

Consumer inflation expectations in Mexico: Preliminary findings

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Introduction

- Bank of Mexico is currently developing a consumer inflation expectations survey.
- Following results come from large scale field test:
 - implemented between June and July 2023
 - non-probabilistic design
 - 1,872 households in all 32 federal entities
 - included both rural and urban areas
 - for each visited household, a member was randomly selected from the list of individuals 18 years of age or older.

Testing consistency

- We compare 1-year-ahead inflation (1YIE) expectations using two different format questions.
 - **Point estimate question**
 - Single question to obtain expectations represented by a single number.
 - **Subjective probability questions**
 - Set of questions to obtain subjective probability distribution, and, specifically, the density mean.

Differences in point estimate and density means

- For 1YIE, the median point forecast was 6%, whereas the median of individual density means was 5%. Tests show that they are statistically different.
- Predetermined bins in the answer options for the subjective probability question seem to have influenced the results.

Coverage of predetermined bins must be wide

- In subjective probability questions, the lowest and highest bins are open-ended, and therefore cover all real numbers.
- However, the selection of these cut-off points may be relevant:
 - In our large-scale survey, the lowest bin was $(-\infty, 0\%)$ and highest bin was $(10.1\%, \infty)$.
 - These bins were in line with historical levels of inflation since Mexico adopted inflation targeting (2.13 - 8.70%).
- In a another field test, we set up predetermined bins from $(-\infty, 0\%)$ up to $(24.1\%, \infty)$, in 2pp increments. Moreover, if the respondent picked the highest bin, then more bins were provided to cover from $(24.1\%, 29.0\%)$ up to $(69.1\%, \infty)$ in 5 pp increments.
- In this other field test, consistency between point estimates and density means was higher.

Table 2. OLS regression of the absolute difference between point estimates and density means for 1-year inflation expectations

	All		Without highest bin	
	(1) Diff.	(2) Diff.	(3) Diff.	(4) Diff.
Women	7.01***	6.60***	4.40***	3.94**
Years of schooling	-0.50*	-0.46*	-0.56**	-0.56**
Can calculate percentages correctly		-5.51***		-5.86***
Knows the definition of inflation		1.43		4.81*
Does the shopping		0.65		0.52
Number of plans for durable purchases in the following year		0.96*		0.78
Constant	13.80	13.09	17.19**	14.73
Observations	901	901	748	748
R ²	0.116	0.132	0.119	0.139

*p<.1 **p<0.05 ***p<0.01

Source: Own elaboration with data from Banco de México. Note: We also control for age, years of schooling, and for dummies for head of household, married, rural, and working, and socioeconomic level. Federal entity fixed effects. Columns 1 and 2 include the whole sample. Columns 3 and 4 limit the sample to individuals who did not use the highest bin.

Figure 1. Histogram of point estimates and density means (N=904)

