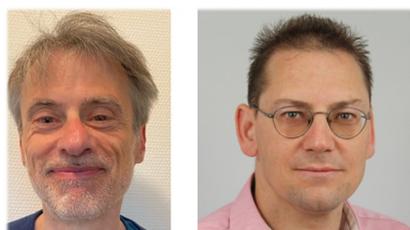


## How well are consumers' inflation expectations anchored to the ECB's inflation aim?



By Gabriele Galati, Richhild Moessner and Maarten van Rooij\*

*Keywords: Inflation expectations.*

*With euro area HICP inflation and professionals' long-term inflation expectations persistently below the ECB's inflation aim, a key question for the ECB is whether long-term inflation expectations have de-anchored. While these concerns rely on evidence about expectations of financial markets participants and professional forecasters, little is known about the anchoring of firms' and households' expectations. Using data from a satellite survey of the DNB Household Survey, we show that long-term expectations held by Dutch households are not well anchored at the ECB's inflation aim. Importantly, unlike market participants and professional forecasters, Dutch households appear to be concerned about higher, not lower inflation (or deflation), in the euro area in the long-run.*

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The Covid-19 pandemic caused a sharp contraction in global activity and a marked decline in inflation, in some instances even into negative territory. Especially in this environment, the effectiveness of monetary policy depends on inflation expectations being well-anchored to the central bank's inflation aim. Inflation expectations are also playing a key role in the ongoing debate on monetary frameworks.<sup>1</sup>

Most of the evidence on inflation expectations is based on measures of expectations by market participants and professional forecasters. The policy debate has however increasingly turned its focus on the anchoring of expectations held by households and firms, given that next to financial markets and professional forecasters, they play an important role in the monetary transmission mechanism as well.<sup>2</sup> Moreover, a growing research literature has examined the dynamics and drivers of inflation expectations by households and firms, particularly since the seminal work by Coibion and Gorodnichenko (2015).

However, there is still very little evidence on the anchoring of consumers' long-term inflation expectations, particularly in the euro area. The main reason is that most available surveys of households provide information only on short-term inflation expectations, while long-term expectations are crucial for anchoring.

A satellite survey conducted by the DNB in the context of the Dutch Household Survey (DHS) contributes to filling this information gap. For this survey, around 2500 households answered questions about the levels and probability distributions of their short- and long-term inflation expectations for the Netherlands and the euro area. The survey allows gauging the effects of consumers' characteristics – such as gender, education, age and income – on their long-term inflation expectations.

Survey participants were randomly assigned to four different groups. Half of the participants were asked questions about their expectations of HICP inflation in the euro area, while the other half were asked the same questions for HICP inflation in the Netherlands. For each of these two groups, half of the respondents were provided with information about actual inflation (in the euro area and in the Netherlands, respectively) and the ECB's price stability aim.

The results of the survey – which was conducted in December 2019 – highlight that median long-term inflation expectations of Dutch households are 4%, 2 percentage points (pp) above the ECB's inflation aim (Table 1).<sup>3</sup> If we consider a measure of the anchoring of inflation expectations in terms of “level anchoring”, Dutch households' long-term inflation expectations are not well anchored to the ECB's inflation aim.<sup>4</sup>

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<sup>1</sup> A discussion of the role of inflation expectations in the Fed's monetary strategy can be found in Powell and Wessel (2020).

<sup>2</sup> See for example Cœuré (2019), Villeroy de Galhau (2019), Weidmann (2019).

<sup>3</sup> Galati, Moessner and Van Rooij (2020) analyse the responses to this survey and report more detailed results. Galati, Moessner and Van Rooij (2021) investigate the anchoring of Dutch households' inflation expectations during the Covid-19 pandemic.

<sup>4</sup> Ball and Mazumber (2011) describe level anchoring as long-term inflation expectations being tied to a particular level of inflation.

