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Testing the Predictive Power of Mexican Consumers' Inflation Expectations*

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Abstract: This paper introduces an indicator of consumers' inflation expectations based on data from the National Consumer Confidence Survey of Mexico (ENCO, in Spanish), and tests its predictive power over CPI inflation and other measures of inflation that correspond to smaller baskets of consumer goods, for periods that range from 1 to 12 months. Our findings show that between January 2003 and September 2010, the predictive capability of the indicator over the different measures of inflation used was weak. Due to a modification in the survey questionnaire in October 2010, as of that date we observe a significant change in the responses and, thus, in the behavior of the indicator of consumers' inflation expectations. For this reason, from October 2010 on the main use of this indicator is to be a reference of consumers' confidence in price stability.

Keywords: CPI inflation, consumers' inflation expectations, household surveys, consumer surveys, consumer confidence surveys, ENCO.

JEL Classification: C14, E31, E58.

Resumen: En este documento se presenta un indicador de las expectativas de los consumidores sobre la inflación en México y se evalúa su poder de predicción sobre la inflación general y sobre definiciones de inflación que corresponden a canastas de consumo más restringidas del Índice Nacional de Precios al Consumidor, para horizontes de tiempo de 1 hasta 12 meses. El análisis estadístico realizado reveló que en el periodo comprendido entre enero de 2003 y septiembre de 2010 las expectativas de inflación de los consumidores exhibieron un poder predictivo débil. A partir de octubre de 2010 se modificó el cuestionario de la Encuesta Nacional sobre Confianza del Consumidor (ENCO), de la cual se deriva la información para construir el indicador de expectativas de inflación que se presenta; dicha modificación produjo un cambio importante en el patrón de respuestas y en el comportamiento del indicador de expectativas. Puede considerarse que con base en la información disponible a partir de octubre de 2010 la mayor utilidad del indicador de expectativas de inflación de los consumidores es ser un referente de la credibilidad que manifiesta la población sobre la estabilidad de precios en la economía.

Palabras Clave: Inflación, expectativas de inflación de consumidores, encuestas a hogares, encuestas a consumidores, encuesta de confianza del consumidor, ENCO.

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1. INTRODUCTION

Inflation expectations of different economic agents cannot be measured directly. Therefore, to obtain information about them, two main sources are used: The first one consists of inflation-indexed financial instruments, which provide information in real time and usually correspond to 2-year- to 30-year-ahead expectations. However, indicators and inflation expectations obtained from these instruments include an inflationary risk premium. The second source comprises periodic household surveys, as well as firm and professional forecaster surveys, which usually correspond to expectations formulated for 1 to 10 years ahead. According to Kershoff et al. (1999), and to what is found in related international literature, it is recommended to conduct surveys among different economic agents, given the differences in their inflation expectations.

The most common inflation expectations surveys found worldwide, and those followed up more closely by central banks, are professional forecaster surveys (see examples in Mestre (2007), Easaw et al. (2011), Thomas (1999), Gramlich (1983), Batchelor and Dua (1989)). Consumers' inflation expectations surveys are conducted on a regular basis in at least 45 countries around the world (see Curtin (2007)), but the international experience indicates that the follow-up central banks do of these surveys is limited, and that there are few related formal studies.¹ Nonetheless, according to Cunningham et al. (2010), consumers' inflation expectations play a crucial role in the framework used by central banks to understand, forecast, and control inflation, as well as to quantify the impact on the public of their effort to reach price stability. Forsells and Kenny (2002) and Barnett et al. (2010) indicate that the main interest central banks have in monitoring consumers' inflation expectations, and in understanding how they are formed, is the impact they can have on the price formation process, through the following channel: Higher inflation expectations may lead employees to demand higher wage settlements, to compensate for higher expected costs of living, giving rise to cost-push effects on inflation. This would in turn affect firms, making it easier for them to pass on any change in costs in the form of higher selling prices of the goods and services they provide. Thus, inflation expectations can represent an important information variable with respect to future price dynamics.

This study presents an indicator of Mexican consumers' inflation expectations formulated for 1 to 12 months ahead, and its predictive power over annual headline inflation and other inflation definitions that correspond to smaller consumption baskets of the Consumer Price Index (CPI) is evaluated. This indicator is based on data from two time periods obtained from the National Consumer Confidence Survey (known as ENCO, for its acronym in Spanish), which is carried out jointly by INEGI and Banco de México. The first period comprises all months from January 2003 to September 2010; and the second period, the months from October 2010 to April 2012. In the latter period a modification to the question on inflation expectations of the survey was made. This modification was requested by Banco de México to INEGI to facilitate the understanding of the question, and to make it resemble the one used by the European Commission in its consumer survey. The statistical analysis carried out to determine the predictive power of this indicator over inflation is limited to the first time period only, due to the relatively small amount of data available in the second period.

We explored if consumers could be formulating their inflation expectations for periods of length less than 1 year (even if 1-year-ahead inflation expectations are asked for in

¹ Only in some countries consumer surveys are conducted directly by central banks or by governmental agencies on their request. These surveys inquire specifically about inflation expectations (see Barnett et al. (2010), BIS (2009), Cunningham et al. (2010), Czech National Bank (2003)) or they are consumer confidence surveys, which contain information on inflation expectations (see Cunningham et al. (2010), Badariza and Buchmann (2009), BIS (2009), Prasetyo and Yuliatiningsih (2008), Bialowolski (2011), Lyziak (2003)).

ENCO), as well as if consumers could be anticipating future prices of only a portion of their consumption basket. That is, not only consumers' inflation expectations' total predictive power over inflation was tested (1-year-ahead and for the whole CPI basket, as requested by ENCO), but also their partial predictive power (for expectations formulated for periods less than 1 year, or for smaller baskets of consumer goods). Three types of directional statistical tests (Pesaran-Timmerman test, binomial test and ROC (Receiver Operating Characteristic) curve) were carried out to determine the predictive power of the inflation expectations indicator over inflation. This predictive power is based on the degree of coincidences in direction of the monthly changes of the indicator and the monthly changes of the different series of inflation used (shifting the indicator forward $t+1$ to $t+12$ periods to account for inflation expectations formulated for 1 to 12 months ahead).^{2,3}

In the analysis period (January 2003 – September 2010), the indicator behaves differently from the fluctuations observed in headline inflation, since it shows that most consumers permanently expected a future increase in inflation. This could be related to the fact that the original inflation expectations' question of ENCO might have been difficult to understand by survey respondents. In the next time period (October 2010 – April 2012), we observe that most consumers had lower inflation expectations.

Our findings reveal that 1-year-ahead consumers' inflation expectations (which correspond to the time span ahead asked for in ENCO), as well as 1-month- to 11-month-ahead expectations, lack *directional* predictive power over annual headline inflation, since it is not significantly greater (in statistical terms) than 50 percent. The predictive power of the inflation expectations indicator over annual core inflation is very weak, and is statistically greater than 50 percent only for a very short time horizon (62 percent, 2 months). Likewise, the predictive power of the indicator over the inflation of an index of frequently consumed goods and services is also quite low and corresponds to an even shorter time horizon (62 percent, 1 month). Finally, we obtain similar results for the predictive capability of the indicator over the inflation of the CPI sub-indices defined by object of expenditure: It is low and in general statistically greater than 50 percent for short time horizons.

When more data from the second period (October 2010 on) are available, a new indicator of consumers' inflation expectations can be constructed and its predictive power over inflation evaluated. For the time being, the main use of the information from the second period available to date, and of the indicator constructed with it, is to be a reference of consumers' confidence in price stability. In that regard, we observe that between October 2010 and April 2012, 66 percent of consumers on average expected inflation to be less than or equal to its observed level.

The document is organized as follows. Section 2 describes the main characteristics of ENCO and the modification to its question on expected inflation; it also contains an explanation on how the indicator of consumers' inflation expectations was constructed, and shows its performance in the two time periods considered. Section 3 describes the international experience regarding consumers' inflation expectations, and presents some international results of the predictive capability of inflation expectations indicators. Section 4 describes in detail the statistical methodology used to carry out the selected directional tests. Section 5 shows the results of the analysis, and Section 6 contains some final remarks. At the end of the document is an Annex that contains tables of results of the statistical analysis carried out.

² For details regarding the statistical tests used, see Pesaran and Timmerman (1992), Greer (2003), Siegel and Castellán (1988), Zhou et al. (2002), Hanley and McNeil (1982), and Koepsell and Weiss (2003).

³ The inflation series evaluated are: headline, core, inflation of an index of frequently consumed goods and services, and that of 8 CPI sub-indices defined by object of expenditure.

2. CONSTRUCTING AN INDICATOR OF CONSUMERS' INFLATION EXPECTATIONS

2.1. Description of the Data

The indicator of inflation expectations is based on data from ENCO, which is a monthly survey designed to generate statistical information on the population's current perception and future expectations of their personal economic situation and that of the country. This survey has been conducted since 2000 by INEGI, and redesigned in 2002 in collaboration with Banco de México. From 2003 onwards, ENCO's results have been jointly generated by INEGI and Banco de México. This survey is representative at the national level, covering the main cities in Mexico. The survey sample consists of 2,366 households distributed in 32 urban areas (which correspond to the biggest cities in each state, with the exception of Chihuahua and Tamaulipas), and its target population consists of 18-year-old or older adults who reside permanently in the selected households at the time the survey is conducted.⁴

ENCO contains 15 questions, one of which (question 12) intends to capture respondents' expectations of the behavior of future inflation. This question and its response categories up to September 2010 were the following:

*"Considering price growth (inflation) in the country in recent months, how do you think **price growth (inflation)** will behave in the next year?"*

- | | |
|-----------------------------|------------------|
| 1. Will fall | 3. Will increase |
| 2. Will stay about the same | 4. Don't know" |

From October 2010 on, Banco de México suggested a modification to this question to make it easier to understand for survey respondents. Although this question was technically correct, the responses obtained from it suggested that it was not correctly understood. The modified version of the question is very similar to the one used in the European Commission's Consumer Survey (ECCS), and it is the following:⁵

*"By comparison with the past 12 months, how do you think **prices will behave** in the country in the following 12 months?"*

- | | |
|-----------------------------------|-----------------------------------|
| 1. Will fall more rapidly | 5. Will increase at the same rate |
| 2. Will fall at the same rate | 6. Will increase more rapidly |
| 3. Will stay about the same | 7. Don't know" |
| 4. Will increase at a slower rate | |

Note that this question, before and after it was modified, collects *qualitative* data, since it only captures the expected *direction* of change of price growth.

For each month from January 2003 to September 2010, we calculated the percentage of responses of question 12's response categories: "Will fall", "Will stay about the same", and "Will increase". Likewise, for each month from October 2010 to April 2012, we obtained the percentage of responses of the first 6 categories of the modified version of the question.⁶ The behavior of these percentages in both time periods is shown in the following tables.

⁴ See INEGI (2007). It is relevant to point out that ENCO's sample does not consist of a continuous panel, but rather of rotation panels, which is why the data obtained from the survey did not allow evaluating how inflation expectations evolved over time.

⁵ See European Central Bank, *European Commission's Consumer Survey*.

⁶ In each period, the number of responses of the category "Don't know" was prorated among the other response categories of question 12 (see Berk (1999), Visco (1984)).

**Table 1 – Descriptive Statistics of Percentage of Responses per Response Category of Question 12:
January 2003 – September 2010**

Response Category	Average	Standard Deviation	Median	Minimum	Maximum
[Inflation] Will increase	86%	3%	86%	75%	93%
[Inflation] Will stay about the same	10%	3%	11%	5%	19%
[Inflation] Will fall	4%	1%	4%	1%	7%

**Table 2 – Descriptive Statistics of Percentage of Responses per Response Category of Question 12:
October 2010 – April 2012**

Response Category	Average	Standard Deviation	Median	Minimum	Maximum
[Prices] Will increase more rapidly	34%	3%	34%	28%	39%
[Prices] Will increase at the same rate	23%	2%	24%	19%	28%
[Prices] Will increase at a slower rate	34%	3%	33%	29%	41%
[Prices] Will stay about the same	7.9%	1%	8%	5%	10%
[Prices] Will fall at a slower rate	1%	0.5%	0.9%	0.2%	2%
[Prices] Will fall more rapidly	0.1%	0.1%	0.1%	0.0%	0.4%

In order to compare the percentage of responses of question 12's response categories before and after the question was modified, for each month from October 2010 to April 2012 the new categories were grouped according to the change in inflation trend they imply, as shown below.⁷

Response Categories of the Modified Question (Price Behavior)		Equivalence to the Response Categories of the Original Question (Inflation Behavior)
Will increase more rapidly	➔	[Inflation] Will increase
Will increase at the same rate	➔	[Inflation] Will stay about the same
Will fall more rapidly Will fall at a slower rate Will stay about the same Will increase at a slower rate	➔	[Inflation] Will fall

Based on this equivalence of question 12's response categories, the behavior of the percentage of responses in the last time period is shown in the next table.

⁷ Before carrying out this grouping, the number of responses of the last category ("Don't know") was prorated among the other 6 response categories.

Table 3 – Descriptive Statistics of the Percentage of Responses per Grouped Response Category of Question 12: October 2010 – April 2012

Response Category	Average	Standard Deviation	Median	Minimum	Maximum
[Inflation] Will increase	34%	3%	34%	28%	39%
[Inflation] Will stay about the same	23%	2%	24%	19%	28%
[Inflation] Will fall	43%	5%	42%	35%	54%

In both time periods, and for each response category, we observe that the distribution of the percentage of responses around its mean is small and practically unbiased. We also observe a significant change in the distribution of responses as of the month the modification to question 12 took place: On average, 66 percent of survey respondents expected inflation to remain the same or fall from October 2010 on, while only 14 percent of the respondents expected the same inflation behavior before this date.

2.2. How the Indicator is Constructed

In related literature there are different quantification methods to generate a *quantitative* time series from qualitative data, such as a diffusion index, which we used in this study.^{8,9} The series of inflation expectations generated with this method is a monthly time series whose observations correspond to a weighted sum of monthly percentages of the following response categories of ENCO’s question no. 12, in the analysis period: “Will increase”, “Will stay about the same”, and “Will fall”. The corresponding weights for each of these categories are 1, 0.5, and 0, respectively. Thus, for each month t , the indicator, denoted by π_t^h , is constructed as follows:

$$\pi_t^h = (\%Increase_t) + 0.5 * (\%Stay_about_the_same_t) + 0 * (\%Fall_t) .$$

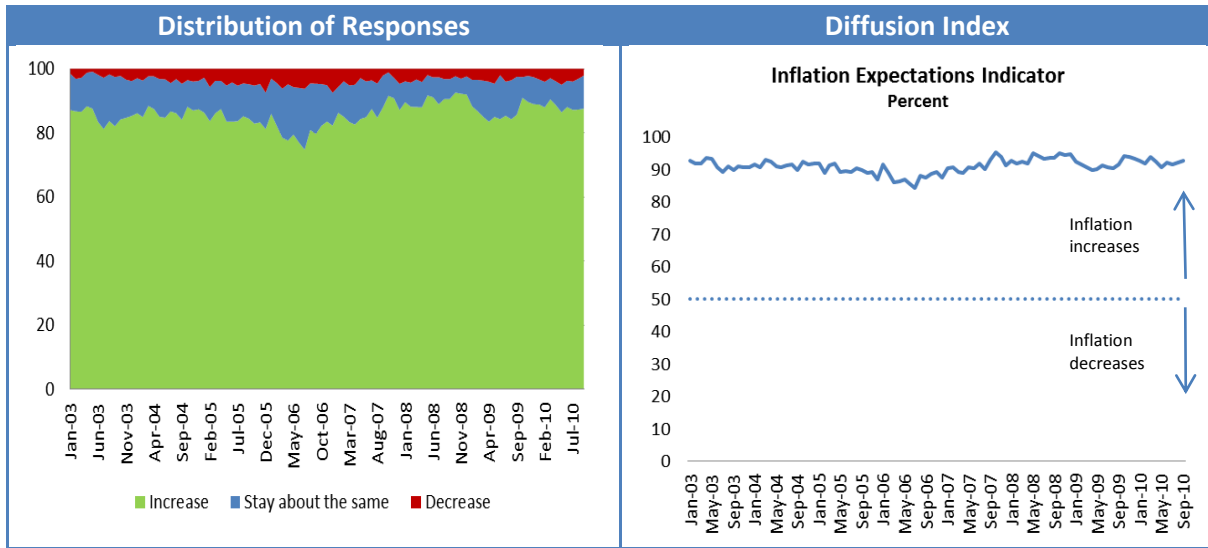
To obtain π_t^h for a certain time span ahead h ($h = 1, \dots, 12$ months), the original series is shifted forward h months. By design, this method generates inflation expectations that take on values from 0 to 100 units.

For the period January 2003 – September 2010, Figure 1 shows the distribution of responses of question 12’s response categories and the behavior of the indicator generated with them. It is relevant to point out that the level of the diffusion index is above 50 units throughout the entire period. This is an indication of how survey respondents expected that annual headline inflation would permanently increase, which is clearly an opposite behavior to that of the observed inflation in the referred period, and which reflects the lack of predictive power of the indicator. Nonetheless, later in this document we analyze if the fluctuations of the indicator have any predictive capability over inflation. These fluctuations, as well as the behavior of the inflation expectations indicator and that of headline and core inflation in the period January 2003 - September 2010 can be observed in Figure 2. It suggests that the way the indicator performed resembles the behavior of both inflation series in the referred period.

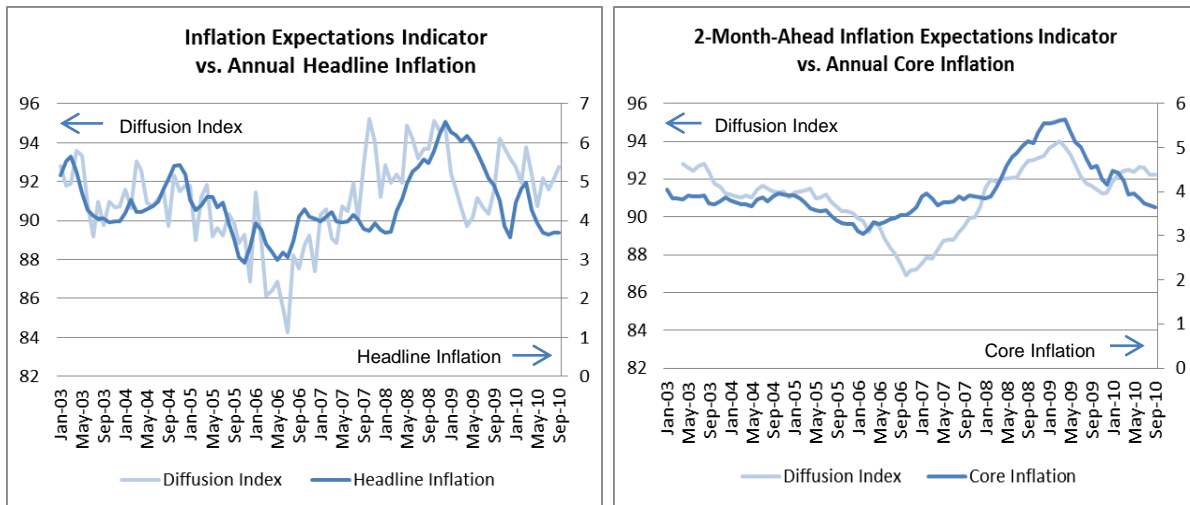
⁸ More details on diffusion indices can be found in Getz and Ulmer (1990), and OECD (2003).

⁹ Carlson and Parkin’s method (see Carlson and Parkin (1975)) was also used to generate a quantitative series based on qualitative data from ENCO. The statistical analysis results obtained with this series were very similar to those obtained using a diffusion index, so in the end we kept only the results from the latter method. See other quantification methods in Nardo (2003), Batchelor (1986), and Pesaran and Weale (2006).

Figure 1 – Behavior of Responses of Question 12’s Response Categories and of the Inflation Expectations Indicator: January 2003 – September 2010

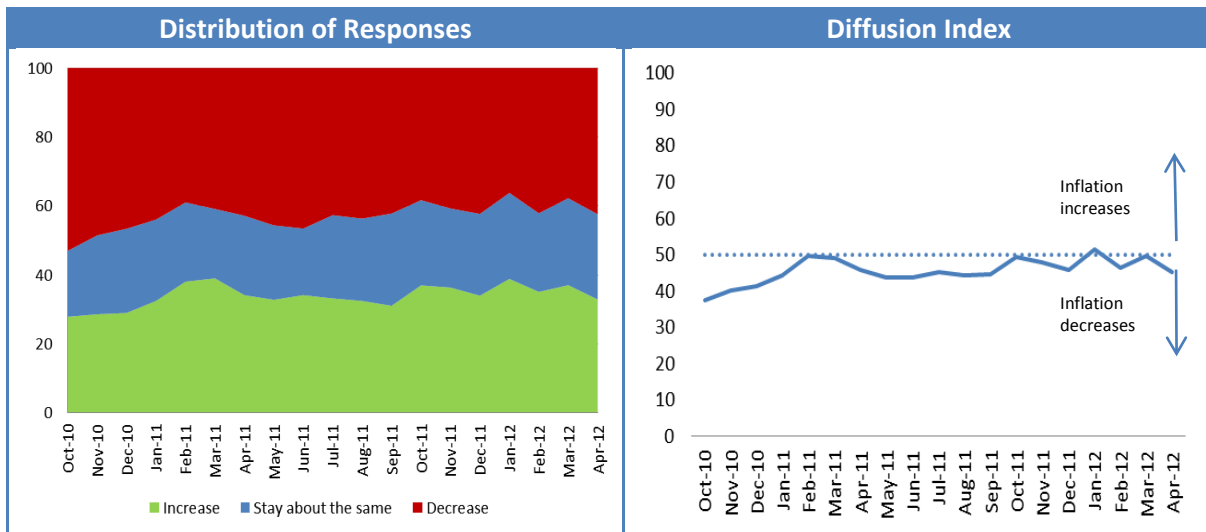


**Figure 2 – Behavior of the Inflation Expectations Indicator with Respect to Annual Headline and Core Inflation: January 2003 – September 2010
Index and Figures in Percent**



For the period October 2010 – April 2012, Figure 3 reflects the radical change in the distribution of survey responses of question 12’s response categories, and in the behavior of the inflation expectations indicator. We observe that the indicator of consumers’ inflation expectations lies below 50 units overall, which indicates that consumers expected a lower annual headline inflation than the one actually observed in that period.

