measures such as the mean, median and standard deviation of the expectations panel surveyed by the Central Bank of Brazil, and others derived from these three, are reported daily at the central bank's website (<https://www3.bcb.gov.br/expectativas/publico/en/serieestatisticas>). The survey currently encompasses over 100 registered participants.⁴

We used the complete database of the survey, from January 2002 to September 2012, to build five core inflation expectations series in addition to a series of modes. The methodology is detailed in what follows. For all series, the data refer to forecasts surveyed at each day of the month corresponding to the day previous to that used to produce the Top-5 rank published by the Investor's Relations Office of the Central Bank of Brazil. The forecast horizon considered was 12-months, accumulated from the month following the survey date onwards.

¹ More recently, in the Inflation Report of March 2011, the Central Bank of Brazil started to publish the median of selected segments of survey participants.

² For instance, the Inflation Perspectives chapter of Bank of England's Inflation Report reports the mean expectations of a group of surveyed professionals. The mean is also the representative measure chosen to report the Macro Markets Home Price Expectations Survey, as well as Consensus Economics forecasts, which, in turn, also reports the individual forecasts. US Michigan Survey of Expectations reports the median response as its representative measure.

³ Kohlscheen (2010), Guillén (2008) and Carvalho and Bugarin (2006), for instance.

⁴ For a complete description of the survey's database, please refer to Marques et al. (2003).

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