Full length article

Inflation Forecasts' Performance in Latin America☆

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Abstract

This paper provides a full characterization of inflation rate forecasts using the mean values from Consensus Economics for a sample of 14 Latin American countries between 1989 and 2014. It also assesses the performance of inflation rate forecasts around business cycles' turning points. Results show that inflation forecasts in the region display the standard property that as the forecast horizon shortens accuracy improves. On average, forecasters underpredict inflation, but this masks very different country experiences. We find evidence point to biasedness of inflation forecasts for year-ahead forecasts but not for current year. Tests' results point to forecast inefficiency which is also evidenced by a tendency to smooth them between revisions. Focusing on business cycle turning points, forecasters tend to slightly underpredict the inflation rate and the extent of underprediction increases during recessions. The hypothesis of forecast efficiency is overwhelmingly rejected both during recessions and recoveries.

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1. Introduction

Latin America has been known for its display of high inflation rates and even episodes of hyperinflation, particularly shortly after its political transition to democracy in the 1980s and early 1990s.[1] More recently, the important currency depreciations that affected many Latin American countries have placed renewed upward pressure on inflation, even if their impact has been milder than in the past.[2] Vigilance is in any case warranted in economies where second-round effects are potentially big, since there is quiet variability as to how well-anchored inflation expectations are in different countries. This is important since several papers typically point to the negative effects of inflation on economic growth.[3]

The severity and persistence of the fall in output during the Global Financial Crisis (GFC) led to significant declines in inflation rates around the world. Since then, inflation on average has increased and some central banks in the Latin American region currently face a trade-off. On the one hand, domestic demand is weak, with some uncertainty around output gaps, and fiscal policy space is limited or nonexistent. On the other hand, headline inflation is above target and expected to remain so in the near term.[4] Such conjuncture triggered a revival of the interest in understanding the deep causes, costs and consequences

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☆ The usual disclaimer applies. All remaining errors are the author's sole responsibility.
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[1] For seminal works on inflation in Latin America refer to the studies by Baer (1967) and Cole (1987).

[2] Note that improvements in monetary frameworks over the past two decades have led to substantial and generalized declines in exchange rate pass-through to consumer prices.

[3] For instance, Fisher (1993) presented some international cross-sectional and panel data evidence to suggest that inflation outweighed the Mundell–Tobin effect. Barro (1995) making use of cross-sectional analysis, suggested that the high-inflation countries in his sample drove the negative effects of inflation on output growth. De Gregorio (1993) provided some early evidence using a panel of twelve Latin American countries during the 1950–1985 period, and suggested that inflation was indeed detrimental to economic growth.

[4] For a recent survey on the region's economic outlook see IMF (2016a).

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of inflation dynamics.[5] Understanding inflation dynamics is a very important as well as a timely and timeless issue. Forecasting it correctly, however, seems an equally important issue but it has received far less prominence. Given the well documented relationship between cyclical features of inflation and unemployment (Phillips Curve) and how structural policies can affect aggregate demand (IMF, 2016b) and improve labor market matching (Bova et al., 2016), it is important to assess how forecasters have been performing when it comes to predicting inflation. Recent studies have also documented how inflation rate (professional) forecasts are consistent with the Phillips Curve.[6] Such literature can be viewed in the broader scope of testing whether macroeconomic empirical regularities hold true when using forecasts instead of actual data.[7]

In this context, and acknowledging the relevance of business cycle behavior to inflation dynamics (Tatom, 1978; Oinonen et al., 2013), this paper aims to assess the performance of inflation forecasts in a sample of Latin American countries in both normal times but also around business cycle turning points. Recent forecasting assessment exercises around business cycles turning points for either the GDP growth or the budget balance-to-GDP-ratio for a cross-section of countries using Consensus Economics data were carried out by Loungani et al. (2013) and Jalles et al. (2015), respectively. However, a perusal of the literature finds no such analysis for the case of inflation in this particular region of the world. To this end, we rely on the private sector's predictions for the inflation rate for a sample of 14 Latin American economies between October 1989 and September 2014 brought together by Consensus Economics—which are known to be hard to beat (Batchelor and Dua, 1992).[8]

The paper proposes to address the following, more expositional, questions: (i) How do inflation forecasts behave and perform statistically? (ii) What sensitivity analysis can be made at different forecast horizons, that is, is there a marked difference between current-year and year-ahead predictions? (iii) Do forecasters, on average, under- or over-predict the inflation rate and for how long? iv) Are inflation forecasts accurate during recessions and recoveries episodes? To answer these questions, we rely on a plethora of time series methods and regression analyses.