Figure 3 - Behavior of Responses of Question 12's Response Categories and of the Inflation Expectations Indicator: October 2010 – April 2012



The monthly data available from October 2010 to April 2012 comprise only 19 observations, which are not enough to establish if there is a similar or different pattern of directional behavior of the inflation expectations indicator with respect to any of the selected inflation series, as opposed to the previous period. The main use of these data, and of the indicator generated with them, is to be a reference of the consensus among 66 percent (on average) of consumers that future inflation would be less than or equal to observed inflation.

For the period January 2003 – September 2010, the responses to question 12 and the behavior of the inflation expectations indicator constructed with them suggest that it is likely that this question could have been difficult to understand for survey respondents, who might have confused price growth rate (inflation) with change in prices. In this case, consumers would have responded that price growth rate would increase, when they actually might have wanted to say that prices, and not their growth rate, would increase. This would explain why the percentage of responses of question 12's response category "Will increase" is so high and fluctuates very little around its mean throughout the period. Likewise, the change in the pattern of consumers' responses observed as of the modification made to question 12 backs up the hypothesis that consumers could have failed to correctly interpret the question, thinking of price increase instead of inflation growth.

To carry out the statistical analysis for the period January 2003 – September 2010, the inflation expectations indicator was originally designed for a time span of 12 months ahead (in accordance to question 12), and later for shorter time horizons (1 to 11 months). This was done in order to test the hypothesis that consumers could be formulating their expectations for shorter time spans. The indicator was compared with different annual inflation series derived from the CPI (headline, core, 8 CPI sub-indices defined by object of expenditure, and inflation of an index of frequently consumed goods and services) for all time spans ahead (1 to 12 months) to determine if it has *directional* predictive power over inflation in the period of study.^{10,11} The comparisons were carried out *in terms of direction*,

¹⁰ Core inflation is a measure of the medium-term trend of an inflationary process. For its calculation, goods and services with high price volatility, as well as those whose prices are not determined by market conditions, are excluded from the CPI basket. In the case of Mexico, agricultural products, energy, and government approved fares (for electricity, gasoline, water, etc.) are excluded. Source: Banco de México.

given the qualitative nature of the response categories of question 12, and also because by design the indicator takes on values in a scale different from that of inflation series (0 to 100 units). Since the statistical analysis is based on *directional tests*, and because the indicator has some volatility, it was smoothed to be able to compare it with inflation series other than headline inflation. If this step had been overlooked, there would only be a slight number of coincidences in the monthly changes of the indicator and those of the other inflation series (which are smoother than headline inflation).¹²

3. LITERATURE REVIEW

Many countries around the world conduct surveys that try to capture consumers' perception of future price behavior (mostly consumer confidence or inflation expectations surveys). They are carried out by central banks, government statistical agencies, research institutes, or private firms (usually marketing research firms). These surveys contain questions on inflation expectations, which can be qualitative, quantitative, or both. Qualitative questions usually inquire about the direction (increase, fall, or stay the same) of inflation over a certain period of time, and the way this question is set out varies from one country to another. On the other hand, quantitative questions provide percent ranges of future expected inflation, or ask for point estimates of the percentage change in inflation. In the case of mixed questions, they first inquire about the future direction of inflation; if the answer corresponds to an increase or decrease in this variable, a point estimate is asked for, or else, it is required to select a percent range that corresponds to the magnitude of the expected change. It is worth noting that there is some debate on the bias that the inclusion of percent ranges can induce in surveys, while on the other hand, surveys that do not include them could face the problem of high non-response rates.

Surveys of this type are carried out periodically or sporadically, depending on the country. Curtin (2007) states that in Latin America, in countries such as Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay, and Venezuela these surveys are conducted but not periodically, and this is usually done by marketing research firms that are not under the direction of any governmental agency. On the other hand, there are international surveys conducted with a specific periodicity, the most relevant are described in Table 4.

¹¹ The index of frequently consumed goods and services is made up of a portion of the CPI basket (selected by the authors), which includes goods that are usually consumed within 1 month. The generic goods that comprise this index, grouped by object of expenditure, are the following: food, beverages, and tobacco; clothing; housing rent; electricity and gas; local and long-distance telephone service; household cleaning service; detergents and similar products; personal care services; personal care products; urban public transportation; gasoline and parking; private education; some recreation services, and other services (take-out food, restaurants, coffee shops, snack bars).

¹² Exponential smoothing and moving averages were used, and the former was the final method selected to compare the smoothed indicator with the selected inflation series.

Table 4 – International Surveys that Contain Information on Consumers’ Inflation Expectations

Country	Survey	Organization Conducting the Survey	Sample Size	Periodicity	Horizon	Type of Question
SURVEYS CONDUCTED BY CENTRAL BANKS						
United Kingdom	Bank of England-Gfk/NOP Survey	Bank of England and Gfk/NOP	2,000 consumers	Quarterly	12 months	Quantitative
European Union	European Commission’s Consumer Survey (ECCS)	European Central Bank	50,000 consumers approx.	Monthly	12 months	Qualitative
Japan	Opinion Survey on the General Public’s Views and Behavior	Bank of Japan	3,000 consumers	Quarterly	12 months	Qualitative and quantitative
Czech Republic	Household Inflation Survey	Czech National Bank	600 households	Quarterly	12 months	Quantitative
Indonesia	Bank of Indonesia Consumer Survey	Bank of Indonesia	4,600 households	Monthly	3, 6 and 12 months	Qualitative and quantitative
India	Household Inflation Expectations Survey	Reserve Bank of India	4,000 households	Quarterly	3 and 12 months	Qualitative
SURVEYS CONDUCTED BY UNIVERSITIES OR RESEARCH INSTITUTES						
United States	Michigan Survey of Consumer Attitudes	Institute for Social Research, University of Michigan	500-700 consumers	Monthly	12 months	Qualitative and quantitative
Sweden	Economic Tendency Survey Business and Consumer	National Institute of Economic Research of Sweden	1,500 households	Monthly	12 months	Quantitative
Australia	Survey of Consumer Inflationary Expectations	Melbourne Institute of Applied Economic and Social Research	1,200 consumers	Monthly	12 months	Qualitative and quantitative
Chile	Survey of Economic Views and Expectations	Micro-data Center, University of Chile	3,000 households	Quarterly	12 months	Quantitative
SURVEYS CONDUCTED BY PRIVATE FIRMS						
United Kingdom	Citygroup /YouGov Survey	Citygroup /YouGov	2,000 households	Monthly	12 months	Qualitative
United States	Consumer Confidence Survey	Conference Board, NY	5,000 consumers	Monthly	Not available	Quantitative
Poland	Ipsos-Demoskop Survey	Ipsos-Demoskop	1,000 consumers	Monthly	12 months	Qualitative
New Zealand	Inflationary Expectations Survey	AC Nielsen	1,000 consumers	Monthly	12 months	Qualitative and quantitative

Source: BIS (2009), Cunningham et al. (2010), Kershoff et al. (1999), as well as revised Internet pages of the banks, institutes, or firms that conduct the surveys.

There are other surveys and indicators of the public's concern about change in prices. For example, the *Boston Analytics' Consumer Sentiment Questionnaire*, which is conducted in India by the company Boston Analytics on a monthly basis, among 10,000 consumers. It provides data for the construction of a consumer confidence index for this country. Another example is the worldwide survey called *Global Survey of Consumer Confidence and Spending Intentions*, which is conducted by AC Nielsen among 28,000 Internet users in 56 countries. Based on the information from the survey, this marketing research firm generates a global consumer confidence index, and reports by continent the main concerns consumers expect to have in the next 6 months. Among these concerns is the increase in prices of food, energy, and services. However, this survey's results do not necessarily reflect consumers' inflation expectations.

There are few studies in related literature that compare consumers' inflation expectations with CPI inflation. Most of them contrast inflation expectations of economic analysts and professional forecasters with those of consumers, or with inflation itself.¹³ Some of these studies explore if an inflation expectations indicator has predictive power over inflation. The most cited ones are summarized below.

For the period of January 1986 to February 2001, based on data from the European Commission's Consumer Survey (ECCS), Kenny and Forsells (2002) show that a 12-month-ahead indicator of European consumers' inflation expectations is (in statistical terms) a reasonably precise estimator of 1-year-ahead inflation (and it correctly anticipated the trend decline in inflation over the 90's). It is also an unbiased estimator of future price changes in the long run. In addition, Mestre (2007) shows that a consumers' inflation expectations indicator, based on ECCS data, has sufficient quality to provide a good inflation forecast, which does not differ significantly from the forecast of economic analysts and professional forecasters that participate in the *Consensus Forecast* survey.

In the case of the United States, Gramlich (1983) uses data from the survey conducted by the Institute for Survey Research of the University of Michigan for the period 1956-1980, and compares the (statistical) efficiency of consumers' inflation expectations with that of economic analysts' and professional forecasters' inflation expectations. He finds that, on average, consumers' expectations predict inflation slightly better.¹⁴ Batchelor and Dua (1989) confirm this result and prove that consumers' and economic analysts' forecasts are unbiased estimators of inflation in that period (see also Bryan and Gavin (1986)).

Lyziak (2003) shows for Poland that 1-year-ahead consumers' inflation expectations have the same trend as CPI inflation, for the period 1992-2002. These expectations overestimate inflation until April 2001, and from then on they underestimate it. In the long run, consumers' inflation expectations are a biased estimator of inflation.

Easaw et al. (2011) show for Italy that between the years 2003 and 2010 1-year-ahead consumers' inflation expectations are overly sensitive to consumers' current perception of inflation. In the long run, these expectations are way above the inflation target established by the European Central Bank, but they are «well-anchored» on the inflation expectations of economic analysts and professional forecasters.^{15,16}

¹³ See, for example, Mestre (2007), Easaw et al. (2011), Huang and Trehan (2008), Carroll (2003), Thomas (1999), Gramlich (1983), Batchelor and Dua (1989), Bryan and Gavin (1986).

¹⁴ In Statistics, an efficient estimator is a uniformly minimum variance unbiased estimator (UMVUE), or else, it is such that its variance reaches the lower bound of the Rao-Cramér inequality. For more details, see Hogg and Craig (1995), and Bain and Engelhardt (1992).

¹⁵ See also Malgarini (2008).

Despite actual evidence on the predictive power of consumers' inflation expectations over inflation in the case of the United States and Europe, a revision of the main written communication mechanisms of central banks (inflation reports and minutes of monetary policy meetings) reveals their lack of utilization of inflation expectations indicators, with the exception of the Bank of England. However, this central bank has indicated that the volatility of inflation expectations is such that a more frequent follow-up of these expectations would not be of economic interest. This bank considers that the main use of an inflation expectations indicator is the information it contains on the public's understanding of the inflationary process.

Other studies explore if an inflation expectations indicator moves in line with inflation during a certain period of time, or how strong the association between the indicator and inflation is. The main studies of this type are summarized below.

Corder and Eckloff (2011) compare the movements of annual CPI inflation with those of a 1-year-ahead inflation expectations indicator, generated with data from consumer surveys (and firm surveys in some cases) conducted in 14 different countries during Sustained Off-Target Inflation (SOTI) episodes. For each selected country, during the first 13 quarters of the SOTI period, standardized inflation movements are compared with movements of 1-year-ahead consumers' inflation expectations. The authors conclude that during the first 8 quarters of the SOTI period, inflation expectations drift, on average, in the same direction as the deviation of inflation from 'target'. In addition, the atypical behavior observed in the United Kingdom's most recent SOTI period (2008-2011) is stressed: Volatile inflation expectations are observed and they do not follow the direction of inflation over the whole period.

In the United States, 1-year-ahead consumers' inflation expectations obtained from the University of Michigan survey follow quite closely the movements of annual headline CPI inflation in the period 1980-1998. In this same period, they also behave similarly to inflation expectations of economic analysts and professional forecasters that participate in the *Survey of Professional Forecasters* (see Huang and Trehan (2008), and Thomas (1999)).

The European Central Bank shows that from 1991 to 2002 the correlation coefficient of headline inflation and the 1-year-ahead European consumers' inflation expectations indicator (generated with ECCS data), was very close to 1. However, this strong relationship held until the introduction of the euro, and vanished since then: As of 2002 both series differ in direction and magnitude, and their correlation coefficient drops to 0.4. This suggests that the introduction of the euro distorted consumers' inflation expectations (see European Central Bank (2005) and (2006)).

¹⁶ The concept of "anchoring" inflation expectations is clearly defined by Bernanke (2007) as follows: "If the public experiences a spell of inflation higher than their long-run expectation, but their long-run expectation of inflation changes little as a result, then inflation expectations are well-anchored. If, on the other hand, the public reacts to a short period of higher-than-expected inflation by marking up their long-run expectation considerably, then expectations are poorly anchored".

4. STATISTICAL METHODS

To determine the magnitude of the predictive power of the inflation expectations indicator over CPI inflation during the analysis period, the direction of the indicator's monthly changes was compared with the direction of monthly changes of the selected inflation series. The higher the degree (percentage) of coincidence in the direction of the monthly changes, the higher the predictive power of the indicator over the selected inflation series.

We denote the inflation expectations indicator by π^h (generated for a time span ahead of h months, $h=1,2,\dots,12$), and any selected inflation series by π . The monthly change of the indicator in the time interval $[t, t + 1]$ is defined as follows: $\Delta\pi_{t+1}^h = \pi_{t+1}^h - \pi_t^h$. In order to define the monthly changes of inflation in the interval $[t, t + 1]$, the following two options are considered:

- i. We assume that consumers' inflation expectations are solely based on the inflation observed at the time consumers are surveyed (t): $\Delta\pi_{t+1} = \pi_{t+1} - \pi_t$ (hereafter, variable 1).
- ii. We assume that consumers' inflation expectations are formed by averaging the inflation observed in N months prior to the time consumers are surveyed (t) ($N=2,3,4$): $\Delta\pi_{t+1}^N = \pi_{t+1} - \text{avg}(\pi_{t-1}, \dots, \pi_{t-N})$ (hereafter, variable 2). This assumption is based on the fact that for the analysis period (January 2003 – September 2010) question 12 inquires about inflation expectations considering the behavior of inflation "in recent months", therefore not providing an exact inflation period for consumers to refer to and formulate their expectations based on it.

To determine the degree of coincidence in direction of the monthly changes of the inflation expectations indicator and those of any selected inflation series, we use the following *directional statistical tests*: Pesaran-Timmerman test, binomial test, and ROC curve. These tests allow to compare the direction of monthly changes of the inflation expectations indicator (generated for all time spans ahead, $h=1,\dots,12$ months) with the direction of the monthly changes of each of the 11 inflation series selected, using the two previous definitions of monthly change in inflation.¹⁷ Thus, 528 comparisons were carried out and each one was analyzed using the 3 referred statistical tests (in total, 1,584 series were analyzed).

For the Pesaran-Timmerman and binomial tests, comparing the monthly changes of the inflation expectations indicator (corresponding to a certain time span ahead h) with those of an inflation series produces a binary series (zeros and ones) that takes on either of the following values in each time interval $[t, t + 1]$:

- **1** if the direction of the indicator's monthly change is in line with that of inflation. That is, if $\Delta\pi_{t+1}^h > 0$ and $\Delta\pi_{t+1}(\Delta\pi_{t+1}^N) > 0$, or if $\Delta\pi_{t+1}^h < 0$ and $\Delta\pi_{t+1}(\Delta\pi_{t+1}^N) < 0$.
- **0** if the monthly change of the indicator and that of inflation have opposite directions. That is, if $\Delta\pi_{t+1}^h > 0$ and $\Delta\pi_{t+1}(\Delta\pi_{t+1}^N) < 0$, or if $\Delta\pi_{t+1}^h < 0$ and $\Delta\pi_{t+1}(\Delta\pi_{t+1}^N) > 0$.

For each of the binary series obtained, both tests quantify the total number of observations that are equal to 1, which corresponds to the number of times the direction of the monthly changes of inflation and the monthly changes of the indicator coincide. If this percentage is

¹⁷ The 11 inflation series are the following: headline, core, inflation of the 8 CPI sub-indices defined by object of expenditure, and inflation of an index of frequently consumed goods and services.

less than or equal to 50 percent, we say that the predictive power of the indicator over inflation is equivalent to flipping a coin, and thus, the indicator lacks predictive power. If the percentage is greater than 50 percent, the indicator has some predictive power over inflation, and its magnitude is given by the value of the percentage obtained.¹⁸

The ROC curve is a different kind of test: It directly compares the direction of the monthly changes in inflation ($\Delta\pi_{t+1}$ or $\Delta\pi_{t+1}^N$) with that of the monthly changes of the inflation expectations indicator ($\Delta\pi_{t+1}^h$), regarding the latter as a “new classifier” of the direction of the monthly changes in inflation.¹⁹ The area under the ROC curve (denoted by AUC) is a measure that summarizes the precision of the test, and indicates how good the new classifier is. The closer the AUC is to 1 (or 100 percent), the better the performance of the new classifier. It is desirable that the AUC is always above 0.5 (or 50 percent) for it to be informative (if it is equal to 0.5, the predictive power of the new classifier is equivalent to flipping a coin). Specifically for this study, the AUC represents the probability that if in the time interval $[t, t+1]$ we observe $\Delta\pi_{t+1}$ ($\Delta\pi_{t+1}^N$) > 0 for any inflation series, this change would correspond to $\Delta\pi_{t+1}^h > 0$ in the inflation expectations’ series. In other words, the AUC is equal to the probability that the direction of monthly changes is the same for both series.

5. RESULTS

Since the indicator of inflation expectations shows some fluctuation in the analysis period (January 2003 – September 2010), which allows it to follow the changes in inflation, we infer that there is a small group among survey respondents that might have interpreted ENCO’s question 12 correctly during this period. Therefore, the data obtained from this question during the study period could have some predictive power over inflation. Consequently, using all the available data from January 2003 to September 2010, we tested the predictive power of the monthly changes of the indicator over the changes of the selected inflation series through the three statistical tests mentioned in the previous section (Pesaran-Timmerman test, binomial test, and ROC curve). This was done considering the two definitions of change in inflation and various time horizons (1 to 12 months). The results obtained at a significance level of 5 percent are presented in this section.

¹⁸ The Pesaran-Timmerman test is a non-parametric test designed to assess the accuracy of forecasts when the focus of the analysis is on the correct prediction of the direction of (monthly) change of a variable under study. This test compares the changes of two time series to determine the degree of association between them, and in addition it provides the percentage of coincidences in direction of change of both series. The null hypothesis of the test is “Ho: The two series are independent”, and in this study we seek to reject it, since that would indicate that one of the series accounts for the monthly changes in the other series. For more details, see Pesaran and Timmerman (1992).

The binomial test is applied to binary series (zeros and ones), which must be random. First, a runs test is applied to the series. This test is used to determine if a sequence of zeros and ones is random or not (each continuous block of zeros is a run, and each continuous block of ones is another run). The null hypothesis of the runs test is “Ho: The series is random”, and in the context of this study, when applying it to the binary series generated, we do not seek to reject it. For the binomial test, a value of 1 in a binary series is defined as success, and a value of 0 as a failure. The test consists of determining if the proportion of successes (p) in a binary series is different from some value p_0 , which in this study is equal to 0.5. That is, the null hypothesis of the test is “Ho: $p=0.5$ ”. Given the sample values of the percentage of successes in the binary series constructed, a two-tailed binomial test is used. Thus, the alternative hypothesis is “Ha: $p \neq 0.5$ ”. And given the large number of observations in each binary series, the Normal approximation of the binomial distribution is used to carry out the test. For more details, see Siegel and Castellan (1988), and Greer (2003).

