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Lukas Heim

# Inflation versus Price-Level Targeting

## Bayesian Estimation of a Small Open DSGE Model for Switzerland

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With a foreword by Prof. Dr. Luca Benati

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Lukas Heim
Luzern, Switzerland

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*For Mami and Paps.*

# Foreword

Following the recent financial crisis, academics and policymakers have been engaged in a wide-ranging reappraisal of the pros and cons of alternative monetary regimes and monetary policy instruments. The crisis highlighted two key issues which, before 2007-2008, had received scant attention: first, the role played by asset price bubbles in macroeconomic fluctuations; second, the fact that the probability of hitting the zero lower bound (ZLB) is significantly greater than previously thought.

As for the former issue, the professionals' response has been to augment the toolkit of monetary policy instruments with so-called 'macroprudential policies' (e.g., limits to the size of a real estate loan compared to the price of the house which is being bought, or the income of the borrower). By surgically targeting disequilibria in specific asset markets' segments, these (yet untested) instruments promise, in principle, to take away the froth from that particular segment without the deleterious, economy-wide recessionary side-effects which would result from an interest rate hike.

As for the ZLB, research has focused on several alternative 'lines of attack'. In particular, on the one hand, there has been an intensive research effort aimed at identifying which policies (quantitative easing, 'forward guidance', etc.) can jolt the economy out of the recession once the ZLB has been reached, so that standard monetary policy has all but lost its effectiveness. A second group of contributions has instead explored alternative ways of 'hardwiring' into the system a set of self-stabilizing expectations, in order to make the economy more resilient in the face of shocks which push it to the ZLB, and to make it easier, for policymakers, to push it out of that state once it has been reached. Under this respect, the fundamental theoretical contributions of Krugman (1998), and of

Eggertson and Woodford (2003), have highlighted how a comparatively simple (at least, in principle) solution to the problem posed by the ZLB would be to create inflationary expectations in that state of the world. The rationale behind this proposal is straightforward: given that, by definition, at the ZLB the short-term interest rate is stuck at zero - so that, different from the 'normal state of affairs', it does not react to macroeconomic developments (in particular, it does not react to fluctuations in either inflation or inflationary expectations) - any change in expected inflation maps, one-for-one, into a corresponding change in the opposite direction in the real ex ante interest rate. This automatically implies that an increase in expected inflation causes a corresponding decrease in the real ex ante interest rate, thus stimulating demand and pushing the economy out of the recession. Eggertson and Woodford (2003) have shown that the optimal policy, which takes an extremely convoluted and non-transparent form, can be well-approximated, to a quite remarkable extent, by a simple price-level targeting rule. The reason for this is, once again, straightforward: if the central bank commits to keeping the price level constant, this logically implies that deflation today ought to be followed by inflation tomorrow, simply because any price decline has to be followed by a corresponding and identical price increase, in order to bring prices to their original level. This implies that - if the price level targeting policy is credible - the deflation associated with the recessionary shock which pushed the economy down to the ZLB automatically creates inflationary expectations, thus introducing into the economy an automatic stabilizer of aggregate demand. As discussed by Eggertson and Woodford (2003), a simple price-level targeting rule presents two fundamental advantages compared to the optimal policy. First, as previously mentioned, it is much easier in terms of formulation, and it can therefore be easily communicated to the public. Second, because of this, it is comparatively easy, for a central bank, to build credibility about such a policy: quite simply, it has to stick to this policy 'through thick and thin' - that is, in all states of the world, including when the ZLB is not binding. In this way the public regularly observes the policy being implemented, and the central bank builds up a reputation for following such a policy.