RELATIONSHIP BETWEEN INFLATION TARGETING AND GLOBAL FINANCIAL CRISIS: ONE NIGHT STAND, BREAK UP OR GOING EXCLUSIVE?[1]

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Abstract

After reviewing the basic traits of inflation targeting monetary strategy, this short paper analysis the nature of the relationship between inflation targeting and international financial crisis. Once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. While some of the criticism has been found justifiable, required alterations are neither so huge to discard the crucial effectiveness of flexible inflation targeting methodology and turn it into something completely different, nor any of the other known monetary strategies have had built in specs that would have enabled them to fare substantially better than inflation targeting in what it partially failed us through the global financial meltdown and subsequent recession.

Key words: *Inflation Targeting, Financial Crisis, Asset-Price Bubbles, Supply shocks*

INTRODUCTION

Inflation targeting is relatively novel and increasingly popular strategy of monetary policy making at the turn of the millennium. However, once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. Critique has been predominantly twofold: a) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and b) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place.

After careful examination of allegations made, this paper argues that inflation targeting strategy has a future upon introduction of several important improvements which rendered its previous versions vulnerable and less effective, but without obvious better alternatives at any recent point in time. The rest of the paper is organised as follows: section 2 deals with some standard basic theory of inflation targeting, section 3 introduces consequences of global financial crisis and weak links of- or logical gaps in inflation targeting strategy, while section 4 goes on to conclude and earmark some fruitful allies for further research.

THEORY OF INFLATION TARGETING

Until recently, supremacy of inflation targeting over thus far practiced alternatives seemed obvious enough and unchallenged. Its more fundamental intellectual legacy rested on two scholarly pillars: Friedman's finding about Phillips curve trade off being short lasting as well as Kydland-Prescott and Barro-Gordon legendary contributions on time-inconsistency of discretionary monetary policy [Whelan, 2013].

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After spectacular demise of its predecessor, exchange rate targeting, through a series of speculative attacks in the early to mid 1990s, policymakers needed a new nominal anchor while inflation targeting concept conveniently appeared in the right place at the right time [Frankel, 2012]. Instead of often pointless, imprecise and ineffective targeting of different monetary aggregates, and statistically demanding targeting of nominal output, inflation targeting has concentrated directly on price stability, which, if not too rigidly aimed at, under certain preconditions also enables output gap stabilization in the vicinity of its natural level. In comparison to price level targeting, inflation targeting exhibits additional flexibility in that it allows for the so-called base drift and consequent anticyclical wiggling space as it concentrates on price differences rather than on prices themselves and hence requires much less frequent interventions [Malovic, 2007].

The key idea rests on publicly committing to a predefined numerical target for inflation in the medium run. Adopting such a target is obviously consistent with many alternative trajectories of both real and nominal variables in as much as it allows for short run output and employment stabilization concerns to be addressed. On a top of insisting on credible, clear-cut medium-term numerical inflation target to be met over the predefined policy horizon, full-fledged inflation targeting regime of monetary-policy making assumes unambiguous institutional support for price stability, making use of maximal informational intensity of the strategy as well as indisputable transparency in explaining the operative measures of the central bank along the way. Moreover, there are four generally acceptable prerequisites in the literature for successful implementation of inflation targeting regime in small open economies:

1) well-understood exchange rate pass-through mechanism, Clarida-Waldman effect as well as feed-back impact of instrument rule on inflation.
2) relatively balanced budget and absence of the so-called fiscal dominance.
3) reasonably well-developed financial system.
4) institutional cum actual independence as well as transparency of central bank deliberations.

In the case of strict inflation forecast targeting, central bank is minimising the loss function stripped down to [Svensson, 1997]:

$$\Lambda=(\pi_t - \pi^{©})^2/2 \qquad (1)$$

However, in the more realistic flexible inflation targeting case, one is minimising the combination of inflation recoil from the targeted inflation forecast and deviation of expected output from its potential [Malovic, 2007]:

$$\Lambda=[(\pi_{t+1} - \pi^{©})^2+o^{©}(y_{t+1} - y^{©})^2]/2 \qquad (2)$$

Here, $o^{©}$ represents exact relative weight that society (or rather monetary authority) is attaching to the importance of controlling for output gap, i.e. output stabilisation to the extent at the expense of inflation annihilation. The expected sum of discounted policy losses, following Agenor and Montiel (2008) is therefore more generally given by:

$$U_t=E_t\{\sum_{j=0}^{\infty}\beta^j (\pi_{t+1} - \pi^{©})^2+o^{©}(y_{t+1} - y^{©})^2]/2\} \qquad (3)$$

In equation *(3), E is expectations operator,* while β is a discount factor.
The instrumental rule central banks are further relying on while conducting/correcting their operative policy is typically some variation of the well-known Taylor rule:

$$i_t=\pi_t+i_t^{®} +a_{\pi}(\pi_t - \pi^{©})+a_y(\log y-\log y^{©}) \qquad (4)$$

Here current inflation is as measured by the GDP deflator, $i_t^{®}$ is real interest rate, $a_{\pi,y}$ are appropriate weights, $\log y^{©}$ is logarithm of potential output as measured by the linear trend of its natural level.

