Should Central Banks Raise their Inflation Targets?

Bennett T. McCallum

Carnegie Mellon University and NBER

Preliminary

1. Introduction

Assignment: to consider suggestion (OJB et al) that CBs raise inflation targets, to avoid ZLB, taking different perspectives on the issue:

Section 2: optimal taxation (incl. Friedman rule)

Section 3: sticky-price distortions

Section 4: frequency of ZLB situation

Section 5: use of other instruments

Section 6: ZLB is in fact not a bound?

Section 7: essential role of CBs

2. Traditional Tax-Distortion Analysis

Basic idea of FR: lead agents to choose satiation level of trans-facil services of money by driving opp cost of balances to zero: equate real ror on money (minus infl rate) to real ror on other assets (e.g., net MPK).

I draw heavily on Handbook paper by Schmitt-Grohé and Uribe. One novel argument is that Friedman result may not require lump-sum taxes. Conditions that give this result are rather strict (including that govt transactions do not require "shopping time") but it is an interesting result. Here I also mention an opinion expressed by Summers (1991): "Inflation as a Ramsey tax may be the most overstudied issue in macroeconomics."

3. Calvo-Model Distortions

Recent analysis has focused on stickiness of nominal prices via Calvo model, with a fraction of sellers (randomly selected) keeping prices at previous level and others reoptimizing. This leads to distortions as sellers with identical costs may in a period be charging different prices, leading to resource misallocation. Then if policy generates an average inflation rate that on average has the price of reoptimizing sellers equal that of the other sellers (stuck with their previous prices) then this distortion will be avoided. So the optimal inflation rate (with no other friction) is zero.

Schmitt-Grohé and Uribe (SG&U) examine the compromise between

–MPK and zero for various carefully chosen calibrations and find that the optimal rate is close to zero, i.e., the importance of the price-setting friction is greater than the MOE friction.

But there is a feature of the basic Calvo model that is crucial for this result and is questionable. It is the assumption that those sellers who do not get to reoptimize leave their prices unchanged from the previous period. If the steady-state inflation rate (under some policy rule) is non-zero at the rate X per period, a rational pricing policy would call for each seller who cannot reoptimize to have arranged in advance to have his price rise automatically from its previous value at the rate of X per period. For

example of one formulation, see Woodford (JMCB, 2008). (Also papers

by Calvo, Kumhof, and others.) With this modification of Calvo model,

the optimal rate equals the FR value.

4. Optimality and the ZLB

Need to consider setups with ZLB. A major effort of SG&U is to

analyze how often ZLB constraint occurs in quant model with four

nominal frictions ("sticky prices, sticky wages, a transaction demand for

money... and CIA constraint on wage bill of firms"), four real frictions

and, three shock processes. Basic findings are that Ramsey optimal rate is

−0.4. The optimal nominal interest rate is 4.4 percent pa with std dev of

only 0.9 percent so "for nominal interest rate to violate the ZLB, it must fall more than 4 std devs below its target level" when time pref rate is 0.03 pa [and almost 3 std devs below when latter is 0.01 pa].

Adam and Billi (2006) take ZLB explicitly into account in computing optimal inflation rate; find that optimal policy does not imply positive inflation on average and that ZLB binds infrequently.

These results are optimistic, and do not offer much support for idea of raising inflation target. One significant objection is absence from most studies of distinct rates of interest for one-period interbank rate (policy rate) and purely intertemporal "risk-free" rate. With model including

banking sector that uses resources in making and monitoring loans, there

can be a substantial difference (e.g., about 5 percent pa in Goodfriend and

McCallum (JME, 2007)). This could overturn the optimistic view.

5. Alternative Monetary Strategies

Must mention proposed strategies for mon policy in face of ZLB

constraint when it exists. Prevailing view is Eggertsson and Woodford

(2003) who find that output loss from temporary ZLB constraint can be

minimized by "history dependent" rule for one-period rate (implying that

policy will be more stimulative in the future than it would be otherwise).

What about use of other instrument variables? Svensson (2001) and

McCallum (2000) have proposed exchange-rate rules for times at which interbank rate is at ZLB. The assumption is that foreign and domestic one-period bonds are not perfect substitutes. Rule could be like Taylor rule but with Δs_t in place of R_t. Simulations suggest this would be effective (for small economy).

    Argument against this is same as Woodford (JME 2005) comment on McGough, Rudebusch, Williams use of longer bond rate. This argument assumes, however, that multi-period bonds and one-period bonds are perfect substitutes—relationship between rates does not involve any quantities. So if these "portfolio" terms are significant, it doesn't apply.

Weakness of imperfect substitutes argument above is that it does not indicate magnitude of purchases needed to move rates by desired amounts.