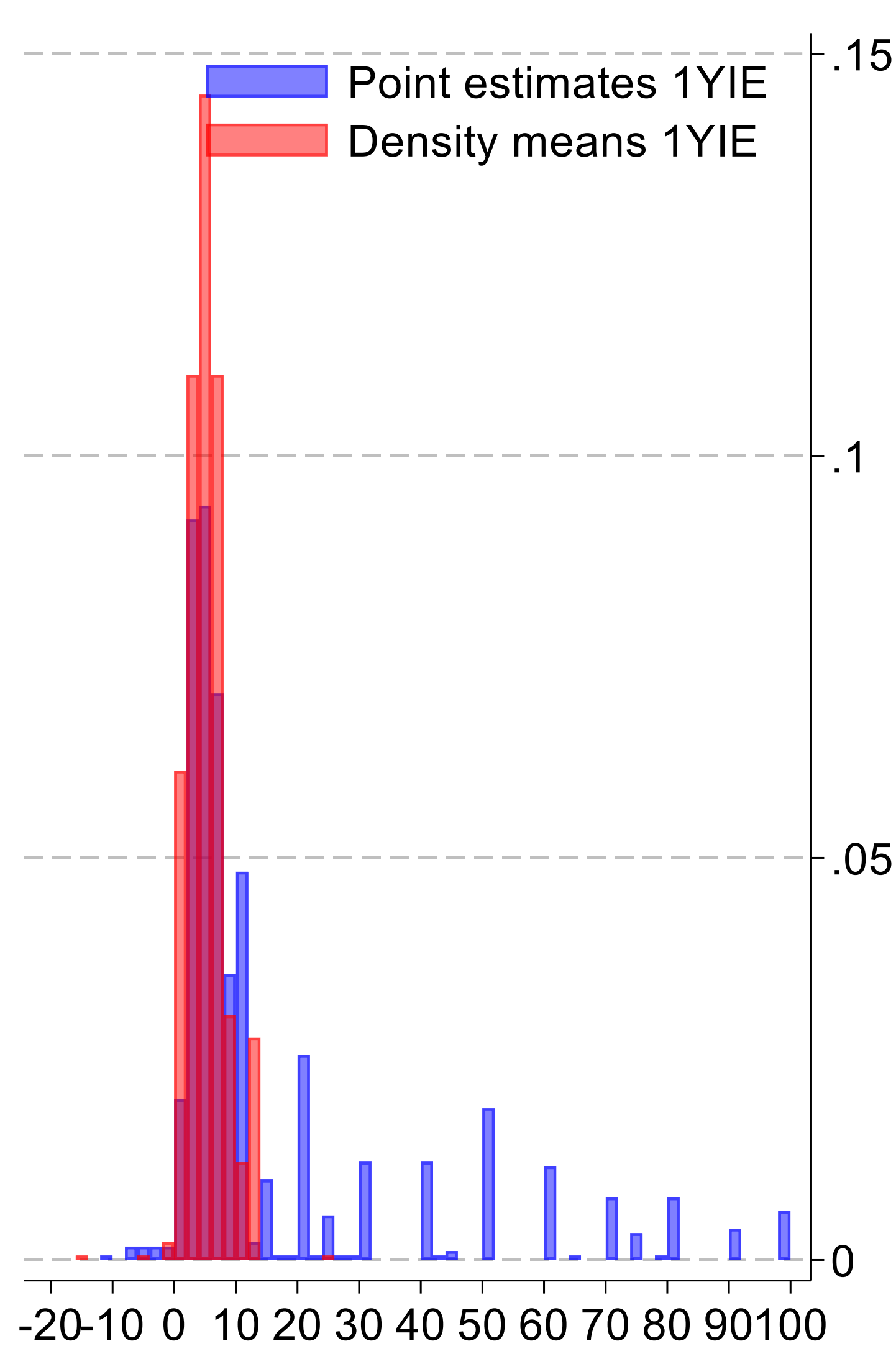


Figure 2. Scatter of point estimates and density means (1YIE) for different ranges of the density question