¹⁹ If each initial observation equal to 1 (equal to 0) preserves its value after being reclassified, we say that the observation is well reclassified or that it is a “true positive” (“true negative”); otherwise, we say that it is not well reclassified or that it is a “false negative” (“false positive”). The ROC curve is a graph of the proportion of true positives (known as *sensitivity*) against the proportion of false positives (known as *1-specificity*) obtained after a reclassification of observations, for all possible cut points or criteria selected to carry out the reclassification. In the context of this study, the ROC curve is a graph of the proportion of positive changes in inflation that become positive after the reclassification vs. the proportion of negative changes in inflation that become positive after the reclassification, for all cut points. If the AUC equals 0, the classifier is inefficient; if it equals 0.5, the classifier is non-informative; and if it equals 1, the classifier is perfect. Thus, it is desirable to obtain values of the AUC higher than 0.5, and as close as possible to 1. The AUC has various interpretations, for instance: (i) it is the average *sensitivity* value for all possible values of *specificity*; (ii) if two observations are selected at random from a binary series, one equal to 1 and the other equal to 0, the AUC is the probability that the observation equal to 1 is reclassified with the same value of 1. For more details, see Zhou et al. (2002), Hanley and McNeil (1982), and Koepsell and Weiss (2003).

The analysis shows that the predictive power of the indicator over headline inflation is significantly less (in statistical terms) than 50 percent for the original time horizon for which consumers' inflation expectations were formulated (12 months), and for both definitions of change in inflation (see Table 6 in the Annex).

Allowing for the possibility that the predictive power of consumers could be limited to the inflation of smaller consumption baskets, the same statistical tests were carried out and the results obtained are reported in Table 7 through Table 16 of the Annex. Hence, the following inflation series were analyzed: core, inflation of the 8 CPI sub-indices defined by object of expenditure, and inflation of an index of frequently consumed goods and services. For these series, the results of the analysis indicate that for a time horizon of 12 months the predictive power of the indicator over them is not significantly different from 50 percent, except for the sub-indices "Health and Personal Care" (predictive power of 62 to 64 percent), and "Clothing, Footwear, and Accessories" (65 to 70 percent).

In addition, we explored the possibility that consumers could be formulating their inflation expectations for time spans shorter than 12 months. We also examined if the inflation expectations indicator could have some predictive power over the selected inflation series for these time horizons. The results obtained are the following:

- For headline inflation, the indicator's predictive power is not significantly different from 50 percent for a time horizon of 12 months (Table 6).
- For core inflation, the indicator's predictive power is significantly different from 50 percent only for a time horizon of 2 months, but it is weak (61 to 62 percent, Table 7) and achieved only if consumers formulate their inflation expectations based on the observed inflation in N months prior to the survey (N=2,4).
- For the inflation of the index of frequently consumed goods and services, the predictive power of the indicator is significantly different from 50 percent only for a time horizon of 1 month, but it is also weak (61 to 62 percent, Table 8) and is only achieved if consumers formulate their inflation expectations based on the observed inflation in N months prior to the survey (N=2,3,4).²⁰
- The predictive power of the indicator over inflation of all CPI sub-indices defined by object of expenditure, except "Housing", fluctuates between 60 to 70 percent, and is generally observed for shorter time horizons (1 to 5 months; only for the following sub-indices it is observed for time horizons greater than or equal to 6 months: "Health and Personal Care", "Clothing, Footwear, and Accessories", and "Furniture, Household Appliances, and Other Household Items"; see Table 9 through Table 16).

Given the previous results, it follows that in the analysis period the predictive power of the indicator of inflation expectations is significantly greater (in statistical terms) than 50 percent only for smaller consumption baskets, and in general for time horizons shorter than 12 months, but it is still weak.²¹ In addition, we observe that assuming that consumers

²⁰ In related literature we find situations in which an increase in inflation expectations coincides with higher inflation of food and energy, i.e. in frequently consumed goods and services whose price change can easily be observed by consumers (see, for instance, Barnett et al. (2010) for such an example in the United Kingdom).

²¹ In the literature we find similar examples of consumers' inflation expectations formulated for shorter time horizons, and not for the one requested by a survey question on inflation expectations (usually 1 year). For instance, the European Central Bank finds that the highest correlations between CPI inflation and consumers' inflation expectations in the period 1991-2002 are obtained for a time span ahead of 7

formulate their inflation expectations based on the average of observed inflation in N months prior to the date of the survey (N=2,3,4), improves the indicator's predictive power over the inflation series for which this power is (in statistical terms) significantly different from 50 percent.²²

For the analysis period, the results of the predictive power of the consumers' inflation expectations indicator over inflation show that this power is weak, only significantly greater than 50 percent for smaller consumption baskets, and corresponds, in general, to short time horizons. This can be attributed to the following factors:

First, it is possible that in the analysis period survey respondents might not have interpreted correctly ENCO's question on 1-year-ahead inflation expectations. Specifically, it is possible they might have confused the price growth rate (inflation) with the change in prices. There are 2 main explanations for this:

- i. The wording of the original version of the question does not guarantee that all survey respondents understood it in the same way, nor in the way the people that designed the questionnaire wanted it to be interpreted.²³
- ii. Survey responses can be influenced by a possible lack of financial literacy of the Mexican population, in particular of the survey sample.²⁴

Second, consumers in the survey sample express how they feel about future inflation behavior, but this opinion could differ from what they really think. That is, if they had a chance to act upon their beliefs on future inflation behavior, their actions could be different from their opinion expressed in the survey. This point is frequently discussed in the literature, for example in Armantier et al. (2011), Nardo (2003), and Berk (1999). This rationale, however, is unfeasible for the survey responses obtained from ENCO from October 2010 on.

Third, the way consumers formulate their inflation expectations, and the information they take into account to do it are both unknown. Thus, if consumers' responses to the question on inflation expectations were not based on some official measure of inflation, it would produce an incorrect forecast of the behavior of this variable. Hence, the data obtained from inflation surveys would be non-informative about inflation fluctuations. As a result,

months. This suggests that the inflation expectations indicator contains information on time horizons shorter than 1 year (see Central European Bank (2006) and (2011)). In addition, the Bank of Indonesia, through its national household survey, obtained more exact forecasts from consumers on their price expectations for the next 3 and 6 months, than for the next 12 months (see Prasetyo and Yuliatiningsih (2008)). Finally, the households' inflation expectations survey conducted by the Reserve Bank of India from March 2006 to March 2007 revealed a big share of individuals (approximately 88 percent) who provided information about change in prices for a time horizon of 3 months (see BIS (2009)).

²² Barnett et al. (2010) find in the Bank of England's consumer survey conducted in February 2010 that 80 percent of the respondents considered past changes in prices as a very or sufficiently important factor when forming their short-term inflation expectations.

²³ A similar example of the impact produced by the wording of a question is observed in a survey conducted jointly by the Bank of England and GfK/NOP: Benford and Driver (2008) mention that this survey does not ask consumers about a specific measure of inflation, but rather how they expect prices of goods and services to evolve over the next 12 months. The question was designed like this to reflect a concept of inflation that the general public could be more familiarized with, instead of a specific measure of inflation (such as CPI inflation). Hence, it is not clear what official measure of inflation respondents refer to. Another example of the impact produced by the wording of a survey question on inflation expectations is shown in the study done in the United States by Bruine de Bruin et al. (2010b). In this study, different responses are obtained from consumers when inquired about the change in "prices in general" and the change in the inflation rate.

²⁴ Bruine de Bruin et al. (2010a) carried out a study, based on the *American Life Panel* survey conducted by RAND among adult consumers in the U.S. in the first half of 2008, to investigate the relationship between inflation expectations and the population's financial literacy. The authors found that respondents with low financial literacy report higher inflation expectations than the rest of the population, and it is more likely that they report inflation expectations above 5 percent. The results of the study also suggest that American individuals with low financial literacy have less confidence in their financial knowledge (and thus, it might be harder for them to formulate their expectations), as well as shorter horizons of financial planning.

any quantitative indicator based on these data would produce poor forecasts of inflation, even if consumers were rational (see Nardo (2003)).

Fourth, survey results are sensitive to sampling errors (Berk (1999), Nardo (2003)). Consumers' inflation expectations obtained from survey data are only an approximation of their real inflation expectations, which are unknown. That is, inflation expectations obtained from surveys are only an approximation of a variable that cannot be actually observed. Therefore, they necessarily entail a measurement error.

We additionally investigated if the presence of shocks to annual headline and core inflation during the analysis period produced a change in the way consumers form their inflation expectations. A shock to each inflation series is defined according to the following thresholds (it occurs if inflation is higher (lower) than the threshold, which would correspond to a somewhat high (low) inflation level):

- Inflation mean +(-) 0.5*inflation standard deviation
- Inflation mean +(-) inflation standard deviation
- Inflation mean +(-) 1.5*inflation standard deviation

The values of these thresholds for each inflation series are shown in Table 5.

Table 5 – Thresholds Used to Define Shocks to Annual Headline and Core Inflation

Inflation Series	Mean	Standard Deviation	Threshold 1		Threshold 2		Threshold 3	
			Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
Headline	4.43	0.84	4.01	4.85	3.60	5.27	3.18	5.69
Core	4.02	0.62	3.71	4.33	3.39	4.64	3.08	4.95

To determine if there is a change in consumers' inflation expectations when a shock to any of the inflation series occurs, the following models were used:

$$DI_t = \alpha_0 + \alpha_1 DI_{t-1} + \alpha_2 I(negative_shock)_t + \alpha_3 I(positive_shock)_t + \varepsilon_t$$

$$Will_increase_t = \alpha_0 + \alpha_1 Will_increase_{t-1} + \alpha_2 I(negative_shock)_t + \alpha_3 I(positive_shock)_t + \varepsilon_t$$

$$Will_fall_t = \alpha_0 + \alpha_1 Will_fall_{t-1} + \alpha_2 I(negative_shock)_t + \alpha_3 I(positive_shock)_t + \varepsilon_t$$

$$Will_stay_about_the_same_t = \alpha_0 + \alpha_1 Will_stay_about_the_same_{t-1} + \alpha_2 I(negative_shock)_t + \alpha_3 I(positive_shock)_t + \varepsilon_t$$

where *DI* stands for diffusion index, the variables *Will increase* (*Will fall*, *Will stay about the same*) correspond to the percentage of responses for the category “Will increase” (“Will fall”, “Will stay the same”) of ENCO's question no. 12, *I(.)* is an indicator variable, ε_t is an error term, and the negative and positive shocks correspond to each of the 2 inflation series used. The results of this analysis (see Table 17 in the Annex) show the following:

In the case of headline inflation, only threshold 2 is statistically significant at the 5 percent level, and only for negative shocks to inflation. The coefficient of the indicator variable for negative shocks has a negative sign in the model whose dependent variable is the diffusion index, or the percentage of responses of the category “Will increase”. This indicates that negative shocks to annual headline inflation produce a decrease in the

diffusion index level, as well as in the percentage of consumers that think that inflation will increase in the next 12 months. For the percentage of responses of the category “Will fall”, the coefficient of the indicator variable for negative shocks has a positive sign, indicating that negative shocks to annual headline inflation produce a higher percentage of consumers that think that inflation will decrease in the next 12 months.²⁵

In the case of core inflation, only thresholds 1 and 2 are statistically significant at the 5 percent level, and only for negative shocks to inflation. The coefficient of the indicator variable of negative shocks has a negative sign in the model whose dependent variable is the diffusion index, or the percentage of responses of the category “Will increase”. This again indicates that negative shocks to core inflation result in a decrease in the diffusion index level, as well as in the percentage of consumers that think that inflation will increase over the following 12 months. For the percentage of responses of the categories “Will fall” and “Will stay about the same”, the coefficient of the indicator variable for negative shocks has a positive sign, indicating that negative shocks to core inflation produce a higher percentage of consumers that think that inflation will decrease or stay the same in the next 12 months.

In addition, for both headline and core inflation the (1-month) lag of the dependent variable of the model is highly significant, for the 4 dependent variables considered and the 3 thresholds used to define shocks to inflation. Moreover, the correlations between each dependent variable and its lag are high (values between 0.75 and 0.81). This is consistent with the sample rotation scheme used in ENCO, since the rotation panels the sample is comprised of stay in it for 4 consecutive months, then leave for 8 months, and return one last time to the sample for another 4 months.²⁶

Finally, for both inflation series the fact that positive shocks to inflation are not statistically significant suggests that they are transitory (i.e. supply shocks). For this reason they neither impact the percentage of responses, nor the level of the diffusion index in the analysis period. In other words, they do not impact consumers’ future inflation expectations.

6. CONCLUSIONS

The statistical analysis carried out in this study to determine the magnitude of the predictive power of the consumers’ inflation expectations indicator over inflation is limited to the period from January 2003 to September 2010, since only a relatively small set of data is available for the second period (October 2010 to April 2012). For the first analysis period, the results of the predictive power of the consumers’ expectations indicator over inflation show that this power is weak, only significantly greater than 50 percent for small consumption baskets, and it corresponds in general to short-term horizons. On the other hand, the data from the second period, which makes the inflation expectations indicator stay below 50 units overall, serve as a reference of the public’s confidence in Banco de México’s commitment to maintain price stability.

Due to the change in behavior, from October 2010 on, of consumers’ responses to ENCO’s question on inflation expectations, it would be worth for future research to observe

²⁵ In the model that includes the percentage of responses of the response category “Will stay about the same”, neither of the 2 indicator variables for shocks are significant at the 5 percent confidence level, for all thresholds.

²⁶ See INEGI (2007).

the behavior of responses to this question for some more years, and afterwards to replicate the analysis done in this study. In particular, it would be worth establishing if the modification to the survey questionnaire reflects a better understanding of question 12 by consumers, since the change in the wording of this question refers now to a “measure of inflation” with which the public is more familiarized (price behavior instead of price growth behavior). It would also be of interest to determine if the modified question becomes in time a more precise instrument to capture consumers’ inflation expectations, and if the behavior of the indicator generated with these expectations is in line to a greater extent with the behavior of future inflation.

ANNEX

Table 6 – Statistical Tests that Evaluate the Predictive Power of the Consumers’ Inflation Expectations Indicator over Annual Headline Inflation

ANNUAL HEADLINE INFLATION VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.55	0.052	0.943	0.345	0.45	0.65	
		2	0.48	0.053	-0.422	0.673	0.37	0.58	
		3	0.45	0.053	-0.954	0.340	0.35	0.55	
		4	0.55	0.053	0.853	0.394	0.44	0.65	
		5	0.54	0.054	0.750	0.453	0.44	0.64	
		6	0.47	0.054	-0.647	0.518	0.36	0.57	
		7	0.54	0.054	0.759	0.448	0.44	0.65	
		8	0.49	0.055	-0.218	0.827	0.38	0.59	
		9	0.58	0.055	1.427	0.154	0.47	0.68	
		10	0.54	0.055	0.663	0.508	0.43	0.64	
		11	0.41	0.056	-1.667	0.096	0.30	0.51	
		12	0.38	0.056	-2.236	0.025	0.27	0.48	
Variable 2	N=2	Binomial	1	0.59	0.052	1.782	0.075	0.49	0.69
			2	0.48	0.053	-0.422	0.673	0.37	0.58
			3	0.52	0.053	0.318	0.750	0.41	0.62
			4	0.50	0.053	0.000	1.000	0.40	0.60
			5	0.49	0.054	-0.107	0.915	0.39	0.60
			6	0.56	0.054	1.078	0.281	0.45	0.66
			7	0.47	0.054	-0.542	0.588	0.36	0.58
			8	0.49	0.055	-0.218	0.827	0.38	0.59
			9	0.58	0.055	1.427	0.154	0.47	0.68
			10	0.60	0.055	1.767	0.077	0.49	0.70
			11	0.42	0.056	-1.444	0.149	0.31	0.53
			12	0.41	0.056	-1.565	0.118	0.30	0.52
	N=3	Binomial	1	0.52	0.052	0.314	0.753	0.41	0.62
			2	0.56	0.053	1.054	0.292	0.45	0.66
			3	0.48	0.053	-0.318	0.750	0.38	0.59
			4	0.51	0.053	0.213	0.831	0.41	0.62
			5	0.55	0.054	0.965	0.335	0.45	0.66
			6	0.48	0.054	-0.431	0.666	0.37	0.58
			7	0.53	0.054	0.542	0.588	0.42	0.64
			8	0.48	0.055	-0.436	0.663	0.37	0.58
			9	0.57	0.055	1.207	0.227	0.46	0.67
			10	0.56	0.055	1.104	0.269	0.45	0.67
			11	0.51	0.056	0.111	0.912	0.40	0.62
			12	0.40	0.056	-1.789	0.074	0.29	0.51
	N=4	Binomial	1	0.54	0.052	0.734	0.463	0.44	0.64
			2	0.56	0.053	1.054	0.292	0.45	0.66
			3	0.46	0.053	-0.742	0.458	0.36	0.56
			4	0.53	0.053	0.640	0.522	0.43	0.64
			5	0.55	0.054	0.965	0.335	0.45	0.66
			6	0.48	0.054	-0.431	0.666	0.37	0.58
			7	0.53	0.054	0.542	0.588	0.42	0.64
			8	0.45	0.055	-0.873	0.383	0.35	0.56
			9	0.57	0.055	1.207	0.227	0.46	0.67
			10	0.54	0.055	0.663	0.508	0.43	0.64
			11	0.53	0.056	0.556	0.579	0.42	0.64
			12	0.40	0.056	-1.789	0.074	0.29	0.51

ANNUAL HEADLINE INFLATION VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran-Timmermann	1	0.55	0.052	0.891	0.373	0.45	0.65	
		2	0.48	0.052	-0.502	0.616	0.38	0.58	
		3	0.45	0.052	-1.031	0.302	0.35	0.55	
		4	0.55	0.053	0.789	0.430	0.44	0.65	
		5	0.54	0.053	0.694	0.488	0.44	0.64	
		6	0.47	0.053	-0.712	0.477	0.36	0.57	
		7	0.54	0.054	0.702	0.482	0.44	0.65	
		8	0.49	0.054	-0.279	0.781	0.38	0.59	
		9	0.58	0.054	1.395	0.163	0.47	0.68	
		10	0.54	0.055	0.631	0.528	0.43	0.64	
		11	0.41	0.055	-1.714	0.087	0.30	0.52	
		12	0.38	0.055	-2.301	0.021	0.27	0.48	
Variable 2	N=2	Pesaran-Timmermann	1	0.59	0.051	1.709	0.087	0.49	0.69
			2	0.48	0.052	-0.553	0.580	0.38	0.58
			3	0.52	0.052	0.216	0.829	0.41	0.62
			4	0.50	0.052	-0.124	0.901	0.40	0.60
			5	0.49	0.053	-0.219	0.827	0.39	0.60
			6	0.56	0.053	1.004	0.315	0.45	0.66
			7	0.47	0.053	-0.664	0.507	0.37	0.57
			8	0.49	0.054	-0.318	0.751	0.38	0.59
			9	0.58	0.054	1.373	0.170	0.47	0.68
			10	0.60	0.054	1.734	0.083	0.49	0.70
			11	0.42	0.055	-1.518	0.129	0.31	0.53
			12	0.41	0.055	-1.658	0.097	0.30	0.52
	N=3	Pesaran-Timmermann	1	0.52	0.051	0.198	0.843	0.42	0.62
			2	0.56	0.051	0.937	0.349	0.45	0.66
			3	0.48	0.052	-0.450	0.652	0.38	0.58
			4	0.51	0.052	0.074	0.941	0.41	0.61
			5	0.55	0.052	0.861	0.389	0.45	0.65
			6	0.48	0.053	-0.550	0.582	0.37	0.58
			7	0.53	0.053	0.427	0.669	0.43	0.63
			8	0.48	0.053	-0.557	0.578	0.37	0.58
			9	0.57	0.054	1.141	0.254	0.46	0.67
			10	0.56	0.054	1.053	0.292	0.46	0.67
			11	0.51	0.054	0.057	0.954	0.40	0.61
			12	0.40	0.055	-1.903	0.057	0.29	0.51
	N=4	Pesaran-Timmermann	1	0.54	0.052	0.655	0.512	0.44	0.64
			2	0.56	0.052	0.968	0.333	0.45	0.66
			3	0.46	0.052	-0.845	0.398	0.36	0.56
			4	0.53	0.052	0.546	0.585	0.43	0.64
			5	0.55	0.053	0.889	0.374	0.45	0.66
			6	0.48	0.053	-0.518	0.605	0.37	0.58
			7	0.53	0.053	0.458	0.647	0.42	0.63
			8	0.45	0.054	-0.967	0.333	0.35	0.56
			9	0.57	0.054	1.159	0.247	0.46	0.67
			10	0.54	0.054	0.618	0.536	0.43	0.64
			11	0.53	0.055	0.523	0.601	0.42	0.64
			12	0.40	0.055	-1.871	0.061	0.29	0.51