6. Is the ZLB Actually a Genuine Bound?

Is it truly the case that zero is a lower bound on nominal rates? Not referring to small negative rates due to storage costs, but validity of Goodfriend-Buiter argument that institutions can be modified to permit payment of negative interest on all forms of money, making possible negative values for CB's policy rate. In this case the ZLB problem is eliminated, not just surmounted. Summary of ideas (Buiter?) in Citi Research of March 5, 2010: "there are at least three administratively and

technically feasible ways to eliminate the ZLB ... completely: ... to abolish currency; ... paying interest, positive or negative, on currency; ... to end the fixed exchange rate between currency and bank reserves or deposits with the CB." Main argument against elimination of official currency is that it would be a radical step that would harm poorer members of population who do not have access to transaction facilities used by typical members. But part of the program would be for CB to provide free accounts (like debit-card accts) to all legal residents; these could be administered through private banks, post offices, etc.

Buiter stresses that about 75% of US currency is in form of $100 bills

which are of greatest use to "... the underground economy, the criminal community ... those engaged in tax evasion, money laundering, the financing of terrorism, and those wishing to store the proceeds from crime and the means to commit further crimes out of sight and reach of the authorities" (Buiter, 2010). As for euros, only 10% are held in the form of 5, 10, or 20 euro bills. Partly on this basis, Buiter develops a strong argument for the abolishment of (govt) currency. He also puts forth arguments for the other two possibilities, but not as strongly.

All in all, it seems that serious consideration should be given to the Goodfriend and Buiter proposals if it transpires that the ZLB is binds more

frequently than the SG&U analysis suggests.

7. The Role of a Central Bank

Before the crisis of 2008-9, there had been great progress in analysis and conduct of mon policy: structural models with realistic instrument variable, gradual nominal price adjustments, and somewhat plausible real rigidities together with considerable practical success in keeping inflation low while avoiding major recessions. And these improvements in science and application have been interrelated; "IT" practice is in principal based on ideas reflected in prevailing framework. The crisis has, of course, damaged the consensus; the Blanchard paper is one evidence of that.

But the crisis seems highly inappropriate as a justification for redesign of monetary policy analysis. In the US, the primary root was a genuine macro imbalance that required correction—the housing price boom. What were its origins? Situation was largely brought about by deliberate govt action to stimulate homeownership esp among families that could not afford it (Pinto, 2010; Wallison, 2010). This sectoral imbalance was turned into macro collapse by unwise regulations and practices in financial markets that led to a freezing up. Some practices of private enterprise were appalling, but much of the rot traces back to unwise govt framework; one example occurring in the credit-rating industry.

The point is that these mentioned failures had little if anything to do with monetary policy. To drastically alter the objectives of mon pol in response to the crisis would seem, then, to be lacking in logic.

What are the essential duties of a CB? They have been altered by the drastic change in monetary arrangements—from metallic standards to fiat money arrangements—that occurred during the 20th century. Under a metallic standard, a CB has basically no price-level duties so long as the standard does not break down; behavior of the price level is governed primarily by the mint, whereas the CB is an intermediary intended to facilitate the financial activities of the govmt. Under fiat money, by

contrast, price level trends are determined by the abundance of money in circulation relative to the quantity needed (i.e., useful) for conducting transactions, and modern CBs have been universally assigned the duty of price level management. E.g., in the JEL's recent "panel discussion" by Blinder and Feldstein (2010), both presume that CBs will be the makers of mon pol and argue that they should have extensive independence in that role.

A major justification for CB independence is that normally the desirable effects of mon pol loosening occur rapidly and the undesirable effects after a greater lag. So when the CB eases policy, the socially

desirable effects arrive more promptly than the undesirable effects. Thus, if mon pol is going to be politically acceptable, there will be a tendency for policy to be more expansionary and inflationary the more impatient is the policymaker. Thus it makes sense to place responsibility for mon pol in an institution that is sheltered from the stresses of day-to-day politics, and able to take a longer-term perspective.

A crucial ingredient in such a perspective is the understanding that there exists no usable long-run tradeoff between inflation and output. Indeed, a major contribution of the "consensus" position of mainstream mon econ that evolved in the 10-15 years to 2008 was the development of

models that incorporate this feature while also reflecting the property that mon pol has substantial short-term effects on output (and matching the data to some extent).

But to adopt the position that the average ongoing inflation rate should be raised, in order to prevent or shorten recessions involving the ZLB, is to accept the notion that there does exist a long-run tradeoff. It is based on a different mechanism than the Phillips Curve tradeoff, but in public debate and actual policy consideration this distinction would be lost. Thus it would serve to overturn a basic message that the profession has been at great pains to present to policy makers.

Finally, in the US and elsewhere CBs have been in recent years the primary source of intertemporal discipline in fiscal affairs. The point is that the GBR implies that if the CB maintains a low growth rate of the mon base, it limits extent to which the fiscal auth can engage in deficit finance. If the treasury seeks to exceed this limit by borrowing it will run into a constraint reflecting violation of a TC relevant for optimal behavior.

Thus a switch to a higher target inflation rate would represent one more move away from intertemporal discipline. That is not what we need.

8. Conclusion

Increasing target inflation is a tempting but predominantly bad idea.