**Table 1:** Mean and median of inflation expectations by consumers

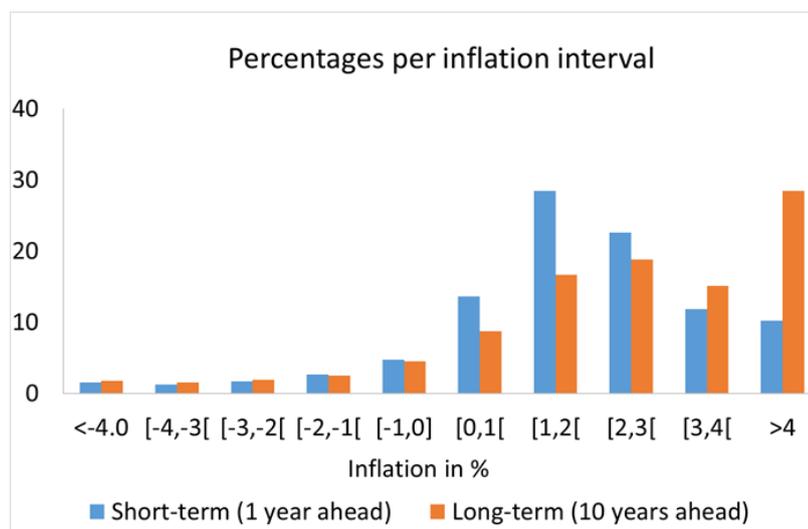
Group	Short-term			Long-term		
	obs.	Mean	Median	obs.	Mean	Median
NL, no info	648	3.97%	2%	634	10.56%	5%
NL, with info	636	3.57%	2%	616	9.74%	4%
Euro area, no info	628	4.31%	2%	608	11.26%	5%
Euro area, with info	672	3.36%	1.95%	645	9.90%	4%
All respondents	2584	3.80%	2%	2503	10.36%	4%

Note: This table shows the cross-sectional mean and median of short-term (1 year ahead) and long-term (10 years ahead) point inflation expectations for the whole sample and across subgroups.

There is also evidence of high disagreement among respondents, as indicated by a high interquartile range (8 pp) of long-term inflation expectations. Moreover, Dutch households tend to be more concerned about risks of higher rather than lower inflation in the long run. This is evident from mean long-term inflation expectations being higher than median expectations, reflecting a positively skewed distribution of inflation expectations.

Importantly, long-term inflation expectations remain significantly above 2% even for survey participants that receive information about actual inflation and the ECB's inflation aim (Table 1). Compared to those participants that do not receive this information, median long-term inflation expectations are 1pp lower (4% rather than 5%). As a result of the large cross-sectional variation the difference in mean long-term inflation expectations is statistically insignificant, while the difference in median long-term inflation expectations is statistically significant.

Using again the concept of level anchoring, the aggregate probability distributions of long-term inflation expectations provide further evidence that Dutch households' long-term inflation expectations are not firmly anchored to the ECB's inflation aim. The probability of future euro area inflation being in a range that is consistent with the ECB's inflation aim, here assumed to be between 1% and 3%, is relatively low at 35% on average (Figure 1). Inflation rates which are more clearly (2pp or more) above the ECB's inflation aim have a much higher probability, at 28% on average, than those of much lower inflation (2pp or more below the ECB's inflation aim, i.e. of deflation), at 12%.

**Figure 1:** Average of consumers' probability distributions of expected euro area inflation

This provides further evidence that the de-anchoring of long-term consumers' inflation expectations is mainly due to expected higher inflation, rather than to expected lower inflation (or deflation). This contrasts with recent concerns about a possible de-anchoring of long-term inflation expectations on the downside, rather than on the upside.

Finally, we find that socio-economic factors can influence consumers' inflation expectations. Long-term inflation expectations are better anchored for men, for older age, for higher education levels and for higher net household income. In other words, older, male, higher educated and higher income respondents report higher expected probabilities of the long-term of inflation being close to the ECB's inflation aim, and lower probabilities of inflation being far above or below the ECB's inflation aim. ■

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