ANNUAL HEADLINE INFLATION VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.56	0.060	0.331	0.44	0.68	
		2	0.51	0.061	0.831	0.39	0.63	
		3	0.59	0.061	0.164	0.47	0.70	
		4	0.53	0.062	0.593	0.41	0.65	
		5	0.55	0.062	0.410	0.43	0.67	
		6	0.55	0.062	0.458	0.42	0.67	
		7	0.53	0.063	0.635	0.41	0.65	
		8	0.51	0.063	0.851	0.39	0.64	
		9	0.60	0.062	0.107	0.48	0.73	
		10	0.54	0.064	0.568	0.41	0.66	
		11	0.61	0.063	0.103	0.48	0.73	
		12	0.64	0.062	0.033	0.52	0.76	
Variable 2	N=2	ROC Curve	1	0.59	0.061	0.144	0.47	0.71
			2	0.53	0.062	0.630	0.41	0.65
			3	0.51	0.062	0.855	0.39	0.63
			4	0.51	0.062	0.919	0.38	0.63
			5	0.51	0.063	0.861	0.39	0.63
			6	0.55	0.063	0.385	0.43	0.68
			7	0.53	0.063	0.590	0.41	0.66
			8	0.52	0.064	0.808	0.39	0.64
			9	0.58	0.063	0.233	0.45	0.70
			10	0.60	0.063	0.134	0.47	0.72
			11	0.58	0.064	0.206	0.46	0.71
			12	0.59	0.064	0.168	0.46	0.72
	N=3	ROC Curve	1	0.51	0.062	0.866	0.39	0.63
			2	0.55	0.062	0.429	0.43	0.67
			3	0.52	0.062	0.699	0.40	0.65
			4	0.50	0.063	0.946	0.38	0.63
			5	0.55	0.063	0.458	0.42	0.67
			6	0.53	0.063	0.650	0.41	0.65
			7	0.52	0.063	0.700	0.40	0.65
			8	0.53	0.064	0.656	0.40	0.65
			9	0.56	0.064	0.320	0.44	0.69
			10	0.56	0.064	0.359	0.43	0.68
			11	0.50	0.065	0.943	0.38	0.63
			12	0.60	0.064	0.113	0.48	0.73
	N=4	ROC Curve	1	0.53	0.061	0.576	0.41	0.65
			2	0.55	0.061	0.413	0.43	0.67
			3	0.54	0.062	0.469	0.42	0.67
			4	0.53	0.062	0.638	0.41	0.65
			5	0.55	0.062	0.442	0.43	0.67
			6	0.53	0.063	0.671	0.40	0.65
			7	0.53	0.063	0.679	0.40	0.65
			8	0.55	0.063	0.427	0.43	0.67
			9	0.56	0.063	0.311	0.44	0.69
			10	0.54	0.064	0.581	0.41	0.66
			11	0.53	0.064	0.640	0.40	0.66
			12	0.60	0.064	0.119	0.48	0.73

Table 7 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Core Inflation

ANNUAL CORE INFLATION VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61	
		2	0.57	0.053	1.378	0.168	0.47	0.68	
		3	0.56	0.053	1.066	0.286	0.45	0.66	
		4	0.48	0.054	-0.322	0.748	0.38	0.59	
		5	0.57	0.054	1.294	0.196	0.47	0.67	
		6	0.52	0.054	0.325	0.745	0.41	0.62	
		7	0.51	0.055	0.218	0.827	0.41	0.62	
		8	0.45	0.055	-0.988	0.323	0.34	0.55	
		9	0.44	0.055	-1.104	0.269	0.33	0.55	
		10	0.53	0.056	0.556	0.579	0.42	0.64	
		11	0.49	0.056	-0.224	0.823	0.38	0.60	
		12	0.54	0.056	0.788	0.431	0.43	0.65	
Variable 2	N=2	Binomial	1	0.57	0.053	1.265	0.206	0.46	0.67
			2	0.61	0.053	2.014	0.044	0.51	0.71
			3	0.59	0.053	1.706	0.088	0.49	0.69
			4	0.55	0.054	0.965	0.335	0.45	0.66
			5	0.51	0.054	0.216	0.829	0.41	0.62
			6	0.51	0.054	0.108	0.914	0.40	0.61
			7	0.50	0.055	0.000	1.000	0.39	0.61
			8	0.46	0.055	-0.768	0.442	0.35	0.57
			9	0.44	0.055	-1.104	0.269	0.33	0.55
			10	0.43	0.056	-1.222	0.222	0.32	0.54
			11	0.48	0.056	-0.447	0.655	0.37	0.58
			12	0.56	0.056	1.013	0.311	0.45	0.67
	N=3	Binomial	1	0.60	0.053	1.897	0.058	0.50	0.70
			2	0.60	0.053	1.802	0.072	0.49	0.70
			3	0.59	0.053	1.706	0.088	0.49	0.69
			4	0.53	0.054	0.536	0.592	0.42	0.63
			5	0.49	0.054	-0.216	0.829	0.38	0.59
			6	0.48	0.054	-0.325	0.745	0.38	0.59
			7	0.50	0.055	0.000	1.000	0.39	0.61
			8	0.46	0.055	-0.768	0.442	0.35	0.57
			9	0.41	0.055	-1.546	0.122	0.31	0.52
			10	0.43	0.056	-1.222	0.222	0.32	0.54
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.53	0.056	0.563	0.574	0.42	0.64
	N=4	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.62	0.053	2.226	0.026	0.52	0.72
			3	0.59	0.053	1.706	0.088	0.49	0.69
			4	0.56	0.054	1.179	0.238	0.46	0.67
			5	0.50	0.054	0.000	1.000	0.39	0.61
			6	0.52	0.054	0.325	0.745	0.41	0.62
			7	0.51	0.055	0.218	0.827	0.41	0.62
			8	0.49	0.055	-0.110	0.913	0.39	0.60
			9	0.45	0.055	-0.883	0.377	0.34	0.56
			10	0.44	0.056	-1.000	0.317	0.34	0.55
			11	0.49	0.056	-0.224	0.823	0.38	0.60
			12	0.54	0.056	0.788	0.431	0.43	0.65

ANNUAL CORE INFLATION VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran-Timmermann	1	0.51	0.052	0.214	0.830	0.41	0.61	
		2	0.57	0.052	1.419	0.156	0.47	0.68	
		3	0.56	0.052	1.118	0.264	0.45	0.66	
		4	0.48	0.053	-0.278	0.781	0.38	0.59	
		5	0.57	0.053	1.385	0.166	0.47	0.67	
		6	0.52	0.053	0.382	0.703	0.41	0.62	
		7	0.51	0.054	0.290	0.772	0.41	0.62	
		8	0.45	0.054	-0.955	0.339	0.34	0.55	
		9	0.44	0.054	-1.090	0.276	0.33	0.55	
		10	0.53	0.055	0.583	0.560	0.42	0.64	
		11	0.49	0.055	-0.228	0.820	0.38	0.60	
		12	0.54	0.055	0.785	0.433	0.44	0.65	
Variable 2	N=2	Pesaran-Timmermann	1	0.57	0.052	1.272	0.203	0.46	0.67
			2	0.61	0.053	2.024	0.043	0.50	0.71
			3	0.59	0.053	1.714	0.087	0.49	0.69
			4	0.55	0.053	0.968	0.333	0.45	0.66
			5	0.51	0.054	0.212	0.832	0.41	0.62
			6	0.51	0.054	0.106	0.916	0.40	0.61
			7	0.50	0.054	-0.005	0.996	0.39	0.61
			8	0.46	0.055	-0.777	0.437	0.35	0.56
			9	0.44	0.055	-1.114	0.265	0.33	0.55
			10	0.43	0.055	-1.231	0.218	0.32	0.54
			11	0.48	0.056	-0.450	0.653	0.37	0.58
			12	0.56	0.056	1.020	0.308	0.45	0.67
	N=3	Pesaran-Timmermann	1	0.60	0.052	1.908	0.056	0.50	0.70
			2	0.60	0.053	1.814	0.070	0.49	0.70
			3	0.59	0.053	1.718	0.086	0.49	0.69
			4	0.53	0.053	0.543	0.587	0.42	0.63
			5	0.49	0.054	-0.212	0.832	0.38	0.59
			6	0.48	0.054	-0.324	0.746	0.38	0.59
			7	0.50	0.054	0.005	0.996	0.39	0.61
			8	0.46	0.055	-0.770	0.441	0.35	0.56
			9	0.41	0.055	-1.554	0.120	0.31	0.52
			10	0.43	0.055	-1.229	0.219	0.32	0.54
			11	0.45	0.056	-0.900	0.368	0.34	0.56
			12	0.53	0.056	0.565	0.572	0.42	0.64
	N=4	Pesaran-Timmermann	1	0.58	0.052	1.484	0.138	0.48	0.68
			2	0.62	0.053	2.240	0.025	0.51	0.72
			3	0.59	0.053	1.718	0.086	0.49	0.69
			4	0.56	0.053	1.190	0.234	0.46	0.67
			5	0.50	0.054	0.005	0.996	0.40	0.60
			6	0.52	0.054	0.331	0.741	0.41	0.62
			7	0.51	0.054	0.225	0.822	0.41	0.62
			8	0.49	0.055	-0.107	0.915	0.39	0.60
			9	0.45	0.055	-0.887	0.375	0.34	0.56
			10	0.44	0.055	-1.005	0.315	0.34	0.55
			11	0.49	0.056	-0.225	0.822	0.38	0.60
			12	0.54	0.056	0.791	0.429	0.43	0.65

ANNUAL CORE INFLATION VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.52	0.061	0.716	0.40	0.64	
		2	0.58	0.061	0.169	0.47	0.70	
		3	0.57	0.061	0.264	0.45	0.69	
		4	0.53	0.062	0.655	0.41	0.65	
		5	0.57	0.062	0.253	0.45	0.69	
		6	0.52	0.063	0.761	0.40	0.64	
		7	0.54	0.063	0.554	0.41	0.66	
		8	0.55	0.064	0.404	0.43	0.68	
		9	0.56	0.064	0.348	0.44	0.69	
		10	0.53	0.065	0.625	0.40	0.66	
		11	0.51	0.065	0.847	0.38	0.64	
		12	0.54	0.065	0.501	0.42	0.67	
Variable 2	N=2	ROC Curve	1	0.57	0.061	0.276	0.45	0.69
			2	0.61	0.060	0.083	0.49	0.72
			3	0.59	0.061	0.143	0.47	0.71
			4	0.55	0.062	0.408	0.43	0.67
			5	0.51	0.063	0.853	0.39	0.63
			6	0.51	0.063	0.923	0.38	0.63
			7	0.50	0.063	1.000	0.38	0.62
			8	0.54	0.064	0.506	0.42	0.67
			9	0.56	0.064	0.339	0.44	0.69
			10	0.57	0.064	0.292	0.44	0.69
			11	0.53	0.065	0.700	0.40	0.65
			12	0.56	0.065	0.383	0.43	0.68
	N=3	ROC Curve	1	0.60	0.060	0.102	0.48	0.72
			2	0.60	0.060	0.121	0.48	0.71
			3	0.59	0.061	0.143	0.47	0.71
			4	0.53	0.062	0.647	0.41	0.65
			5	0.51	0.063	0.853	0.39	0.63
			6	0.52	0.063	0.782	0.39	0.64
			7	0.50	0.063	1.000	0.38	0.62
			8	0.54	0.064	0.506	0.42	0.67
			9	0.59	0.063	0.182	0.46	0.71
			10	0.57	0.064	0.292	0.44	0.69
			11	0.55	0.065	0.441	0.42	0.68
			12	0.53	0.065	0.627	0.40	0.66
	N=4	ROC Curve	1	0.58	0.060	0.204	0.46	0.70
			2	0.62	0.060	0.055	0.50	0.74
			3	0.59	0.061	0.143	0.47	0.71
			4	0.56	0.062	0.314	0.44	0.68
			5	0.50	0.063	0.993	0.38	0.62
			6	0.52	0.063	0.782	0.39	0.64
			7	0.51	0.063	0.858	0.39	0.64
			8	0.51	0.064	0.917	0.38	0.63
			9	0.55	0.064	0.441	0.42	0.67
			10	0.56	0.064	0.387	0.43	0.68
			11	0.51	0.065	0.847	0.39	0.64
			12	0.54	0.065	0.495	0.42	0.67

Table 8 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of an Index of Frequently Consumed Goods and Services

INFLATION OF FREQUENTLY CONSUMED GOODS AND SERVICES INDEX VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61	
		2	0.44	0.053	-1.166	0.244	0.34	0.54	
		3	0.58	0.053	1.492	0.136	0.48	0.68	
		4	0.57	0.054	1.394	0.163	0.47	0.68	
		5	0.52	0.054	0.431	0.666	0.42	0.63	
		6	0.48	0.054	-0.325	0.745	0.38	0.59	
		7	0.46	0.055	-0.655	0.513	0.36	0.57	
		8	0.54	0.055	0.768	0.442	0.43	0.65	
		9	0.44	0.055	-1.104	0.269	0.33	0.55	
		10	0.43	0.056	-1.222	0.222	0.32	0.54	
		11	0.43	0.056	-1.342	0.180	0.32	0.53	
		12	0.54	0.056	0.788	0.431	0.43	0.65	
Variable 2	N=2	Binomial	1	0.61	0.053	2.108	0.035	0.51	0.71
			2	0.52	0.053	0.318	0.750	0.41	0.62
			3	0.50	0.053	0.000	1.000	0.40	0.60
			4	0.54	0.054	0.750	0.453	0.44	0.64
			5	0.53	0.054	0.647	0.518	0.43	0.64
			6	0.45	0.054	-0.976	0.329	0.34	0.55
			7	0.44	0.055	-1.091	0.275	0.33	0.55
			8	0.49	0.055	-0.110	0.913	0.39	0.60
			9	0.52	0.055	0.442	0.659	0.42	0.63
			10	0.38	0.056	-2.111	0.035	0.28	0.49
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.52	0.056	0.338	0.736	0.41	0.63
	N=3	Binomial	1	0.61	0.053	2.108	0.035	0.51	0.71
			2	0.54	0.053	0.742	0.458	0.44	0.64
			3	0.50	0.053	0.000	1.000	0.40	0.60
			4	0.52	0.054	0.322	0.748	0.41	0.62
			5	0.53	0.054	0.647	0.518	0.43	0.64
			6	0.45	0.054	-0.976	0.329	0.34	0.55
			7	0.44	0.055	-1.091	0.275	0.33	0.55
			8	0.47	0.055	-0.549	0.583	0.36	0.58
			9	0.45	0.055	-0.883	0.377	0.34	0.56
			10	0.46	0.056	-0.778	0.437	0.35	0.57
			11	0.43	0.056	-1.342	0.180	0.32	0.53
			12	0.44	0.056	-1.013	0.311	0.33	0.55
	N=4	Binomial	1	0.62	0.053	2.319	0.020	0.52	0.72
			2	0.51	0.053	0.106	0.916	0.40	0.61
			3	0.51	0.053	0.213	0.831	0.41	0.62
			4	0.53	0.054	0.536	0.592	0.42	0.63
			5	0.50	0.054	0.000	1.000	0.39	0.61
			6	0.48	0.054	-0.325	0.745	0.38	0.59
			7	0.43	0.055	-1.309	0.190	0.32	0.53
			8	0.48	0.055	-0.329	0.742	0.37	0.59
			9	0.46	0.055	-0.663	0.508	0.36	0.57
			10	0.44	0.056	-1.000	0.317	0.34	0.55
			11	0.39	0.056	-2.012	0.044	0.28	0.49
			12	0.43	0.056	-1.238	0.216	0.32	0.54

INFLATION OF FREQUENTLY CONSUMED GOODS AND SERVICES INDEX VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.51	0.052	0.194	0.846	0.41	0.61	
		2	0.44	0.053	-1.188	0.235	0.34	0.54	
		3	0.58	0.053	1.485	0.137	0.48	0.68	
		4	0.57	0.053	1.390	0.165	0.47	0.68	
		5	0.52	0.054	0.425	0.671	0.42	0.63	
		6	0.48	0.054	-0.342	0.732	0.38	0.59	
		7	0.46	0.054	-0.669	0.504	0.36	0.57	
		8	0.54	0.054	0.760	0.447	0.44	0.65	
		9	0.44	0.055	-1.133	0.257	0.33	0.55	
		10	0.43	0.055	-1.258	0.208	0.32	0.54	
		11	0.43	0.055	-1.385	0.166	0.32	0.53	
		12	0.54	0.056	0.762	0.446	0.44	0.65	
Variable 2	N=2	Pesaran- Timmermann	1	0.61	0.052	2.081	0.037	0.51	0.71
			2	0.52	0.052	0.274	0.784	0.41	0.62
			3	0.50	0.052	-0.068	0.946	0.40	0.60
			4	0.54	0.053	0.714	0.475	0.44	0.64
			5	0.53	0.053	0.625	0.532	0.43	0.64
			6	0.45	0.053	-1.046	0.295	0.34	0.55
			7	0.44	0.054	-1.146	0.252	0.34	0.55
			8	0.49	0.054	-0.164	0.870	0.39	0.60
			9	0.52	0.054	0.380	0.704	0.42	0.63
			10	0.38	0.054	-2.243	0.025	0.28	0.49
			11	0.45	0.055	-1.020	0.308	0.34	0.56
			12	0.52	0.055	0.220	0.826	0.41	0.63
	N=3	Pesaran- Timmermann	1	0.61	0.052	2.098	0.036	0.51	0.71
			2	0.54	0.053	0.727	0.467	0.44	0.64
			3	0.50	0.053	-0.029	0.977	0.40	0.60
			4	0.52	0.053	0.303	0.762	0.41	0.62
			5	0.53	0.053	0.638	0.524	0.43	0.64
			6	0.45	0.054	-1.007	0.314	0.34	0.55
			7	0.44	0.054	-1.115	0.265	0.33	0.55
			8	0.47	0.054	-0.576	0.565	0.36	0.58
			9	0.45	0.055	-0.922	0.357	0.34	0.56
			10	0.46	0.055	-0.823	0.410	0.35	0.56
			11	0.43	0.055	-1.402	0.161	0.32	0.53
			12	0.44	0.056	-1.079	0.281	0.33	0.55
	N=4	Pesaran- Timmermann	1	0.62	0.052	2.306	0.021	0.52	0.72
			2	0.51	0.052	0.079	0.937	0.40	0.61
			3	0.51	0.053	0.177	0.859	0.41	0.61
			4	0.53	0.053	0.513	0.608	0.42	0.63
			5	0.50	0.053	-0.019	0.985	0.40	0.60
			6	0.48	0.054	-0.358	0.720	0.38	0.59
			7	0.43	0.054	-1.342	0.179	0.32	0.53
			8	0.48	0.054	-0.362	0.717	0.38	0.59
			9	0.46	0.055	-0.710	0.478	0.36	0.57
			10	0.44	0.055	-1.062	0.288	0.34	0.55
			11	0.39	0.055	-2.099	0.036	0.28	0.50
			12	0.43	0.055	-1.326	0.185	0.32	0.54

INFLATION OF FREQUENTLY CONSUMED GOODS AND SERVICES INDEX VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval	
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit
Variable 1	ROC Curve	1	0.51	0.061	0.868	0.39	0.63
		2	0.56	0.061	0.311	0.44	0.68
		3	0.58	0.061	0.202	0.46	0.70
		4	0.57	0.062	0.231	0.45	0.70
		5	0.52	0.063	0.710	0.40	0.65
		6	0.52	0.063	0.782	0.39	0.64
		7	0.54	0.063	0.573	0.41	0.66
		8	0.54	0.064	0.506	0.42	0.67
		9	0.56	0.064	0.342	0.44	0.69
		10	0.57	0.064	0.290	0.44	0.69
		11	0.58	0.064	0.242	0.45	0.70
		12	0.54	0.065	0.514	0.41	0.67
Variable 2	N=2 ROC Curve	1	0.61	0.060	0.075	0.49	0.73
		2	0.51	0.062	0.813	0.39	0.64
		3	0.50	0.062	0.960	0.38	0.63
		4	0.54	0.063	0.538	0.42	0.66
		5	0.53	0.063	0.590	0.41	0.66
		6	0.56	0.063	0.382	0.43	0.68
		7	0.56	0.063	0.336	0.44	0.68
		8	0.51	0.064	0.905	0.38	0.63
		9	0.52	0.064	0.724	0.40	0.65
		10	0.62	0.063	0.064	0.50	0.74
		11	0.55	0.065	0.415	0.43	0.68
		12	0.52	0.066	0.817	0.39	0.64
	N=3 ROC Curve	1	0.61	0.060	0.073	0.49	0.73
		2	0.54	0.061	0.532	0.42	0.66
		3	0.50	0.062	0.987	0.38	0.62
		4	0.52	0.062	0.789	0.39	0.64
		5	0.53	0.062	0.580	0.41	0.66
		6	0.55	0.063	0.399	0.43	0.68
		7	0.56	0.063	0.348	0.44	0.68
		8	0.53	0.064	0.639	0.41	0.65
		9	0.55	0.064	0.452	0.42	0.67
		10	0.54	0.064	0.514	0.42	0.67
		11	0.57	0.064	0.254	0.45	0.70
		12	0.56	0.065	0.388	0.43	0.68
	N=4 ROC Curve	1	0.62	0.060	0.049	0.50	0.74
		2	0.50	0.062	0.944	0.38	0.63
		3	0.51	0.062	0.874	0.39	0.63
		4	0.53	0.062	0.655	0.41	0.65
		5	0.50	0.063	0.993	0.38	0.62
		6	0.52	0.063	0.772	0.39	0.64
		7	0.57	0.063	0.258	0.45	0.69
		8	0.52	0.064	0.774	0.39	0.64
		9	0.54	0.064	0.568	0.41	0.66
		10	0.56	0.064	0.393	0.43	0.68
		11	0.61	0.063	0.083	0.49	0.74
		12	0.57	0.065	0.283	0.44	0.70