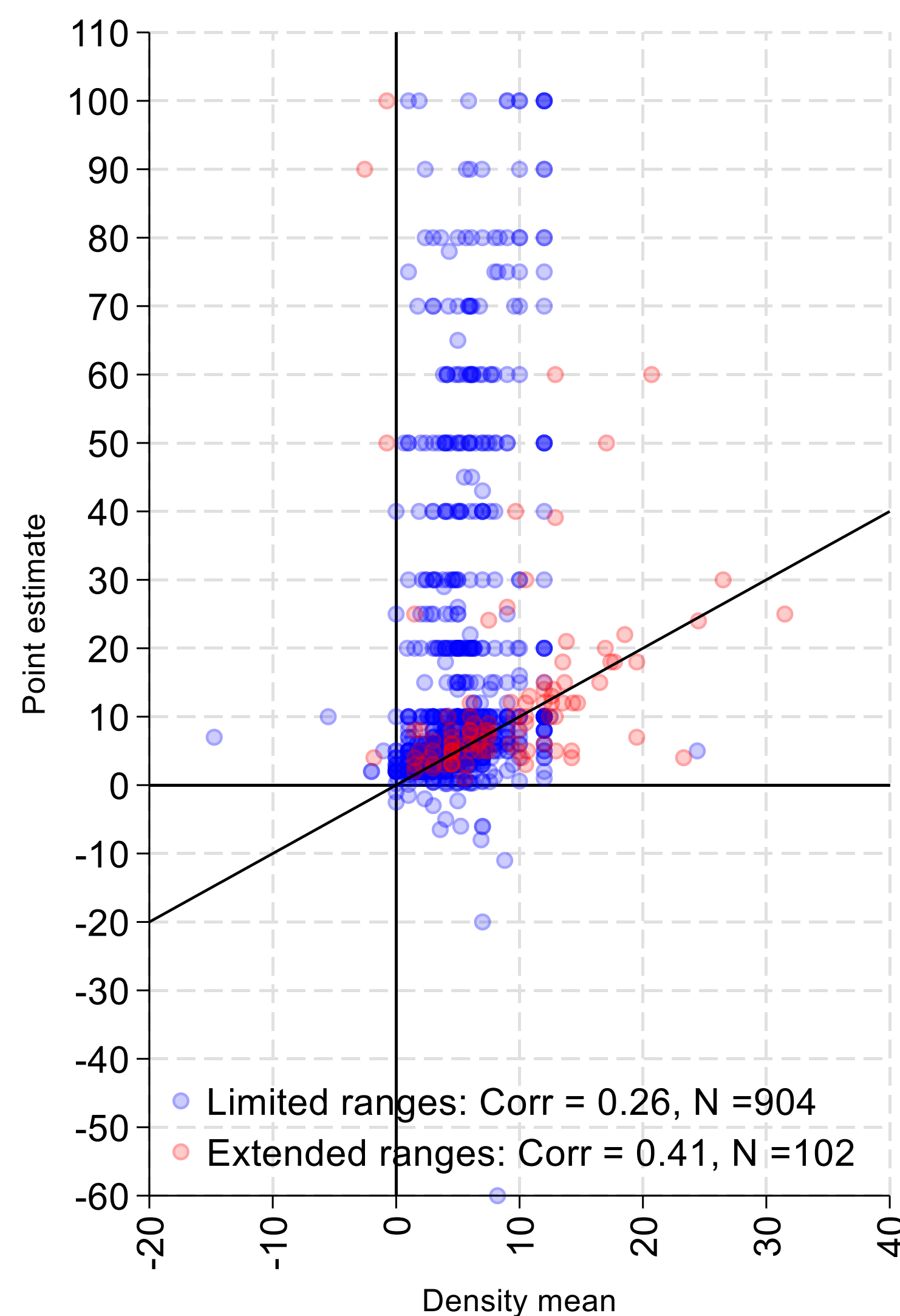


Table 1. Large Pilot Survey Summary Statistics

	Mean	Min	Max
Age	45.6	18	98+
Monthly income	9,401.38 (~531 USD)	0	240,000 (~13,568 USD)
Years of schooling	10.41	0	21
Can calculate % correctly	0.75	0	1
Knows def. of inflation	0.93	0	1
Does the shopping	0.51	0	1
# planned durable purchases	0.36	0	7

Table 3. OLS regression of inflation expectation density means

	Base specification	(1) + Knowledge and behavior vars.	(2) + Labor outcomes
	(1)	(2)	(3)
Women	0.84***	0.74***	0.81***
Age	0.03***	0.03***	0.04***
Does the shopping		0.10	0.33
Observations	988	988	691
R ²	0.095	0.099	0.129

*p<0.1 **p<0.05 ***p<0.01

Source: Own elaboration with data from Banco de México. Note: We also control for age, and for dummies for head of household, married, rural, and working, and socioeconomic level, but none of these variables are significant. Federal entity fixed effects. Column 1 includes only sociodemographic variables. Column 2 adds variables on knowledge of percentages and the definition of inflation, shopping behavior and consumption plans. Column 3 also adds indicator variables for formal employment, position at the job and a variable for monthly wages.

Conclusions

- Using limited ranges when asking people for their subjective distribution may result in greater inconsistencies within answers by the same individual.
- Gender, age, education and mathematical ability are important variables for explaining the difference between point estimates and density means, even after taking into account the effect of limited ranges.
- Gender and age are important variables for explaining inflation expectations in Mexico. Contrary to some hypotheses in the literature, controlling for shopping behavior does not account for the gender gap.

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Disclaimers

The views expressed in this paper are those of the authors and do not necessarily reflect the position of the Bank of Mexico.