Our results show that inflation forecasts in the region display the standard property that as the forecast horizon shortens accuracy improves. On average, forecasters underpredict inflation, but this masks very different country experiences. In fact, Paraguay and Argentina are examples of countries for which forecasts are larger than realized inflation, that is, forecasters overpredict inflation. We find evidence point to biasedness of inflation forecasts for year-ahead forecasts but not for current year. As far as efficiency is concerned, tests' results point to inefficiency which is also evidenced by a tendency to smooth forecasts. In other words, informational rigidities are present. Finally, focusing on business cycle turning points, forecasters tend to slightly underpredict the inflation rate on average, and the extent of underprediction seems to increase during recessions. The hypothesis of forecast efficiency is overwhelmingly rejected during recessions. In recovery periods, the hypothesis of efficiency in inflation forecasts is also rejected.

The remainder of the paper is organized as follows. Section 2 describes the data and presents some descriptive statistics. Section 3 outlines the empirical methodology and discusses our main findings. The last section concludes and includes some policy considerations.

2. Data issues and descriptive statistics

Since the early 1990s decade there has been a significant growth in published economic analysis stemming from banks, corporations and independent consultants around the world, and a parallel growth in "consensus forecasting" services which bring together information from these different private sources. Since 1989 Consensus Economics has published monthly forecasts for main macroeconomic variables prepared by panels of private sector forecasters. In addition to individual forecasts, the service publishes the arithmetic average of each variable, the so-called "consensus forecast" for that variable. This seems a promising alternative to official forecasts for most users of economic forecasts instead of some naive model.[9]

This paper uses the mean of the private analysts' monthly consensus forecasts of the inflation rate for the current and next year for the period from October 1989 to September 2014. Our sample is comprised of 14 Latin American countries.[10] The "event" being forecasted is annual average inflation rate. Every month a new forecast is made of the event. Hence, for each year, the sequence of forecasts is the 24 forecasts made between January of the previous year and December of the year in question. Our

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[5] See the remarks of the ECB Vice-President Mr Constancio about "Understanding Inflation Dynamics and Monetary Policy in a Low Inflation Environment" (5 November 2015) — https://www.ecb.europa.eu/press/key/date/2015/html/sp151105_1.en.html.

[6] For instance, Fendel et al. (2011) provide evidence on the trust of professional forecasters in alternative expectational versions of the Phillips curve for a group of 7 advanced economies. Rülke (2012) assesses whether professional forecasters apply the Phillips curve in six Asian countries.

[7] For instance, Ball et al. (2015) test whether professional forecasters believe in the Okun's Law when making their output and unemployment predictions for a sample of 9 advanced countries. Indeed, the authors show that, consistent with Okun's Law, forecasts of real GDP growth and the change in unemployment are negatively correlated. Previously, Pierdzioch et al. (2009) provided similar evidence for the G7 countries.

[8] Even if individual private sector forecasts may be subject to various behavioral biases, many of these are likely to be eliminated by pooling forecasts from several individual forecasters. Moreover, Zarnowitz and Braun (1993) have documented that group mean ("consensus") forecasts are more accurate than virtually all individual forecasts.

[9] This is acknowledged by Artis (1996), who makes a visual comparison of IMF and Consensus Economics forecasts for real GDP and inflation, and concludes that there is "little difference between WEO and Consensus errors". In a similar vein, Loungani (2001) plots IMF and Consensus Economics real GDP forecasts and notes that "the evidence points to near-perfect collinearity between private and official (multilateral) forecasts . . ."

[10] Country list includes: Argentina, Brazil, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico, Panama, Paraguay, Peru, Uruguay, and Venezuela.