Table 9 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Health and Personal Care"

INFLATION OF CPI SUB-INDEX "HEALTH AND PERSONAL CARE" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68	
		2	0.55	0.053	0.954	0.340	0.45	0.65	
		3	0.57	0.053	1.279	0.201	0.46	0.67	
		4	0.48	0.054	-0.322	0.748	0.38	0.59	
		5	0.60	0.054	1.941	0.052	0.50	0.71	
		6	0.53	0.054	0.542	0.588	0.42	0.64	
		7	0.57	0.055	1.309	0.190	0.47	0.68	
		8	0.51	0.055	0.110	0.913	0.40	0.61	
		9	0.55	0.055	0.883	0.377	0.44	0.66	
		10	0.65	0.056	2.778	0.005	0.55	0.76	
		11	0.56	0.056	1.118	0.264	0.45	0.67	
		12	0.49	0.056	-0.113	0.910	0.38	0.60	
Variable 2	N=2	Binomial	1	0.54	0.053	0.843	0.399	0.44	0.65
			2	0.57	0.053	1.378	0.168	0.47	0.68
			3	0.61	0.053	2.132	0.033	0.51	0.72
			4	0.55	0.054	0.965	0.335	0.45	0.66
			5	0.58	0.054	1.510	0.131	0.48	0.69
			6	0.53	0.054	0.542	0.588	0.42	0.64
			7	0.56	0.055	1.091	0.275	0.45	0.67
			8	0.54	0.055	0.768	0.442	0.43	0.65
			9	0.55	0.055	0.883	0.377	0.44	0.66
			10	0.63	0.056	2.333	0.020	0.52	0.73
			11	0.61	0.056	2.012	0.044	0.51	0.72
			12	0.57	0.056	1.238	0.216	0.46	0.68
	N=3	Binomial	1	0.50	0.053	0.000	1.000	0.40	0.60
			2	0.55	0.053	0.954	0.340	0.45	0.65
			3	0.59	0.053	1.706	0.088	0.49	0.69
			4	0.53	0.054	0.536	0.592	0.42	0.63
			5	0.58	0.054	1.510	0.131	0.48	0.69
			6	0.58	0.054	1.410	0.159	0.47	0.68
			7	0.58	0.055	1.528	0.127	0.48	0.69
			8	0.57	0.055	1.207	0.227	0.46	0.67
			9	0.57	0.055	1.325	0.185	0.47	0.68
			10	0.60	0.056	1.889	0.059	0.50	0.71
			11	0.64	0.056	2.460	0.014	0.53	0.74
			12	0.62	0.056	2.138	0.033	0.51	0.73
	N=4	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61
			2	0.56	0.053	1.166	0.244	0.46	0.66
			3	0.60	0.053	1.919	0.055	0.50	0.70
			4	0.59	0.054	1.608	0.108	0.48	0.69
			5	0.57	0.054	1.294	0.196	0.47	0.67
			6	0.56	0.054	1.193	0.233	0.46	0.67
			7	0.57	0.055	1.309	0.190	0.47	0.68
			8	0.55	0.055	0.988	0.323	0.45	0.66
			9	0.54	0.055	0.663	0.508	0.43	0.64
			10	0.59	0.056	1.667	0.096	0.49	0.70
			11	0.60	0.056	1.789	0.074	0.49	0.71
			12	0.63	0.056	2.363	0.018	0.53	0.74

INFLATION OF CPI SUB-INDEX "HEALTH AND PERSONAL CARE" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.58	0.052	1.485	0.137	0.48	0.68	
		2	0.55	0.053	0.960	0.337	0.45	0.65	
		3	0.57	0.053	1.288	0.198	0.46	0.67	
		4	0.48	0.053	-0.324	0.746	0.38	0.59	
		5	0.60	0.054	1.953	0.051	0.50	0.71	
		6	0.53	0.054	0.546	0.585	0.42	0.64	
		7	0.57	0.054	1.318	0.188	0.47	0.68	
		8	0.51	0.055	0.111	0.912	0.40	0.61	
		9	0.55	0.055	0.890	0.373	0.44	0.66	
		10	0.65	0.055	2.800	0.005	0.55	0.76	
		11	0.56	0.055	1.128	0.259	0.45	0.67	
		12	0.49	0.056	-0.114	0.909	0.38	0.60	
Variable 2	N=2	Pesaran- Timmermann	1	0.54	0.052	0.907	0.365	0.44	0.65
			2	0.57	0.052	1.436	0.151	0.47	0.68
			3	0.61	0.053	2.215	0.027	0.51	0.72
			4	0.55	0.053	1.018	0.309	0.45	0.66
			5	0.58	0.053	1.557	0.120	0.48	0.69
			6	0.53	0.053	0.590	0.555	0.42	0.63
			7	0.56	0.054	1.133	0.257	0.45	0.67
			8	0.54	0.054	0.820	0.412	0.44	0.65
			9	0.55	0.054	0.951	0.342	0.44	0.66
			10	0.63	0.055	2.438	0.015	0.52	0.74
			11	0.61	0.055	2.128	0.033	0.50	0.72
			12	0.57	0.055	1.357	0.175	0.46	0.68
	N=3	Pesaran- Timmermann	1	0.50	0.052	0.052	0.959	0.40	0.60
			2	0.55	0.052	1.006	0.314	0.45	0.65
			3	0.59	0.053	1.782	0.075	0.49	0.69
			4	0.53	0.053	0.583	0.560	0.43	0.63
			5	0.58	0.053	1.557	0.120	0.48	0.69
			6	0.58	0.053	1.470	0.142	0.47	0.68
			7	0.58	0.054	1.575	0.115	0.48	0.69
			8	0.57	0.054	1.265	0.206	0.46	0.67
			9	0.57	0.054	1.399	0.162	0.47	0.68
			10	0.60	0.055	1.987	0.047	0.50	0.71
			11	0.64	0.055	2.583	0.010	0.53	0.75
			12	0.62	0.055	2.273	0.023	0.51	0.73
	N=4	Pesaran- Timmermann	1	0.51	0.052	0.236	0.814	0.41	0.61
			2	0.56	0.053	1.193	0.233	0.46	0.66
			3	0.60	0.053	1.958	0.050	0.50	0.71
			4	0.59	0.053	1.639	0.101	0.48	0.69
			5	0.57	0.054	1.316	0.188	0.46	0.67
			6	0.56	0.054	1.221	0.222	0.46	0.67
			7	0.57	0.054	1.332	0.183	0.47	0.68
			8	0.55	0.054	1.014	0.310	0.45	0.66
			9	0.54	0.055	0.693	0.488	0.43	0.64
			10	0.59	0.055	1.714	0.087	0.48	0.70
			11	0.60	0.055	1.845	0.065	0.49	0.71
			12	0.63	0.056	2.435	0.015	0.52	0.74

INFLATION OF CPI SUB-INDEX "HEALTH AND PERSONAL CARE" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval	
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit
Variable 1	ROC Curve	1	0.58	0.060	0.204	0.46	0.70
		2	0.55	0.061	0.410	0.43	0.67
		3	0.57	0.061	0.271	0.45	0.69
		4	0.52	0.062	0.779	0.40	0.64
		5	0.60	0.061	0.095	0.48	0.72
		6	0.53	0.063	0.647	0.41	0.65
		7	0.57	0.063	0.261	0.45	0.69
		8	0.51	0.064	0.927	0.38	0.63
		9	0.55	0.064	0.452	0.42	0.67
		10	0.65	0.061	0.017	0.53	0.77
		11	0.56	0.064	0.336	0.44	0.69
		12	0.51	0.065	0.930	0.38	0.63
Variable 2	N=2 ROC Curve	1	0.55	0.061	0.440	0.43	0.67
		2	0.58	0.061	0.222	0.46	0.70
		3	0.62	0.060	0.061	0.50	0.73
		4	0.55	0.062	0.392	0.43	0.68
		5	0.58	0.062	0.188	0.46	0.70
		6	0.53	0.063	0.628	0.41	0.65
		7	0.56	0.063	0.342	0.44	0.68
		8	0.54	0.064	0.497	0.42	0.67
		9	0.55	0.064	0.429	0.43	0.68
		10	0.63	0.062	0.040	0.51	0.76
		11	0.62	0.063	0.072	0.49	0.74
		12	0.58	0.065	0.250	0.45	0.70
	N=3 ROC Curve	1	0.50	0.062	0.968	0.38	0.62
		2	0.55	0.061	0.393	0.43	0.67
		3	0.59	0.061	0.131	0.47	0.71
		4	0.53	0.062	0.627	0.41	0.65
		5	0.58	0.062	0.188	0.46	0.70
		6	0.58	0.062	0.218	0.46	0.70
		7	0.58	0.063	0.185	0.46	0.71
		8	0.57	0.063	0.290	0.44	0.69
		9	0.58	0.064	0.241	0.45	0.70
		10	0.61	0.063	0.094	0.48	0.73
		11	0.64	0.062	0.029	0.52	0.76
		12	0.63	0.063	0.054	0.50	0.75
	N=4 ROC Curve	1	0.51	0.061	0.843	0.39	0.63
		2	0.56	0.061	0.311	0.44	0.68
		3	0.60	0.061	0.097	0.48	0.72
		4	0.59	0.061	0.165	0.47	0.71
		5	0.57	0.062	0.265	0.45	0.69
		6	0.56	0.062	0.306	0.44	0.69
		7	0.57	0.063	0.261	0.45	0.69
		8	0.55	0.063	0.397	0.43	0.68
		9	0.54	0.064	0.568	0.41	0.66
		10	0.59	0.063	0.150	0.47	0.72
		11	0.60	0.064	0.120	0.48	0.73
		12	0.63	0.063	0.039	0.51	0.76

Table 10 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Food, Beverages, and Tobacco"

INFLATION OF CPI SUB-INDEX "FOOD, BEVERAGES, AND TOBACCO" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.49	0.053	-0.211	0.833	0.39	0.59	
		2	0.44	0.053	-1.166	0.244	0.34	0.54	
		3	0.53	0.053	0.640	0.522	0.43	0.64	
		4	0.64	0.054	2.680	0.007	0.54	0.74	
		5	0.52	0.054	0.431	0.666	0.42	0.63	
		6	0.46	0.054	-0.759	0.448	0.35	0.56	
		7	0.51	0.055	0.218	0.827	0.41	0.62	
		8	0.59	0.055	1.646	0.100	0.48	0.70	
		9	0.43	0.055	-1.325	0.185	0.32	0.53	
		10	0.46	0.056	-0.778	0.437	0.35	0.57	
		11	0.40	0.056	-1.789	0.074	0.29	0.51	
		12	0.49	0.056	-0.113	0.910	0.38	0.60	
Variable 2	N=2	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.49	0.053	-0.106	0.916	0.39	0.60
			3	0.45	0.053	-0.853	0.394	0.35	0.56
			4	0.61	0.054	2.037	0.042	0.51	0.71
			5	0.60	0.054	1.941	0.052	0.50	0.71
			6	0.47	0.054	-0.542	0.588	0.36	0.58
			7	0.48	0.055	-0.436	0.663	0.37	0.58
			8	0.48	0.055	-0.329	0.742	0.37	0.59
			9	0.55	0.055	0.883	0.377	0.44	0.66
			10	0.43	0.056	-1.222	0.222	0.32	0.54
			11	0.40	0.056	-1.789	0.074	0.29	0.51
			12	0.47	0.056	-0.563	0.574	0.36	0.58
	N=3	Binomial	1	0.60	0.053	1.897	0.058	0.50	0.70
			2	0.52	0.053	0.318	0.750	0.41	0.62
			3	0.44	0.053	-1.066	0.286	0.34	0.55
			4	0.57	0.054	1.394	0.163	0.47	0.68
			5	0.59	0.054	1.725	0.084	0.49	0.70
			6	0.51	0.054	0.108	0.914	0.40	0.61
			7	0.45	0.055	-0.873	0.383	0.35	0.56
			8	0.53	0.055	0.549	0.583	0.42	0.64
			9	0.52	0.055	0.442	0.659	0.42	0.63
			10	0.46	0.056	-0.778	0.437	0.35	0.57
			11	0.43	0.056	-1.342	0.180	0.32	0.53
			12	0.44	0.056	-1.013	0.311	0.33	0.55
	N=4	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.47	0.053	-0.530	0.596	0.37	0.58
			3	0.49	0.053	-0.213	0.831	0.38	0.59
			4	0.57	0.054	1.394	0.163	0.47	0.68
			5	0.57	0.054	1.294	0.196	0.47	0.67
			6	0.51	0.054	0.108	0.914	0.40	0.61
			7	0.48	0.055	-0.436	0.663	0.37	0.58
			8	0.51	0.055	0.110	0.913	0.40	0.61
			9	0.50	0.055	0.000	1.000	0.39	0.61
			10	0.44	0.056	-1.000	0.317	0.34	0.55
			11	0.44	0.056	-1.118	0.264	0.33	0.55
			12	0.46	0.056	-0.788	0.431	0.35	0.57

INFLATION OF CPI SUB-INDEX "FOOD, BEVERAGES, AND TOBACCO" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.49	0.052	-0.194	0.846	0.39	0.59	
		2	0.44	0.052	-1.150	0.250	0.34	0.54	
		3	0.53	0.053	0.665	0.506	0.43	0.64	
		4	0.64	0.053	2.736	0.006	0.54	0.75	
		5	0.52	0.053	0.474	0.636	0.42	0.63	
		6	0.46	0.054	-0.739	0.460	0.35	0.56	
		7	0.51	0.054	0.259	0.796	0.41	0.62	
		8	0.59	0.054	1.714	0.087	0.48	0.70	
		9	0.43	0.055	-1.301	0.193	0.32	0.53	
		10	0.46	0.055	-0.757	0.449	0.35	0.56	
		11	0.40	0.055	-1.788	0.074	0.29	0.51	
		12	0.49	0.056	-0.104	0.917	0.38	0.60	
Variable 2	N=2	Pesaran- Timmermann	1	0.58	0.052	1.513	0.130	0.48	0.68
			2	0.49	0.052	-0.075	0.940	0.39	0.60
			3	0.45	0.053	-0.841	0.400	0.35	0.56
			4	0.61	0.053	2.092	0.036	0.51	0.71
			5	0.60	0.053	2.007	0.045	0.50	0.71
			6	0.47	0.054	-0.516	0.606	0.37	0.58
			7	0.48	0.054	-0.398	0.691	0.37	0.58
			8	0.48	0.054	-0.279	0.781	0.38	0.59
			9	0.55	0.055	0.939	0.348	0.44	0.66
			10	0.43	0.055	-1.203	0.229	0.32	0.54
			11	0.40	0.055	-1.787	0.074	0.29	0.51
			12	0.47	0.056	-0.558	0.577	0.36	0.58
	N=3	Pesaran- Timmermann	1	0.60	0.052	1.911	0.056	0.50	0.70
			2	0.52	0.053	0.324	0.746	0.41	0.62
			3	0.44	0.053	-1.070	0.285	0.34	0.55
			4	0.57	0.053	1.406	0.160	0.47	0.68
			5	0.59	0.054	1.742	0.081	0.49	0.70
			6	0.51	0.054	0.113	0.910	0.40	0.61
			7	0.45	0.054	-0.874	0.382	0.35	0.56
			8	0.53	0.054	0.559	0.576	0.42	0.64
			9	0.52	0.055	0.450	0.653	0.42	0.63
			10	0.46	0.055	-0.780	0.436	0.35	0.56
			11	0.43	0.056	-1.348	0.178	0.32	0.53
			12	0.44	0.056	-1.018	0.309	0.33	0.55
	N=4	Pesaran- Timmermann	1	0.58	0.052	1.487	0.137	0.48	0.68
			2	0.47	0.053	-0.530	0.596	0.37	0.58
			3	0.49	0.053	-0.212	0.832	0.38	0.59
			4	0.57	0.053	1.406	0.160	0.47	0.68
			5	0.57	0.054	1.308	0.191	0.46	0.67
			6	0.51	0.054	0.113	0.910	0.40	0.61
			7	0.51	0.054	0.117	0.907	0.40	0.61
			8	0.50	0.055	0.005	0.996	0.39	0.61
			9	0.44	0.055	-1.003	0.316	0.34	0.55
			10	0.44	0.056	-1.123	0.261	0.33	0.55
			11	0.46	0.056	-0.791	0.429	0.35	0.57
			12	0.46	0.056	-0.791	0.429	0.35	0.57

INFLATION OF CPI SUB-INDEX "FOOD, BEVERAGES, AND TOBACCO" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.51	0.062	0.871	0.39	0.63	
		2	0.56	0.061	0.326	0.44	0.68	
		3	0.54	0.062	0.569	0.41	0.66	
		4	0.65	0.060	0.019	0.53	0.76	
		5	0.53	0.063	0.690	0.40	0.65	
		6	0.54	0.063	0.523	0.42	0.66	
		7	0.51	0.064	0.830	0.39	0.64	
		8	0.59	0.063	0.144	0.47	0.72	
		9	0.57	0.064	0.264	0.45	0.70	
		10	0.54	0.064	0.514	0.42	0.67	
		11	0.60	0.064	0.126	0.47	0.72	
		12	0.51	0.066	0.929	0.38	0.63	
Variable 2	N=2	ROC Curve	1	0.58	0.061	0.194	0.46	0.70
			2	0.50	0.062	0.954	0.38	0.63
			3	0.54	0.062	0.473	0.42	0.67
			4	0.61	0.061	0.073	0.49	0.73
			5	0.61	0.061	0.087	0.49	0.73
			6	0.53	0.063	0.656	0.40	0.65
			7	0.52	0.064	0.733	0.40	0.65
			8	0.51	0.064	0.815	0.39	0.64
			9	0.55	0.064	0.416	0.43	0.68
			10	0.57	0.064	0.305	0.44	0.69
			11	0.60	0.064	0.127	0.47	0.73
			12	0.53	0.066	0.635	0.40	0.66
	N=3	ROC Curve	1	0.60	0.060	0.101	0.48	0.72
			2	0.52	0.062	0.777	0.40	0.64
			3	0.56	0.062	0.363	0.44	0.68
			4	0.58	0.062	0.226	0.45	0.70
			5	0.59	0.062	0.135	0.47	0.71
			6	0.51	0.063	0.923	0.38	0.63
			7	0.55	0.063	0.452	0.42	0.67
			8	0.53	0.064	0.633	0.41	0.66
			9	0.53	0.064	0.697	0.40	0.65
			10	0.54	0.064	0.505	0.42	0.67
			11	0.57	0.064	0.250	0.45	0.70
			12	0.56	0.065	0.385	0.43	0.68
	N=4	ROC Curve	1	0.58	0.060	0.202	0.46	0.70
			2	0.53	0.061	0.655	0.41	0.65
			3	0.51	0.062	0.861	0.39	0.63
			4	0.58	0.062	0.226	0.45	0.70
			5	0.57	0.062	0.261	0.45	0.69
			6	0.51	0.063	0.923	0.38	0.63
			7	0.52	0.063	0.707	0.40	0.65
			8	0.51	0.064	0.920	0.38	0.63
			9	0.50	0.064	0.993	0.37	0.63
			10	0.50	0.064	0.993	0.37	0.63
			11	0.56	0.065	0.340	0.44	0.69
			12	0.54	0.065	0.501	0.42	0.67

Table 11 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Clothing, Footwear, and Accessories"

INFLATION OF CPI SUB-INDEX "CLOTHING, FOOTWEAR, AND ACCESORIES" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61	
		2	0.57	0.053	1.378	0.168	0.47	0.68	
		3	0.57	0.053	1.279	0.201	0.46	0.67	
		4	0.61	0.054	2.037	0.042	0.51	0.71	
		5	0.56	0.054	1.078	0.281	0.45	0.66	
		6	0.52	0.054	0.325	0.745	0.41	0.62	
		7	0.54	0.055	0.655	0.513	0.43	0.64	
		8	0.51	0.055	0.110	0.913	0.40	0.61	
		9	0.50	0.055	0.000	1.000	0.39	0.61	
		10	0.59	0.056	1.667	0.096	0.49	0.70	
		11	0.59	0.056	1.565	0.118	0.48	0.70	
		12	0.65	0.056	2.588	0.010	0.54	0.75	
Variable 2	N=2	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61
			2	0.51	0.053	0.106	0.916	0.40	0.61
			3	0.57	0.053	1.279	0.201	0.46	0.67
			4	0.56	0.054	1.179	0.238	0.46	0.67
			5	0.60	0.054	1.941	0.052	0.50	0.71
			6	0.61	0.054	2.061	0.039	0.51	0.72
			7	0.56	0.055	1.091	0.275	0.45	0.67
			8	0.57	0.055	1.207	0.227	0.46	0.67
			9	0.51	0.055	0.221	0.825	0.40	0.62
			10	0.56	0.056	1.000	0.317	0.45	0.66
			11	0.60	0.056	1.789	0.074	0.49	0.71
			12	0.67	0.056	3.038	0.002	0.57	0.77
	N=3	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61
			2	0.53	0.053	0.530	0.596	0.42	0.63
			3	0.52	0.053	0.426	0.670	0.42	0.63
			4	0.59	0.054	1.608	0.108	0.48	0.69
			5	0.60	0.054	1.941	0.052	0.50	0.71
			6	0.61	0.054	2.061	0.039	0.51	0.72
			7	0.58	0.055	1.528	0.127	0.48	0.69
			8	0.54	0.055	0.768	0.442	0.43	0.65
			9	0.51	0.055	0.221	0.825	0.40	0.62
			10	0.53	0.056	0.556	0.579	0.42	0.64
			11	0.58	0.056	1.342	0.180	0.47	0.68
			12	0.65	0.056	2.588	0.010	0.54	0.75
	N=4	Binomial	1	0.53	0.053	0.632	0.527	0.43	0.64
			2	0.53	0.053	0.530	0.596	0.42	0.63
			3	0.55	0.053	0.853	0.394	0.44	0.65
			4	0.54	0.054	0.750	0.453	0.44	0.64
			5	0.56	0.054	1.078	0.281	0.45	0.66
			6	0.59	0.054	1.627	0.104	0.48	0.69
			7	0.56	0.055	1.091	0.275	0.45	0.67
			8	0.57	0.055	1.207	0.227	0.46	0.67
			9	0.48	0.055	-0.442	0.659	0.37	0.58
			10	0.52	0.056	0.333	0.739	0.41	0.63
			11	0.59	0.056	1.565	0.118	0.48	0.70
			12	0.68	0.056	3.263	0.001	0.58	0.79

