Responses to Referee 1

Recent events in financial markets have shown that money is important. Most economists agree that it is important to manage the liquidity in the financial system during the current financial crisis. My point of view is that we can reconcile the inflation targeting with the control of money growth and that we have to manage the money growth during boom as well as crisis time. We can better manage the money growth through some well-specified money growth rules under inflation targeting regime. This view can be discussed in the traditional flexible price IS-LM model including Phillips curve (as in the present paper) or the New Keynesian IS-LM model by supposing that the money growth is controlled and the inflation expectations are formed using a set of information taking account of developments in monetary and financial markets.

This leads us to the central comment n° 5: "*In most models of monetary policy, the central bank can either choose a short term interest rate (and then money is determined endogenously) or it can choose money (and thus the interest rate is determined endogenously). The present paper claims to present a model in which both variables can be chosen independently from each other. However, it is unclear why this should be possible. I strongly conjecture that the model would be overdetermined in general if the central bank chose both instruments simultaneously. The new ingredient to the model is (4). If a model with an optimizing central bank and equations (1)-(3) pins down i, y, m, p (and thus pi), then the additional equation (4) simply determines b (base money). Hence b cannot be chosen freely by the central bank.*"

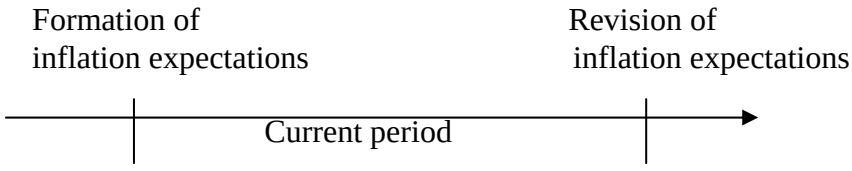
To answer to this remark, I notice that the referee suggests applying the conventional solution (King, 2000; Romer, 2000) to the model and concludes that the model "*would be overdetermined in general if the central bank chose both instruments simultaneously*". In effect, any respectable macroeconomist would agree with the referee if he (or she) admits that economic agents use equation (9) (page 16) to form their rational inflation expectations:

$$\pi = \frac{\lambda}{\lambda + \kappa\alpha^2}\pi^e + \frac{\kappa\alpha^2}{\lambda + \kappa\alpha^2}\pi^T + \frac{\lambda}{\lambda + \kappa\alpha^2}\varepsilon_\pi . \qquad (9)$$

As macroeconomic student, we have learnt that we can also use other mechanisms of inflation expectations (adaptive expectations, perfect foresight etc…). Consequently, I think it is reasonable to use another equation, which is endogenous to the model, to determine the inflation expectations while keeping the hypothesis of rational expectations. To derive this equation, we use the LM equation. As shown in the Appendix, this gives rise to the dynamic equation of inflation expectations.

As the referee has remarked, there is a number of exposition lacunae which may lead the readers to misunderstand the principal innovation in the present paper.

The remark n° 1, "*On p. 14, the author describes the sequence of events. At the beginning of each period, workers form inflation expectations and agree on wages. Later, they are allowed to revise their inflation expectations. Does this mean that nominal wages are also revised? And do the expectations formed at the beginning of the period have any consequences, given that they can be re-adjusted later?*", is relevant in the sense that I am not clear enough in the exposition. I want to describe the following scheme:



In the dynamic context, the beginning of a period is the end of the last period. If I restate that the revision of inflation expectations takes place at the end of each period, the description of the sequence will become coherent.

My precision brought to the description of the sequence of events allows answering partially the remark n° 2 "*On p. 10, the author notes that inflation expectations are formed prior to t. At this point, it is unclear at which point they are formed and which information is used for expectation formation*" and the remark n° 3 "*On p. 15, the author derives the optimal interest-rate policy for a given inflation rate and for given inflation expectations. However, because inflation expectations are re-adjusted later, one would have to take into account the effect that the choice of interest rate may have on inflation expectations. In addition, there may be an impact on the optimal future choice of b, which, in turn, might influence inflation. These effects are completely ignored.*" The information set used for inflation expectations is all the information available at the moment of formation of inflation expectations, including that about the IS, LM and Phillips curves as well as the interest rate and money growth rules. However, I have not any objective of finding "*the optimal future choice of b"* but only the money growth rules which are compatible with dynamic macroeconomic stability.

Remark n° 3 : "*At the bottom of p. 13 (and elsewhere), the author stresses that money supply may differ from money demand in the model presented in the paper. However, this appears to be inconsistent with Equation (3) (money-market equilibrium).*" I might not be enough precise about the context of my discussion. What I want to say is that if the inflation expectations are un-modifiable, for given interest rate and money growth rules, the money market can not in equilibrium. Under these conditions, money market equilibrium condition (equation (3)) can be verified only if the inflation expectations are allowed to be adjusted at the end of each period taking account of information about the real, monetary and financial aspects of the economy.

Concerning the remarks n° 6 and 7, I will take account of them in a new version of the present paper. For my defence, I do not think that inflation targeting is one of the main reasons for the current financial crisis but the absence of appropriate control of the money growth rate is an important reason of the current crisis. In effect, one crucial assumption for the perfect inflation targeting regime is that the central bank supplies as much money as people ask. This assumption is not verified in practice since the central bank does not give away the money whenever an agent asks for it.

The contribution included in the present paper can potentially open a new perspective for inflation targeting literature since it allows bridging the real aspect of the economy on which focuses the existent literature on inflation targeting and interest rate rules and the monetary and financial aspect of the economy, hence allowing to study inflation targeting, monetary targeting, zero interest rate bound and quantitative easing in a unified framework as I have shown in another paper using a New Keynesian model (Dai, 2009). Even if my conviction is that my paper contains interesting contribution, the final judge is the community of macroeconomists (including referees and editors) who may accept or reject my views.

References:

Dai, Meixing (2009), "On the role of money growth targeting under inflation targeting regime," *Working Paper of BETA* 2009-11.

King, Robert G. (2000), "The new IS-LM model: language, logic, and limits," *Economic Quarterly- Federal Reserve Bank of Richmond*, issue Sum, pp. 45-103.

Romer, D. (2000), "Keynesian Macroeconomics without the LM Curve," *The Journal of Economic Perspective*, Vol. 14, n° 2, pp.149-169.