

# Central Bank Communication on Inflation Target: The Value of Public Information under Unknown Priors\*

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**January 29, 2018 (Preliminary)**

## Abstract

When a central bank is committed to its inflation target, agents should interpret the commitment as a precise public signal about long-run inflation expectations. Bayes' rule then implies that the signal plays a dominant role in the formation process of long-run inflation expectations, in particular, of the agents with less precise private signals, and thus anchors the expectations well. By contrast, empirical evidence, including additional evidence provided by this paper, shows that long-run inflation expectations, particularly those of agents seemingly with less precise private signals are sensitive to fluctuating inflation rates (unstable) and are highly dispersed (heterogeneous). To fill in the gap, we develop a dynamic model of expectations formation in which Bayesian agents receive public signals from a central bank. In the model, the bank's prior belief is unknown for the agents, and they speculate the prior using their own information sets. Using the model, we analytically show that, even when a central bank sends precise public signals, communication with unknown prior results in that expectations of the agents with less precise private signals exhibit more instability and more heterogeneity.

JEL Classification: E50, D83, D84, D82

Keywords: Inflation expectations, anchoring, communication, unknown priors.

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\*Views expressed in this paper are those of the authors and do not necessarily reflect the official views of the Bank of Japan.

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