INFLATION OF CPI SUB-INDEX "CLOTHING, FOOTWEAR, AND ACCESSORIES" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.51	0.052	0.212	0.832	0.41	0.61	
		2	0.57	0.053	1.382	0.167	0.47	0.68	
		3	0.57	0.053	1.276	0.202	0.46	0.67	
		4	0.61	0.053	2.033	0.042	0.51	0.71	
		5	0.56	0.053	1.060	0.289	0.45	0.66	
		6	0.52	0.054	0.307	0.759	0.41	0.62	
		7	0.54	0.054	0.632	0.527	0.43	0.64	
		8	0.51	0.054	0.089	0.929	0.40	0.61	
		9	0.50	0.055	-0.015	0.988	0.39	0.61	
		10	0.59	0.055	1.673	0.094	0.48	0.70	
		11	0.59	0.055	1.578	0.114	0.48	0.70	
		12	0.65	0.056	2.617	0.009	0.54	0.75	
Variable 2	N=2	Pesaran- Timmermann	1	0.51	0.052	0.215	0.830	0.41	0.61
			2	0.51	0.052	0.090	0.928	0.40	0.61
			3	0.57	0.052	1.269	0.204	0.47	0.67
			4	0.56	0.053	1.149	0.250	0.46	0.67
			5	0.60	0.053	1.909	0.056	0.50	0.71
			6	0.61	0.053	2.048	0.041	0.51	0.72
			7	0.56	0.053	1.041	0.298	0.45	0.66
			8	0.57	0.054	1.177	0.239	0.46	0.67
			9	0.51	0.054	0.188	0.851	0.41	0.62
			10	0.56	0.054	1.002	0.317	0.45	0.66
			11	0.60	0.055	1.825	0.068	0.49	0.71
			12	0.67	0.055	3.119	0.002	0.56	0.78
	N=3	Pesaran- Timmermann	1	0.51	0.052	0.214	0.831	0.41	0.61
			2	0.53	0.052	0.524	0.600	0.43	0.63
			3	0.52	0.053	0.406	0.685	0.42	0.63
			4	0.59	0.053	1.591	0.112	0.48	0.69
			5	0.60	0.053	1.916	0.055	0.50	0.71
			6	0.61	0.053	2.050	0.040	0.51	0.72
			7	0.58	0.054	1.496	0.135	0.48	0.69
			8	0.54	0.054	0.739	0.460	0.44	0.65
			9	0.51	0.054	0.197	0.844	0.41	0.62
			10	0.53	0.055	0.550	0.583	0.42	0.64
			11	0.58	0.055	1.360	0.174	0.47	0.68
			12	0.65	0.055	2.637	0.008	0.54	0.75
	N=4	Pesaran- Timmermann	1	0.53	0.052	0.645	0.519	0.43	0.63
			2	0.53	0.052	0.523	0.601	0.43	0.63
			3	0.55	0.052	0.834	0.404	0.44	0.65
			4	0.54	0.053	0.712	0.477	0.44	0.64
			5	0.56	0.053	1.028	0.304	0.45	0.66
			6	0.59	0.053	1.606	0.108	0.48	0.69
			7	0.56	0.053	1.041	0.298	0.45	0.66
			8	0.57	0.054	1.177	0.239	0.46	0.67
			9	0.48	0.054	-0.488	0.626	0.37	0.58
			10	0.52	0.054	0.321	0.748	0.41	0.63
			11	0.59	0.055	1.597	0.110	0.48	0.69
			12	0.68	0.055	3.348	0.001	0.58	0.79

INFLATION OF CPI SUB-INDEX "CLOTHING, FOOTWEAR, AND ACCESSORIES" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.51	0.061	0.855	0.39	0.63	
		2	0.57	0.061	0.237	0.45	0.69	
		3	0.57	0.062	0.277	0.45	0.69	
		4	0.61	0.061	0.083	0.49	0.73	
		5	0.56	0.063	0.376	0.43	0.68	
		6	0.52	0.064	0.810	0.39	0.64	
		7	0.53	0.064	0.611	0.41	0.66	
		8	0.50	0.065	0.960	0.38	0.63	
		9	0.50	0.065	0.978	0.37	0.63	
		10	0.59	0.064	0.151	0.47	0.72	
		11	0.59	0.064	0.175	0.46	0.72	
		12	0.65	0.063	0.024	0.53	0.77	
Variable 2	N=2	ROC Curve	1	0.51	0.062	0.854	0.39	0.63
			2	0.50	0.063	0.940	0.38	0.63
			3	0.57	0.063	0.277	0.45	0.69
			4	0.56	0.063	0.328	0.44	0.69
			5	0.60	0.063	0.103	0.48	0.73
			6	0.61	0.063	0.078	0.49	0.74
			7	0.56	0.065	0.384	0.43	0.69
			8	0.57	0.066	0.317	0.44	0.70
			9	0.51	0.067	0.885	0.38	0.64
			10	0.56	0.066	0.387	0.43	0.69
			11	0.61	0.065	0.112	0.48	0.73
			12	0.68	0.062	0.007	0.56	0.80
	N=3	ROC Curve	1	0.51	0.062	0.855	0.39	0.63
			2	0.53	0.062	0.654	0.41	0.65
			3	0.52	0.063	0.732	0.40	0.64
			4	0.59	0.062	0.175	0.46	0.71
			5	0.60	0.062	0.103	0.48	0.73
			6	0.61	0.063	0.079	0.49	0.74
			7	0.58	0.064	0.206	0.46	0.71
			8	0.54	0.065	0.540	0.41	0.67
			9	0.51	0.066	0.879	0.38	0.64
			10	0.53	0.066	0.639	0.40	0.66
			11	0.58	0.065	0.239	0.45	0.71
			12	0.65	0.063	0.022	0.53	0.78
	N=4	ROC Curve	1	0.53	0.062	0.580	0.41	0.66
			2	0.53	0.063	0.655	0.41	0.65
			3	0.55	0.063	0.477	0.42	0.67
			4	0.54	0.064	0.548	0.41	0.66
			5	0.56	0.064	0.387	0.43	0.68
			6	0.59	0.064	0.169	0.46	0.71
			7	0.56	0.065	0.384	0.43	0.69
			8	0.57	0.066	0.317	0.44	0.70
			9	0.53	0.067	0.649	0.40	0.66
			10	0.52	0.067	0.786	0.39	0.65
			11	0.59	0.066	0.161	0.47	0.72
			12	0.70	0.061	0.003	0.58	0.82

Table 12 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Transportation"

INFLATION OF CPI SUB-INDEX "TRANSPORTATION" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.50	0.053	0.000	1.000	0.40	0.60	
		2	0.56	0.053	1.166	0.244	0.46	0.66	
		3	0.59	0.053	1.706	0.088	0.49	0.69	
		4	0.47	0.054	-0.536	0.592	0.37	0.58	
		5	0.47	0.054	-0.647	0.518	0.36	0.57	
		6	0.46	0.054	-0.759	0.448	0.35	0.56	
		7	0.56	0.055	1.091	0.275	0.45	0.67	
		8	0.47	0.055	-0.549	0.583	0.36	0.58	
		9	0.40	0.055	-1.767	0.077	0.30	0.51	
		10	0.40	0.056	-1.889	0.059	0.29	0.50	
		11	0.51	0.056	0.224	0.823	0.40	0.62	
		12	0.56	0.056	1.013	0.311	0.45	0.67	
Variable 2	N=2	Binomial	1	0.48	0.053	-0.422	0.673	0.37	0.58
			2	0.54	0.053	0.742	0.458	0.44	0.64
			3	0.64	0.053	2.558	0.011	0.54	0.74
			4	0.59	0.054	1.608	0.108	0.48	0.69
			5	0.47	0.054	-0.647	0.518	0.36	0.57
			6	0.39	0.054	-2.061	0.039	0.28	0.49
			7	0.51	0.055	0.218	0.827	0.41	0.62
			8	0.53	0.055	0.549	0.583	0.42	0.64
			9	0.41	0.055	-1.546	0.122	0.31	0.52
			10	0.36	0.056	-2.556	0.011	0.25	0.46
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.54	0.056	0.788	0.431	0.43	0.65
	N=3	Binomial	1	0.43	0.053	-1.265	0.206	0.33	0.54
			2	0.49	0.053	-0.106	0.916	0.39	0.60
			3	0.59	0.053	1.706	0.088	0.49	0.69
			4	0.56	0.054	1.179	0.238	0.46	0.67
			5	0.47	0.054	-0.647	0.518	0.36	0.57
			6	0.42	0.054	-1.410	0.159	0.32	0.53
			7	0.45	0.055	-0.873	0.383	0.35	0.56
			8	0.47	0.055	-0.549	0.583	0.36	0.58
			9	0.41	0.055	-1.546	0.122	0.31	0.52
			10	0.36	0.056	-2.556	0.011	0.25	0.46
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.54	0.056	0.788	0.431	0.43	0.65
	N=4	Binomial	1	0.47	0.053	-0.632	0.527	0.36	0.57
			2	0.51	0.053	0.106	0.916	0.40	0.61
			3	0.58	0.053	1.492	0.136	0.48	0.68
			4	0.55	0.054	0.965	0.335	0.45	0.66
			5	0.45	0.054	-0.863	0.388	0.35	0.56
			6	0.44	0.054	-1.193	0.233	0.33	0.54
			7	0.44	0.055	-1.091	0.275	0.33	0.55
			8	0.46	0.055	-0.768	0.442	0.35	0.57
			9	0.40	0.055	-1.767	0.077	0.30	0.51
			10	0.37	0.056	-2.333	0.020	0.27	0.48
			11	0.44	0.056	-1.118	0.264	0.33	0.55
			12	0.53	0.056	0.563	0.574	0.42	0.64

INFLATION OF CPI SUB-INDEX "TRANSPORTATION" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.50	0.052	0.028	0.978	0.40	0.60	
		2	0.56	0.053	1.197	0.231	0.46	0.66	
		3	0.59	0.053	1.749	0.080	0.49	0.69	
		4	0.47	0.053	-0.519	0.603	0.37	0.58	
		5	0.47	0.053	-0.638	0.523	0.36	0.57	
		6	0.46	0.054	-0.744	0.457	0.35	0.56	
		7	0.56	0.054	1.115	0.265	0.45	0.67	
		8	0.47	0.054	-0.532	0.595	0.36	0.58	
		9	0.40	0.055	-1.755	0.079	0.30	0.51	
		10	0.40	0.055	-1.872	0.061	0.29	0.50	
		11	0.51	0.055	0.270	0.787	0.40	0.62	
		12	0.56	0.056	1.077	0.281	0.45	0.67	
Variable 2	N=2	Pesaran- Timmermann	1	0.48	0.052	-0.384	0.701	0.38	0.58
			2	0.54	0.052	0.782	0.434	0.44	0.64
			3	0.64	0.053	2.631	0.009	0.53	0.74
			4	0.59	0.053	1.659	0.097	0.48	0.69
			5	0.47	0.053	-0.633	0.527	0.36	0.57
			6	0.39	0.054	-2.052	0.040	0.28	0.49
			7	0.51	0.054	0.242	0.808	0.41	0.62
			8	0.53	0.054	0.588	0.556	0.42	0.64
			9	0.41	0.055	-1.521	0.128	0.31	0.52
			10	0.36	0.055	-2.533	0.011	0.25	0.47
			11	0.45	0.055	-0.840	0.401	0.34	0.56
			12	0.54	0.055	0.879	0.380	0.44	0.65
	N=3	Pesaran- Timmermann	1	0.43	0.052	-1.252	0.211	0.33	0.54
			2	0.49	0.053	-0.089	0.929	0.39	0.60
			3	0.59	0.053	1.743	0.081	0.49	0.69
			4	0.56	0.053	1.206	0.228	0.46	0.67
			5	0.47	0.054	-0.640	0.522	0.36	0.57
			6	0.42	0.054	-1.403	0.160	0.32	0.53
			7	0.45	0.054	-0.868	0.386	0.35	0.56
			8	0.47	0.054	-0.535	0.593	0.36	0.58
			9	0.41	0.055	-1.535	0.125	0.31	0.52
			10	0.36	0.055	-2.549	0.011	0.25	0.47
			11	0.45	0.055	-0.867	0.386	0.34	0.56
			12	0.54	0.056	0.841	0.401	0.44	0.65
	N=4	Pesaran- Timmermann	1	0.47	0.052	-0.623	0.533	0.36	0.57
			2	0.51	0.053	0.117	0.907	0.40	0.61
			3	0.58	0.053	1.517	0.129	0.48	0.68
			4	0.55	0.053	0.982	0.326	0.45	0.66
			5	0.45	0.054	-0.861	0.389	0.35	0.56
			6	0.44	0.054	-1.191	0.234	0.33	0.54
			7	0.44	0.054	-1.091	0.275	0.33	0.55
			8	0.46	0.054	-0.763	0.445	0.35	0.56
			9	0.40	0.055	-1.766	0.077	0.30	0.51
			10	0.37	0.055	-2.335	0.020	0.26	0.48
			11	0.44	0.055	-1.107	0.268	0.33	0.55
			12	0.53	0.056	0.595	0.552	0.42	0.64

INFLATION OF CPI SUB-INDEX "TRANSPORTATION" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.50	0.061	0.981	0.38	0.62	
		2	0.56	0.061	0.304	0.44	0.68	
		3	0.59	0.061	0.131	0.47	0.71	
		4	0.53	0.063	0.663	0.40	0.65	
		5	0.53	0.063	0.590	0.41	0.66	
		6	0.54	0.063	0.530	0.42	0.66	
		7	0.56	0.063	0.336	0.44	0.68	
		8	0.53	0.064	0.657	0.40	0.65	
		9	0.60	0.063	0.137	0.47	0.72	
		10	0.60	0.064	0.114	0.48	0.73	
		11	0.52	0.065	0.801	0.39	0.64	
		12	0.56	0.065	0.350	0.43	0.69	
Variable 2	N=2	ROC Curve	1	0.52	0.062	0.745	0.40	0.64
			2	0.54	0.062	0.498	0.42	0.66
			3	0.64	0.060	0.023	0.53	0.76
			4	0.59	0.062	0.149	0.47	0.71
			5	0.53	0.063	0.593	0.41	0.66
			6	0.61	0.062	0.080	0.49	0.73
			7	0.51	0.064	0.828	0.39	0.64
			8	0.53	0.064	0.607	0.41	0.66
			9	0.58	0.064	0.197	0.46	0.71
			10	0.64	0.063	0.031	0.52	0.76
			11	0.55	0.065	0.482	0.42	0.67
			12	0.55	0.065	0.447	0.42	0.68
	N=3	ROC Curve	1	0.57	0.061	0.286	0.45	0.68
			2	0.50	0.062	0.944	0.38	0.63
			3	0.59	0.061	0.131	0.47	0.71
			4	0.57	0.062	0.294	0.44	0.69
			5	0.53	0.063	0.590	0.41	0.66
			6	0.58	0.063	0.235	0.45	0.70
			7	0.55	0.064	0.463	0.42	0.67
			8	0.53	0.064	0.657	0.40	0.65
			9	0.58	0.064	0.194	0.46	0.71
			10	0.64	0.062	0.030	0.52	0.76
			11	0.55	0.065	0.466	0.42	0.67
			12	0.55	0.065	0.470	0.42	0.68
	N=4	ROC Curve	1	0.53	0.061	0.597	0.41	0.65
			2	0.51	0.062	0.915	0.39	0.63
			3	0.58	0.061	0.189	0.46	0.70
			4	0.55	0.062	0.392	0.43	0.68
			5	0.55	0.063	0.466	0.42	0.67
			6	0.56	0.063	0.316	0.44	0.69
			7	0.56	0.063	0.355	0.44	0.68
			8	0.54	0.064	0.522	0.42	0.67
			9	0.60	0.063	0.134	0.47	0.72
			10	0.63	0.063	0.047	0.51	0.75
			11	0.56	0.065	0.350	0.43	0.69
			12	0.53	0.065	0.610	0.41	0.66

Table 13 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Furniture, Household Appliances, and Other Household Items"

INFLATION OF CPI SUB-INDEX "FURNITURE, HOUSEHOLD APPLIANCES, AND OTHER HOUSEHOLD ITEMS" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.53	0.053	0.632	0.527	0.43	0.64	
		2	0.60	0.053	1.802	0.072	0.49	0.70	
		3	0.53	0.053	0.640	0.522	0.43	0.64	
		4	0.49	0.054	-0.107	0.915	0.39	0.60	
		5	0.57	0.054	1.294	0.196	0.47	0.67	
		6	0.54	0.054	0.759	0.448	0.44	0.65	
		7	0.64	0.055	2.619	0.009	0.54	0.75	
		8	0.57	0.055	1.207	0.227	0.46	0.67	
		9	0.51	0.055	0.221	0.825	0.40	0.62	
		10	0.53	0.056	0.556	0.579	0.42	0.64	
		11	0.53	0.056	0.447	0.655	0.42	0.63	
		12	0.52	0.056	0.338	0.736	0.41	0.63	
Variable 2	N=2	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.58	0.053	1.590	0.112	0.48	0.69
			3	0.52	0.053	0.426	0.670	0.42	0.63
			4	0.51	0.054	0.107	0.915	0.40	0.61
			5	0.56	0.054	1.078	0.281	0.45	0.66
			6	0.62	0.054	2.278	0.023	0.52	0.73
			7	0.61	0.055	1.964	0.050	0.50	0.71
			8	0.63	0.055	2.305	0.021	0.52	0.73
			9	0.60	0.055	1.767	0.077	0.49	0.70
			10	0.59	0.056	1.667	0.096	0.49	0.70
			11	0.51	0.056	0.224	0.823	0.40	0.62
			12	0.48	0.056	-0.338	0.736	0.37	0.59
	N=3	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.58	0.053	1.590	0.112	0.48	0.69
			3	0.52	0.053	0.426	0.670	0.42	0.63
			4	0.51	0.054	0.107	0.915	0.40	0.61
			5	0.56	0.054	1.078	0.281	0.45	0.66
			6	0.62	0.054	2.278	0.023	0.52	0.73
			7	0.61	0.055	1.964	0.050	0.50	0.71
			8	0.63	0.055	2.305	0.021	0.52	0.73
			9	0.60	0.055	1.767	0.077	0.49	0.70
			10	0.59	0.056	1.667	0.096	0.49	0.70
			11	0.51	0.056	0.224	0.823	0.40	0.62
			12	0.48	0.056	-0.338	0.736	0.37	0.59
	N=4	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68
			2	0.58	0.053	1.590	0.112	0.48	0.69
			3	0.55	0.053	0.853	0.394	0.44	0.65
			4	0.53	0.054	0.536	0.592	0.42	0.63
			5	0.56	0.054	1.078	0.281	0.45	0.66
			6	0.62	0.054	2.278	0.023	0.52	0.73
			7	0.63	0.055	2.400	0.016	0.53	0.73
			8	0.65	0.055	2.744	0.006	0.55	0.75
			9	0.62	0.055	2.209	0.027	0.52	0.73
			10	0.59	0.056	1.667	0.096	0.49	0.70
			11	0.51	0.056	0.224	0.823	0.40	0.62
			12	0.48	0.056	-0.338	0.736	0.37	0.59

INFLATION OF CPI SUB-INDEX "FURNITURE, HOUSEHOLD APPLIANCES, AND OTHER HOUSEHOLD ITEMS" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran-Timmermann	1	0.53	0.051	0.649	0.517	0.43	0.63	
		2	0.60	0.052	1.827	0.068	0.49	0.70	
		3	0.53	0.052	0.613	0.540	0.43	0.64	
		4	0.49	0.052	-0.175	0.861	0.39	0.60	
		5	0.57	0.053	1.242	0.214	0.47	0.67	
		6	0.54	0.053	0.714	0.475	0.44	0.64	
		7	0.64	0.053	2.602	0.009	0.54	0.75	
		8	0.57	0.053	1.173	0.241	0.46	0.67	
		9	0.51	0.054	0.182	0.855	0.41	0.62	
		10	0.53	0.054	0.548	0.584	0.42	0.64	
		11	0.53	0.054	0.459	0.646	0.42	0.63	
		12	0.52	0.055	0.369	0.712	0.41	0.63	
Variable 2	N=2	Pesaran-Timmermann	1	0.58	0.051	1.511	0.131	0.48	0.68
			2	0.58	0.052	1.607	0.108	0.48	0.69
			3	0.52	0.052	0.396	0.692	0.42	0.62
			4	0.51	0.052	0.048	0.961	0.40	0.61
			5	0.56	0.053	1.023	0.306	0.46	0.66
			6	0.62	0.053	2.272	0.023	0.52	0.73
			7	0.61	0.053	1.930	0.054	0.50	0.71
			8	0.63	0.054	2.299	0.021	0.52	0.73
			9	0.60	0.054	1.768	0.077	0.49	0.70
			10	0.59	0.054	1.686	0.092	0.49	0.70
			11	0.51	0.055	0.229	0.819	0.41	0.62
			12	0.48	0.055	-0.324	0.746	0.37	0.59
	N=3	Pesaran-Timmermann	1	0.58	0.051	1.511	0.131	0.48	0.68
			2	0.58	0.052	1.607	0.108	0.48	0.69
			3	0.52	0.052	0.396	0.692	0.42	0.62
			4	0.51	0.052	0.048	0.961	0.40	0.61
			5	0.56	0.053	1.023	0.306	0.46	0.66
			6	0.62	0.053	2.272	0.023	0.52	0.73
			7	0.61	0.053	1.930	0.054	0.50	0.71
			8	0.63	0.054	2.299	0.021	0.52	0.73
			9	0.60	0.054	1.768	0.077	0.49	0.70
			10	0.59	0.054	1.686	0.092	0.49	0.70
			11	0.51	0.055	0.229	0.819	0.41	0.62
			12	0.48	0.055	-0.324	0.746	0.37	0.59
	N=4	Pesaran-Timmermann	1	0.58	0.051	1.511	0.131	0.48	0.68
			2	0.58	0.052	1.607	0.108	0.48	0.69
			3	0.55	0.052	0.833	0.405	0.44	0.65
			4	0.53	0.052	0.488	0.626	0.43	0.63
			5	0.56	0.053	1.023	0.306	0.46	0.66
			6	0.62	0.053	2.272	0.023	0.52	0.73
			7	0.63	0.053	2.377	0.017	0.53	0.74
			8	0.65	0.054	2.749	0.006	0.55	0.76
			9	0.62	0.054	2.220	0.026	0.52	0.73
			10	0.59	0.054	1.686	0.092	0.49	0.70
			11	0.51	0.055	0.229	0.819	0.41	0.62
			12	0.48	0.055	-0.324	0.746	0.37	0.59

INFLATION OF CPI SUB-INDEX "FURNITURE, HOUSEHOLD APPLIANCES, AND OTHER HOUSEHOLD ITEMS" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.53	0.062	0.580	0.41	0.66	
		2	0.60	0.061	0.118	0.48	0.72	
		3	0.53	0.063	0.599	0.41	0.66	
		4	0.51	0.063	0.887	0.39	0.63	
		5	0.57	0.063	0.286	0.44	0.69	
		6	0.54	0.064	0.536	0.41	0.66	
		7	0.64	0.061	0.026	0.52	0.76	
		8	0.57	0.064	0.312	0.44	0.69	
		9	0.51	0.065	0.866	0.38	0.64	
		10	0.53	0.065	0.638	0.40	0.66	
		11	0.53	0.065	0.699	0.40	0.65	
		12	0.52	0.066	0.764	0.39	0.65	
Variable 2	N=2	ROC Curve	1	0.58	0.061	0.197	0.46	0.70
			2	0.59	0.061	0.170	0.47	0.71
			3	0.52	0.063	0.732	0.40	0.64
			4	0.50	0.063	0.959	0.38	0.63
			5	0.56	0.063	0.376	0.43	0.68
			6	0.62	0.062	0.052	0.50	0.74
			7	0.61	0.062	0.097	0.48	0.73
			8	0.63	0.062	0.049	0.50	0.75
			9	0.60	0.063	0.131	0.47	0.72
			10	0.59	0.064	0.152	0.47	0.72
			11	0.51	0.065	0.847	0.38	0.64
			12	0.52	0.065	0.776	0.39	0.65
	N=3	ROC Curve	1	0.58	0.061	0.197	0.46	0.70
			2	0.59	0.061	0.170	0.47	0.71
			3	0.52	0.063	0.732	0.40	0.64
			4	0.50	0.063	0.959	0.38	0.63
			5	0.56	0.063	0.376	0.43	0.68
			6	0.62	0.062	0.052	0.50	0.74
			7	0.61	0.062	0.097	0.48	0.73
			8	0.63	0.062	0.049	0.50	0.75
			9	0.60	0.063	0.131	0.47	0.72
			10	0.59	0.064	0.152	0.47	0.72
			11	0.51	0.065	0.847	0.38	0.64
			12	0.52	0.065	0.776	0.39	0.65
	N=4	ROC Curve	1	0.58	0.061	0.197	0.46	0.70
			2	0.59	0.061	0.170	0.47	0.71
			3	0.54	0.062	0.475	0.42	0.67
			4	0.53	0.063	0.671	0.40	0.65
			5	0.56	0.063	0.376	0.43	0.68
			6	0.62	0.062	0.052	0.50	0.74
			7	0.63	0.062	0.042	0.51	0.75
			8	0.65	0.061	0.019	0.53	0.77
			9	0.62	0.063	0.059	0.50	0.74
			10	0.59	0.064	0.152	0.47	0.72
			11	0.51	0.065	0.847	0.38	0.64
			12	0.52	0.065	0.776	0.39	0.65

Table 14 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Education and Recreation"

INFLATION OF CPI SUB-INDEX "EDUCATION AND RECREATION" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.58	0.053	1.476	0.140	0.48	0.68	
		2	0.63	0.053	2.438	0.015	0.53	0.73	
		3	0.59	0.053	1.706	0.088	0.49	0.69	
		4	0.49	0.054	-0.107	0.915	0.39	0.60	
		5	0.63	0.054	2.372	0.018	0.53	0.73	
		6	0.53	0.054	0.542	0.588	0.42	0.64	
		7	0.55	0.055	0.873	0.383	0.44	0.65	
		8	0.45	0.055	-0.988	0.323	0.34	0.55	
		9	0.43	0.055	-1.325	0.185	0.32	0.53	
		10	0.49	0.056	-0.111	0.912	0.38	0.60	
		11	0.43	0.056	-1.342	0.180	0.32	0.53	
		12	0.53	0.056	0.563	0.574	0.42	0.64	
Variable 2	N=2	Binomial	1	0.56	0.053	1.054	0.292	0.45	0.66
			2	0.58	0.053	1.590	0.112	0.48	0.69
			3	0.63	0.053	2.345	0.019	0.52	0.73
			4	0.52	0.054	0.322	0.748	0.41	0.62
			5	0.53	0.054	0.647	0.518	0.43	0.64
			6	0.54	0.054	0.759	0.448	0.44	0.65
			7	0.54	0.055	0.655	0.513	0.43	0.64
			8	0.49	0.055	-0.110	0.913	0.39	0.60
			9	0.43	0.055	-1.325	0.185	0.32	0.53
			10	0.44	0.056	-1.000	0.317	0.34	0.55
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.56	0.056	1.013	0.311	0.45	0.67
	N=3	Binomial	1	0.54	0.053	0.843	0.399	0.44	0.65
			2	0.57	0.053	1.378	0.168	0.47	0.68
			3	0.64	0.053	2.558	0.011	0.54	0.74
			4	0.53	0.054	0.536	0.592	0.42	0.63
			5	0.57	0.054	1.294	0.196	0.47	0.67
			6	0.55	0.054	0.976	0.329	0.45	0.66
			7	0.55	0.055	0.873	0.383	0.44	0.65
			8	0.55	0.055	0.988	0.323	0.45	0.66
			9	0.49	0.055	-0.221	0.825	0.38	0.60
			10	0.49	0.056	-0.111	0.912	0.38	0.60
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.51	0.056	0.113	0.910	0.40	0.62
	N=4	Binomial	1	0.56	0.053	1.054	0.292	0.45	0.66
			2	0.65	0.053	2.862	0.004	0.55	0.75
			3	0.63	0.053	2.345	0.019	0.52	0.73
			4	0.52	0.054	0.322	0.748	0.41	0.62
			5	0.55	0.054	0.863	0.388	0.44	0.65
			6	0.52	0.054	0.325	0.745	0.41	0.62
			7	0.56	0.055	1.091	0.275	0.45	0.67
			8	0.49	0.055	-0.110	0.913	0.39	0.60
			9	0.50	0.055	0.000	1.000	0.39	0.61
			10	0.46	0.056	-0.778	0.437	0.35	0.57
			11	0.49	0.056	-0.224	0.823	0.38	0.60
			12	0.54	0.056	0.788	0.431	0.43	0.65

INFLATION OF CPI SUB-INDEX "EDUCATION AND RECREATION" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.58	0.052	1.495	0.135	0.48	0.68	
		2	0.63	0.053	2.461	0.014	0.53	0.73	
		3	0.59	0.053	1.727	0.084	0.49	0.69	
		4	0.49	0.053	-0.101	0.920	0.39	0.60	
		5	0.63	0.054	2.392	0.017	0.52	0.73	
		6	0.53	0.054	0.553	0.580	0.42	0.63	
		7	0.55	0.054	0.883	0.377	0.44	0.65	
		8	0.45	0.055	-0.988	0.323	0.34	0.55	
		9	0.43	0.055	-1.326	0.185	0.32	0.53	
		10	0.49	0.055	-0.100	0.920	0.39	0.60	
		11	0.43	0.055	-1.340	0.180	0.32	0.53	
		12	0.53	0.056	0.586	0.558	0.42	0.64	
Variable 2	N=2	Pesaran- Timmermann	1	0.56	0.051	0.999	0.318	0.45	0.66
			2	0.58	0.052	1.568	0.117	0.48	0.69
			3	0.63	0.052	2.322	0.020	0.52	0.73
			4	0.52	0.052	0.268	0.789	0.41	0.62
			5	0.53	0.053	0.621	0.534	0.43	0.64
			6	0.54	0.053	0.716	0.474	0.44	0.64
			7	0.54	0.053	0.629	0.529	0.43	0.64
			8	0.49	0.054	-0.176	0.861	0.39	0.60
			9	0.43	0.054	-1.443	0.149	0.32	0.53
			10	0.44	0.054	-1.133	0.257	0.34	0.55
			11	0.45	0.054	-1.048	0.295	0.34	0.56
			12	0.56	0.055	0.890	0.373	0.45	0.66
	N=3	Pesaran- Timmermann	1	0.54	0.051	0.777	0.437	0.44	0.64
			2	0.57	0.052	1.350	0.177	0.47	0.67
			3	0.64	0.052	2.542	0.011	0.53	0.74
			4	0.53	0.052	0.483	0.629	0.43	0.63
			5	0.57	0.052	1.285	0.199	0.47	0.67
			6	0.55	0.053	0.935	0.350	0.45	0.66
			7	0.55	0.053	0.851	0.395	0.44	0.65
			8	0.55	0.053	0.946	0.344	0.45	0.66
			9	0.49	0.054	-0.323	0.747	0.38	0.59
			10	0.49	0.054	-0.234	0.815	0.39	0.60
			11	0.45	0.054	-1.067	0.286	0.34	0.56
			12	0.51	0.054	-0.054	0.957	0.40	0.61
	N=4	Pesaran- Timmermann	1	0.56	0.051	0.990	0.322	0.46	0.66
			2	0.65	0.051	2.884	0.004	0.55	0.75
			3	0.63	0.052	2.325	0.020	0.52	0.73
			4	0.52	0.052	0.256	0.798	0.42	0.62
			5	0.55	0.052	0.841	0.401	0.44	0.65
			6	0.52	0.052	0.259	0.796	0.41	0.62
			7	0.56	0.053	1.076	0.282	0.46	0.66
			8	0.49	0.053	-0.192	0.848	0.39	0.60
			9	0.50	0.053	-0.106	0.916	0.40	0.60
			10	0.46	0.054	-0.939	0.348	0.35	0.56
			11	0.49	0.054	-0.392	0.695	0.38	0.59
			12	0.54	0.054	0.629	0.529	0.44	0.65

INFLATION OF CPI SUB-INDEX "EDUCATION AND RECREATION" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval	
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit
Variable 1	ROC Curve	1	0.58	0.060	0.198	0.46	0.70
		2	0.63	0.059	0.035	0.51	0.75
		3	0.59	0.061	0.137	0.47	0.71
		4	0.50	0.062	0.939	0.38	0.63
		5	0.63	0.061	0.039	0.51	0.75
		6	0.53	0.063	0.628	0.41	0.65
		7	0.55	0.063	0.443	0.42	0.67
		8	0.55	0.064	0.404	0.43	0.68
		9	0.57	0.064	0.264	0.45	0.70
		10	0.50	0.065	0.947	0.38	0.63
		11	0.57	0.064	0.265	0.45	0.70
		12	0.54	0.065	0.585	0.41	0.66
Variable 2	N=2 ROC Curve	1	0.55	0.062	0.391	0.43	0.67
		2	0.58	0.062	0.180	0.46	0.71
		3	0.63	0.061	0.047	0.51	0.75
		4	0.51	0.064	0.824	0.39	0.64
		5	0.53	0.064	0.596	0.41	0.66
		6	0.54	0.064	0.542	0.41	0.66
		7	0.53	0.064	0.591	0.41	0.66
		8	0.51	0.065	0.882	0.38	0.64
		9	0.58	0.064	0.221	0.45	0.71
		10	0.56	0.065	0.334	0.44	0.69
		11	0.56	0.065	0.376	0.43	0.69
		12	0.55	0.066	0.441	0.42	0.68
	N=3 ROC Curve	1	0.54	0.062	0.505	0.42	0.66
		2	0.57	0.062	0.248	0.45	0.69
		3	0.64	0.061	0.030	0.52	0.76
		4	0.53	0.064	0.684	0.40	0.65
		5	0.57	0.064	0.271	0.45	0.70
		6	0.55	0.064	0.425	0.43	0.68
		7	0.55	0.065	0.467	0.42	0.67
		8	0.55	0.065	0.418	0.43	0.68
		9	0.52	0.065	0.788	0.39	0.65
		10	0.51	0.066	0.851	0.38	0.64
		11	0.56	0.065	0.376	0.43	0.69
		12	0.50	0.066	0.988	0.37	0.63
	N=4 ROC Curve	1	0.55	0.062	0.396	0.43	0.68
		2	0.66	0.060	0.014	0.54	0.77
		3	0.63	0.062	0.046	0.51	0.75
		4	0.51	0.065	0.833	0.39	0.64
		5	0.55	0.065	0.472	0.42	0.67
		6	0.51	0.066	0.836	0.38	0.64
		7	0.56	0.066	0.355	0.43	0.69
		8	0.51	0.066	0.857	0.38	0.64
		9	0.51	0.067	0.916	0.38	0.64
		10	0.55	0.066	0.411	0.43	0.68
		11	0.52	0.067	0.728	0.39	0.65
		12	0.54	0.067	0.596	0.40	0.67

Table 15 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Other Services"

INFLATION OF CPI SUB-INDEX "OTHER SERVICES" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.60	0.053	1.897	0.058	0.50	0.70	
		2	0.64	0.053	2.650	0.008	0.54	0.74	
		3	0.56	0.053	1.066	0.286	0.45	0.66	
		4	0.51	0.054	0.107	0.915	0.40	0.61	
		5	0.49	0.054	-0.216	0.829	0.38	0.59	
		6	0.58	0.054	1.410	0.159	0.47	0.68	
		7	0.50	0.055	0.000	1.000	0.39	0.61	
		8	0.51	0.055	0.110	0.913	0.40	0.61	
		9	0.45	0.055	-0.883	0.377	0.34	0.56	
		10	0.47	0.056	-0.556	0.579	0.36	0.58	
		11	0.49	0.056	-0.224	0.823	0.38	0.60	
		12	0.49	0.056	-0.113	0.910	0.38	0.60	
Variable 2	N=2	Binomial	1	0.67	0.053	3.162	0.002	0.57	0.76
			2	0.66	0.053	3.074	0.002	0.56	0.76
			3	0.70	0.053	3.838	0.000	0.61	0.80
			4	0.59	0.054	1.608	0.108	0.48	0.69
			5	0.48	0.054	-0.431	0.666	0.37	0.58
			6	0.52	0.054	0.325	0.745	0.41	0.62
			7	0.52	0.055	0.436	0.663	0.42	0.63
			8	0.51	0.055	0.110	0.913	0.40	0.61
			9	0.46	0.055	-0.663	0.508	0.36	0.57
			10	0.43	0.056	-1.222	0.222	0.32	0.54
			11	0.45	0.056	-0.894	0.371	0.34	0.56
			12	0.51	0.056	0.113	0.910	0.40	0.62
	N=3	Binomial	1	0.64	0.053	2.741	0.006	0.55	0.74
			2	0.62	0.053	2.226	0.026	0.52	0.72
			3	0.66	0.053	2.985	0.003	0.56	0.76
			4	0.61	0.054	2.037	0.042	0.51	0.71
			5	0.52	0.054	0.431	0.666	0.42	0.63
			6	0.52	0.054	0.325	0.745	0.41	0.62
			7	0.48	0.055	-0.436	0.663	0.37	0.58
			8	0.52	0.055	0.329	0.742	0.41	0.63
			9	0.49	0.055	-0.221	0.825	0.38	0.60
			10	0.46	0.056	-0.778	0.437	0.35	0.57
			11	0.43	0.056	-1.342	0.180	0.32	0.53
			12	0.49	0.056	-0.113	0.910	0.38	0.60
	N=4	Binomial	1	0.66	0.053	2.951	0.003	0.56	0.75
			2	0.63	0.053	2.438	0.015	0.53	0.73
			3	0.67	0.053	3.198	0.001	0.57	0.77
			4	0.64	0.054	2.680	0.007	0.54	0.74
			5	0.56	0.054	1.078	0.281	0.45	0.66
			6	0.51	0.054	0.108	0.914	0.40	0.61
			7	0.49	0.055	-0.218	0.827	0.38	0.59
			8	0.51	0.055	0.110	0.913	0.40	0.61
			9	0.48	0.055	-0.442	0.659	0.37	0.58
			10	0.47	0.056	-0.556	0.579	0.36	0.58
			11	0.46	0.056	-0.671	0.502	0.35	0.57
			12	0.51	0.056	0.113	0.910	0.40	0.62

INFLATION OF CPI SUB-INDEX "OTHER SERVICES" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.60	0.052	1.908	0.056	0.50	0.70	
		2	0.64	0.053	2.668	0.008	0.54	0.74	
		3	0.56	0.053	1.077	0.281	0.45	0.66	
		4	0.51	0.053	0.115	0.908	0.40	0.61	
		5	0.49	0.054	-0.208	0.835	0.38	0.59	
		6	0.58	0.054	1.427	0.154	0.47	0.68	
		7	0.50	0.054	0.010	0.992	0.39	0.61	
		8	0.51	0.055	0.118	0.906	0.40	0.61	
		9	0.45	0.055	-0.885	0.376	0.34	0.56	
		10	0.47	0.055	-0.557	0.578	0.36	0.58	
		11	0.49	0.056	-0.225	0.822	0.38	0.60	
		12	0.49	0.056	-0.116	0.908	0.38	0.60	
Variable 2	N=2	Pesaran- Timmermann	1	0.67	0.052	3.185	0.001	0.56	0.77
			2	0.66	0.053	3.102	0.002	0.56	0.77
			3	0.70	0.053	3.878	0.000	0.60	0.81
			4	0.59	0.053	1.639	0.101	0.48	0.69
			5	0.48	0.053	-0.411	0.681	0.37	0.58
			6	0.52	0.054	0.346	0.729	0.41	0.62
			7	0.52	0.054	0.464	0.642	0.42	0.63
			8	0.51	0.054	0.129	0.897	0.40	0.61
			9	0.46	0.055	-0.656	0.512	0.36	0.57
			10	0.43	0.055	-1.226	0.220	0.32	0.54
			11	0.45	0.055	-0.901	0.367	0.34	0.56
			12	0.51	0.056	0.107	0.915	0.40	0.62
	N=3	Pesaran- Timmermann	1	0.64	0.052	2.757	0.006	0.54	0.75
			2	0.62	0.053	2.236	0.025	0.51	0.72
			3	0.66	0.053	2.997	0.003	0.56	0.76
			4	0.61	0.053	2.040	0.041	0.50	0.71
			5	0.52	0.054	0.420	0.674	0.42	0.63
			6	0.52	0.054	0.317	0.751	0.41	0.62
			7	0.48	0.054	-0.454	0.650	0.37	0.58
			8	0.52	0.054	0.321	0.748	0.41	0.62
			9	0.49	0.055	-0.230	0.818	0.38	0.60
			10	0.46	0.055	-0.787	0.431	0.35	0.56
			11	0.43	0.056	-1.351	0.177	0.32	0.53
			12	0.49	0.056	-0.110	0.913	0.38	0.60
	N=4	Pesaran- Timmermann	1	0.66	0.052	2.968	0.003	0.55	0.76
			2	0.63	0.053	2.451	0.014	0.53	0.73
			3	0.67	0.053	3.215	0.001	0.57	0.77
			4	0.64	0.053	2.694	0.007	0.54	0.75
			5	0.56	0.054	1.081	0.280	0.45	0.66
			6	0.51	0.054	0.106	0.916	0.40	0.61
			7	0.49	0.054	-0.225	0.822	0.38	0.59
			8	0.51	0.055	0.107	0.915	0.40	0.61
			9	0.48	0.055	-0.447	0.655	0.37	0.58
			10	0.47	0.055	-0.560	0.575	0.36	0.58
			11	0.46	0.056	-0.675	0.500	0.35	0.57
			12	0.51	0.056	0.114	0.909	0.40	0.62

INFLATION OF CPI SUB-INDEX "OTHER SERVICES" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.60	0.060	0.102	0.48	0.72	
		2	0.64	0.059	0.023	0.52	0.76	
		3	0.56	0.061	0.359	0.44	0.68	
		4	0.51	0.062	0.929	0.38	0.63	
		5	0.51	0.063	0.853	0.39	0.63	
		6	0.58	0.062	0.223	0.45	0.70	
		7	0.50	0.063	1.000	0.38	0.62	
		8	0.51	0.064	0.927	0.38	0.63	
		9	0.55	0.064	0.447	0.42	0.67	
		10	0.53	0.064	0.633	0.40	0.66	
		11	0.51	0.065	0.847	0.39	0.64	
		12	0.51	0.065	0.922	0.38	0.63	
Variable 2	N=2	ROC Curve	1	0.67	0.058	0.006	0.55	0.78
			2	0.66	0.058	0.008	0.55	0.78
			3	0.70	0.056	0.001	0.59	0.82
			4	0.59	0.061	0.165	0.47	0.71
			5	0.52	0.063	0.717	0.40	0.65
			6	0.52	0.063	0.772	0.39	0.64
			7	0.53	0.063	0.694	0.40	0.65
			8	0.51	0.064	0.917	0.38	0.63
			9	0.54	0.064	0.571	0.41	0.66
			10	0.57	0.064	0.294	0.44	0.69
			11	0.55	0.065	0.441	0.42	0.68
			12	0.51	0.065	0.926	0.38	0.63
	N=3	ROC Curve	1	0.64	0.059	0.018	0.53	0.76
			2	0.62	0.060	0.056	0.50	0.74
			3	0.66	0.059	0.010	0.54	0.77
			4	0.61	0.061	0.082	0.49	0.73
			5	0.52	0.063	0.729	0.40	0.64
			6	0.52	0.063	0.792	0.39	0.64
			7	0.53	0.063	0.694	0.40	0.65
			8	0.52	0.064	0.785	0.39	0.64
			9	0.51	0.064	0.846	0.39	0.64
			10	0.54	0.064	0.502	0.42	0.67
			11	0.58	0.064	0.248	0.45	0.70
			12	0.51	0.065	0.922	0.38	0.63
	N=4	ROC Curve	1	0.66	0.058	0.011	0.54	0.77
			2	0.63	0.059	0.036	0.51	0.75
			3	0.67	0.058	0.006	0.56	0.78
			4	0.64	0.060	0.022	0.53	0.76
			5	0.56	0.062	0.362	0.44	0.68
			6	0.51	0.063	0.933	0.38	0.63
			7	0.51	0.063	0.844	0.39	0.64
			8	0.51	0.064	0.927	0.38	0.63
			9	0.52	0.064	0.704	0.40	0.65
			10	0.53	0.064	0.633	0.40	0.66
			11	0.54	0.065	0.564	0.41	0.66
			12	0.51	0.065	0.926	0.38	0.63

Table 16 - Statistical Tests that Evaluate the Predictive Power of the Consumers' Inflation Expectations Indicator over Annual Inflation of the CPI Sub-Index "Housing"

INFLATION OF CPI SUB-INDEX "HOUSING" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Binomial	1	0.50	0.053	0.000	1.000	0.40	0.60	
		2	0.56	0.053	1.166	0.244	0.46	0.66	
		3	0.57	0.053	1.279	0.201	0.46	0.67	
		4	0.47	0.054	-0.536	0.592	0.37	0.58	
		5	0.49	0.054	-0.216	0.829	0.38	0.59	
		6	0.49	0.054	-0.108	0.914	0.39	0.60	
		7	0.51	0.055	0.218	0.827	0.41	0.62	
		8	0.52	0.055	0.329	0.742	0.41	0.63	
		9	0.49	0.055	-0.221	0.825	0.38	0.60	
		10	0.54	0.056	0.778	0.437	0.43	0.65	
		11	0.53	0.056	0.447	0.655	0.42	0.63	
		12	0.54	0.056	0.788	0.431	0.43	0.65	
Variable 2	N=2	Binomial	1	0.50	0.053	0.000	1.000	0.40	0.60
			2	0.49	0.053	-0.106	0.916	0.39	0.60
			3	0.52	0.053	0.426	0.670	0.42	0.63
			4	0.52	0.054	0.322	0.748	0.41	0.62
			5	0.47	0.054	-0.647	0.518	0.36	0.57
			6	0.45	0.054	-0.976	0.329	0.34	0.55
			7	0.46	0.055	-0.655	0.513	0.36	0.57
			8	0.52	0.055	0.329	0.742	0.41	0.63
			9	0.50	0.055	0.000	1.000	0.39	0.61
			10	0.53	0.056	0.556	0.579	0.42	0.64
			11	0.51	0.056	0.224	0.823	0.40	0.62
			12	0.49	0.056	-0.113	0.910	0.38	0.60
	N=3	Binomial	1	0.51	0.053	0.211	0.833	0.41	0.61
			2	0.53	0.053	0.530	0.596	0.42	0.63
			3	0.51	0.053	0.213	0.831	0.41	0.62
			4	0.46	0.054	-0.750	0.453	0.36	0.56
			5	0.48	0.054	-0.431	0.666	0.37	0.58
			6	0.48	0.054	-0.325	0.745	0.38	0.59
			7	0.45	0.055	-0.873	0.383	0.35	0.56
			8	0.53	0.055	0.549	0.583	0.42	0.64
			9	0.49	0.055	-0.221	0.825	0.38	0.60
			10	0.54	0.056	0.778	0.437	0.43	0.65
			11	0.58	0.056	1.342	0.180	0.47	0.68
			12	0.51	0.056	0.113	0.910	0.40	0.62
	N=4	Binomial	1	0.49	0.053	-0.211	0.833	0.39	0.59
			2	0.53	0.053	0.530	0.596	0.42	0.63
			3	0.51	0.053	0.213	0.831	0.41	0.62
			4	0.48	0.054	-0.322	0.748	0.38	0.59
			5	0.48	0.054	-0.431	0.666	0.37	0.58
			6	0.51	0.054	0.108	0.914	0.40	0.61
			7	0.50	0.055	0.000	1.000	0.39	0.61
			8	0.51	0.055	0.110	0.913	0.40	0.61
			9	0.46	0.055	-0.663	0.508	0.36	0.57
			10	0.49	0.056	-0.111	0.912	0.38	0.60
			11	0.53	0.056	0.447	0.655	0.42	0.63
			12	0.51	0.056	0.113	0.910	0.40	0.62

INFLATION OF CPI SUB-INDEX "HOUSING" VS. INFLATION EXPECTATIONS INDICATOR							95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Predictive power (proportion of successes)	Standard Error	Test Statistic	P-value	Lower Limit	Upper Limit	
Variable 1	Pesaran- Timmermann	1	0.50	0.052	-0.018	0.985	0.40	0.60	
		2	0.56	0.053	1.160	0.246	0.46	0.66	
		3	0.57	0.053	1.270	0.204	0.46	0.67	
		4	0.47	0.053	-0.554	0.580	0.37	0.58	
		5	0.49	0.054	-0.227	0.821	0.38	0.59	
		6	0.49	0.054	-0.124	0.902	0.39	0.60	
		7	0.51	0.054	0.210	0.833	0.41	0.62	
		8	0.52	0.054	0.317	0.751	0.41	0.62	
		9	0.49	0.055	-0.242	0.809	0.38	0.60	
		10	0.54	0.055	0.760	0.447	0.44	0.65	
		11	0.53	0.055	0.422	0.673	0.42	0.63	
		12	0.54	0.056	0.762	0.446	0.44	0.65	
Variable 2	N=2	Pesaran- Timmermann	1	0.50	0.052	-0.014	0.989	0.40	0.60
			2	0.49	0.053	-0.117	0.907	0.39	0.60
			3	0.52	0.053	0.415	0.678	0.42	0.63
			4	0.52	0.053	0.313	0.754	0.41	0.62
			5	0.47	0.054	-0.658	0.510	0.36	0.57
			6	0.45	0.054	-0.994	0.320	0.34	0.55
			7	0.46	0.054	-0.666	0.505	0.36	0.57
			8	0.52	0.054	0.321	0.748	0.41	0.62
			9	0.50	0.055	-0.015	0.988	0.39	0.61
			10	0.53	0.055	0.542	0.588	0.42	0.64
			11	0.51	0.055	0.203	0.839	0.40	0.62
			12	0.49	0.056	-0.140	0.889	0.38	0.60
	N=3	Pesaran- Timmermann	1	0.51	0.052	0.171	0.864	0.41	0.61
			2	0.53	0.052	0.504	0.614	0.43	0.63
			3	0.51	0.053	0.173	0.863	0.41	0.61
			4	0.46	0.053	-0.791	0.429	0.36	0.56
			5	0.48	0.053	-0.458	0.647	0.37	0.58
			6	0.48	0.054	-0.362	0.718	0.38	0.59
			7	0.45	0.054	-0.905	0.366	0.35	0.56
			8	0.53	0.054	0.522	0.601	0.42	0.64
			9	0.49	0.055	-0.268	0.789	0.38	0.59
			10	0.54	0.055	0.732	0.464	0.44	0.65
			11	0.58	0.055	1.293	0.196	0.47	0.68
			12	0.51	0.055	0.035	0.972	0.40	0.61
	N=4	Pesaran- Timmermann	1	0.49	0.052	-0.236	0.814	0.39	0.59
			2	0.53	0.053	0.517	0.606	0.43	0.63
			3	0.51	0.053	0.191	0.848	0.41	0.61
			4	0.48	0.053	-0.342	0.732	0.38	0.59
			5	0.48	0.054	-0.447	0.655	0.37	0.58
			6	0.51	0.054	0.091	0.927	0.40	0.61
			7	0.50	0.054	-0.012	0.990	0.39	0.61
			8	0.51	0.054	0.092	0.926	0.40	0.61
			9	0.46	0.055	-0.693	0.488	0.36	0.57
			10	0.49	0.055	-0.143	0.886	0.39	0.60
			11	0.53	0.055	0.415	0.678	0.42	0.63
			12	0.51	0.056	0.070	0.944	0.40	0.62

INFLATION OF CPI SUB-INDEX "HOUSING" VS. INFLATION EXPECTATIONS INDICATOR						95% Confidence Interval		
VARIABLE OF CHANGE IN INFLATION	STATISTICAL TEST	Horizon (months)	Area Under the Curve	Standard Error	P-value	Lower Limit	Upper Limit	
Variable 1	ROC Curve	1	0.50	0.061	0.994	0.38	0.62	
		2	0.56	0.061	0.317	0.44	0.68	
		3	0.57	0.061	0.271	0.45	0.69	
		4	0.53	0.062	0.647	0.41	0.65	
		5	0.51	0.063	0.856	0.39	0.63	
		6	0.51	0.063	0.933	0.38	0.63	
		7	0.51	0.063	0.844	0.39	0.64	
		8	0.52	0.064	0.763	0.39	0.64	
		9	0.51	0.064	0.864	0.39	0.64	
		10	0.55	0.064	0.484	0.42	0.67	
		11	0.53	0.065	0.668	0.40	0.66	
		12	0.55	0.065	0.470	0.42	0.68	
Variable 2	N=2	ROC Curve	1	0.50	0.061	0.994	0.38	0.62
			2	0.51	0.062	0.925	0.39	0.63
			3	0.52	0.062	0.713	0.40	0.64
			4	0.52	0.062	0.779	0.40	0.64
			5	0.53	0.062	0.580	0.41	0.66
			6	0.55	0.063	0.406	0.43	0.68
			7	0.54	0.063	0.579	0.41	0.66
			8	0.52	0.064	0.763	0.39	0.64
			9	0.50	0.064	0.978	0.38	0.63
			10	0.53	0.065	0.602	0.41	0.66
			11	0.52	0.065	0.801	0.39	0.64
			12	0.50	0.066	0.984	0.37	0.63
	N=3	ROC Curve	1	0.51	0.061	0.881	0.39	0.63
			2	0.53	0.062	0.663	0.41	0.65
			3	0.51	0.062	0.874	0.39	0.63
			4	0.54	0.062	0.507	0.42	0.66
			5	0.52	0.063	0.704	0.40	0.65
			6	0.52	0.063	0.772	0.39	0.64
			7	0.55	0.063	0.450	0.42	0.67
			8	0.53	0.064	0.639	0.41	0.65
			9	0.51	0.064	0.849	0.39	0.64
			10	0.54	0.064	0.499	0.42	0.67
			11	0.58	0.064	0.242	0.45	0.70
			12	0.51	0.065	0.902	0.38	0.64
	N=4	ROC Curve	1	0.51	0.061	0.843	0.39	0.63
			2	0.53	0.061	0.655	0.41	0.65
			3	0.51	0.062	0.861	0.39	0.63
			4	0.52	0.062	0.779	0.40	0.64
			5	0.52	0.063	0.710	0.40	0.65
			6	0.51	0.063	0.923	0.38	0.63
			7	0.50	0.063	0.996	0.38	0.62
			8	0.51	0.064	0.917	0.38	0.63
			9	0.54	0.064	0.581	0.41	0.66
			10	0.50	0.065	0.947	0.38	0.63
			11	0.53	0.065	0.668	0.40	0.66
			12	0.51	0.066	0.875	0.38	0.64

**Table 17 – Statistical Analysis of Change in Consumers’ 1-Year-Ahead Inflation Expectations
under Shocks to Annual Headline and Core Inflation**

ANALYSIS OF SHOCKS TO ANNUAL HEADLINE INFLATION							
Dependent variable	Threshold	R Squared	Covariates	Parameter Estimate	Standard Error	Test Statistic	P-value
Diffusion Index (DI)	1	0.58	Intercept	25.919	6.827	3.796	0.000
			Dummy_negative_shock	0.138	0.362	0.383	0.703
			Dummy_positive_shock	0.685	0.393	1.744	0.085
			DI lag	0.713	0.075	9.514	0.000
	2	0.61	Intercept	35.023	7.148	4.900	0.000
			Dummy_negative_shock	-1.685	0.511	-3.298	0.001
			Dummy_positive_shock	0.219	0.392	0.559	0.578
			DI lag	0.617	0.078	7.874	0.000
	3	0.58	Intercept	27.058	6.846	3.952	0.000
			Dummy_negative_shock	-1.390	0.787	-1.766	0.081
			Dummy_positive_shock	0.108	0.523	0.207	0.837
			DI lag	0.703	0.075	9.358	0.000
Increase	1	0.66	Intercept	18.939	5.773	3.281	0.001
			Dummy_negative_shock	0.201	0.512	0.392	0.696
			Dummy_positive_shock	0.837	0.565	1.480	0.142
			DI lag	0.776	0.067	11.530	0.000
	2	0.68	Intercept	25.592	6.135	4.171	0.000
			Dummy_negative_shock	-2.064	0.734	-2.812	0.006
			Dummy_positive_shock	0.260	0.568	0.457	0.648
			DI lag	0.704	0.071	9.877	0.000
	3	0.66	Intercept	19.193	5.857	3.277	0.002
			Dummy_negative_shock	-1.662	1.123	-1.481	0.142
			Dummy_positive_shock	-0.216	0.752	-0.287	0.775
			DI lag	0.777	0.068	11.397	0.000
Decrease	1	0.31	Intercept	2.007	0.377	5.329	0.000
			Dummy_negative_shock	0.028	0.278	0.100	0.921
			Dummy_positive_shock	-0.452	0.290	-1.560	0.122
			DI lag	0.490	0.094	5.233	0.000
	2	0.36	Intercept	2.052	0.358	5.727	0.000
			Dummy_negative_shock	1.178	0.366	3.221	0.002
			Dummy_positive_shock	-0.096	0.291	-0.329	0.743
			DI lag	0.413	0.092	4.494	0.000
	3	0.31	Intercept	1.917	0.354	5.414	0.000
			Dummy_negative_shock	1.069	0.576	1.855	0.067
			Dummy_positive_shock	-0.303	0.385	-0.788	0.433
			DI lag	0.479	0.091	5.277	0.000
Stay about the same	1	0.68	Intercept	2.208	0.754	2.927	0.004
			Dummy_negative_shock	-0.014	0.407	-0.035	0.972
			Dummy_positive_shock	-0.408	0.455	-0.897	0.372
			DI lag	0.799	0.064	12.469	0.000
	2	0.69	Intercept	2.412	0.729	3.310	0.001
			Dummy_negative_shock	1.095	0.578	1.893	0.062
			Dummy_positive_shock	-0.213	0.460	-0.464	0.644
			DI lag	0.760	0.067	11.292	0.000
	3	0.68	Intercept	1.842	0.713	2.584	0.011
			Dummy_negative_shock	0.910	0.884	1.029	0.306
			Dummy_positive_shock	0.516	0.603	0.856	0.394
			DI lag	0.815	0.065	12.498	0.000

ANALYSIS OF SHOCKS TO CORE INFLATION							
Dependent variable	Threshold	R Squared	Covariates	Parameter Estimate	Standard Error	Test Statistic	P-value
Diffusion Index (DI)	1	0.63	Intercept	40.274	7.498	5.372	0.000
			Dummy_negative_shock	-1.374	0.397	-3.458	0.001
			Dummy_positive_shock	0.412	0.374	1.103	0.273
			DI lag	0.561	0.082	6.849	0.000
	2	0.62	Intercept	35.719	7.124	5.014	0.000
			Dummy_negative_shock	-1.856	0.503	-3.692	0.000
			Dummy_positive_shock	0.145	0.411	0.351	0.726
			DI lag	0.610	0.078	7.807	0.000
	3	0.58	Intercept	23.234	6.539	3.553	0.001
			Dummy_negative_shock	-2.458	1.462	-1.680	0.096
			Dummy_positive_shock	0.174	0.467	0.373	0.710
			DI lag	0.745	0.072	10.349	0.000
Increase	1	0.69	Intercept	28.787	6.348	4.535	0.000
			Dummy_negative_shock	-1.610	0.562	-2.867	0.005
			Dummy_positive_shock	0.564	0.545	1.034	0.304
			DI lag	0.668	0.073	9.110	0.000
	2	0.69	Intercept	26.194	5.988	4.374	0.000
			Dummy_negative_shock	-2.521	0.706	-3.572	0.001
			Dummy_positive_shock	0.020	0.591	0.034	0.973
			DI lag	0.698	0.070	10.025	0.000
	3	0.66	Intercept	17.111	5.536	3.091	0.003
			Dummy_negative_shock	-3.760	2.074	-1.812	0.073
			Dummy_positive_shock	0.174	0.665	0.261	0.794
			DI lag	0.801	0.065	12.371	0.000
Decrease	1	0.39	Intercept	2.197	0.357	6.153	0.000
			Dummy_negative_shock	1.047	0.287	3.641	0.000
			Dummy_positive_shock	-0.128	0.276	-0.464	0.644
			DI lag	0.338	0.096	3.525	0.001
	2	0.35	Intercept	2.115	0.364	5.808	0.000
			Dummy_negative_shock	1.144	0.376	3.043	0.003
			Dummy_positive_shock	-0.139	0.307	-0.453	0.652
			DI lag	0.399	0.095	4.209	0.000
	3	0.29	Intercept	1.775	0.365	4.863	0.000
			Dummy_negative_shock	1.023	1.119	0.914	0.363
			Dummy_positive_shock	-0.151	0.349	-0.433	0.666
			DI lag	0.524	0.091	5.786	0.000
Stay about the same	1	0.69	Intercept	2.540	0.725	3.503	0.001
			Dummy_negative_shock	0.844	0.431	1.957	0.054
			Dummy_positive_shock	-0.404	0.445	-0.909	0.366
			DI lag	0.743	0.067	11.038	0.000
	2	0.70	Intercept	2.336	0.709	3.296	0.001
			Dummy_negative_shock	1.693	0.547	3.097	0.003
			Dummy_positive_shock	0.097	0.475	0.204	0.839
			DI lag	0.755	0.065	11.661	0.000
	3	0.68	Intercept	1.952	0.698	2.795	0.006
			Dummy_negative_shock	2.532	1.661	1.524	0.131
			Dummy_positive_shock	-0.169	0.531	-0.318	0.751
			DI lag	0.812	0.062	13.008	0.000

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