Thus, interest rate guiding trajectory should be able to gradually strike a reasonable balance between the inflation path and the capacity utilisation path thereby allowing for verification of the desired inverse relationship vis-à-vis the two gaps, which are supposed to shrink towards zero together [Woodford, 2013]. So, back in the good old days of growth and financial tranquility, inflation targeting amounted to no more than a monetary committee meeting every few weeks to feel the state of the economy and dynamics of CPI (consumer price index) before changing interest rates up or down by a quarter point or so [Baldwin-Gross, 2013]. But then the financial crisis hit with nothing ever being the same any more.

INFLATION TARGETING AND FINANCIAL CRISIS

To date, we all know how the mortgage-backed tsunami first splashed in August 2007 and the fearful word "subprime" crept into the public discourse. When growth is afoot as well as seemingly sustainable and money is cheap and abundant, bankers tend to expand. That is so because low inflation, lots of liquidity and stable business environment almost invariably produce real estate and other asset-price bubbles which have "windfall (capital) gain" written all over them. While expanding aggressively or simply to keep up with their greedy competitors, bankers soon run out of credit-worthy borrowers and recklessly went for subprime ones via array of financial engineering products loaded with hazardous leverage [Malovic, 2009].

With the onset on international financial meltdown, influential voices were raised claiming that crisis unveiled the fallacy of monetary policy gospel we've all had by then got used to, and that moreover, inflation targeting is to blame if not for the incidence of financial crisis *per se* than surely for its likelihood and severity [Woodford, 2011]. Critique has been predominantly twofold: a) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and b) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place.

Most notably, violation of assumptions *2)* and *4)* comes to mind as an indirect consequence of two crisis-related problems for monetary policy: *a)* crisis driven bankruptcies could eventually threaten price stability and *b)* conventional instruments of monetary policy lose traction once the economy falls in the liquidity trap [Baldwin-Gros, 2013]. Indeed, heavy interventions, that central banks around the world have been provoked into by swelling budget deficits in the last 5 years or so, further blurred the misty distinction between fiscal and monetary policy and forced the monetary authorities to basically cross that line. The whole quantitative easing business and especially OMT operations by the ECB, although seemingly inevitable at the zero lower bound, represent crucial exhibits to that end. Clearly, there is a kind of fiscal dominance under way across the board, which if continues a bit longer threatens the credibility of central bank independence and hence, the credibility of its chosen nominal anchor. In other words, survival of inflation targeting regime does in part depend on the quality of the exit strategy execution from the new brave world of stimulus policies, to be played out in the following years. However, it is difficult to see how any of the alternative monetary regimes could have avoided more expansionary monetary policies faced with recession and crisis-driven fiscal imbalances, or could have fared better in fighting the ensuing unemployment. For instance, dual target formally established by the FED does pose certain technical problems but in flexible inflation targeting framework does not really have to be incompatible with the regime as such and in any case isn't unheard of since monetary conditions index version of flexible inflation targeting has already been deployed in some countries to deal with an exchange rate target on a top of the output gap and target zone for reflation.

Another major setback of inflation targeting appears to be its susceptibility to and sometimes inappropriate response to supply-side shocks and terms of trade shocks [Frankel, 2012]. Frankel (2013), for example, draws reader's attention to ECB's CPI inflation fire-fighting response to a spike in the crude oil prices which brought about interest rate rise amidst the worst recession ever since the

Great Depression of 1930s. Similarly as with simultaneous targeting, even though nominal GDP targeting might be advisable in liquidity trapped economies, it could be easily looked upon as just another adjusted version of flexible inflation targeting really [Woodford, 2013]. For instance, in the Eurozone economy hovering between recovery and contraction, a 4-5% short run target for nominal GDP growth would have in differential terms be equivalent to a 4% inflation target [Frankel, 2013]. Although, truth be told, in its elementary guise, nominal GDP targeting seems more akin to simultaneous price level and output anchoring:

$$E_t(lnP_{t+1}+lny_{t+1})=lnY^{©} \qquad (5)$$

In very advanced economies with well anchored inflation expectations, even reverting to core (instead of headline) inflation targeting might remove much of these deficiencies. After all, surely the best yet probably only theoretical option would be the ability to break down output gap into its tradable and non-tradable component, with more than obvious if not explicit presence of real exchange rate targeting once again:

$$\Lambda_t =(\pi_{t+1}-\pi^{©})^2+o^T(y_{t+1}{}^T-y^{T©})^2+o^N(y_{t+1}{}^N-y^{N©})^2 \qquad (6)$$

Inadequacy of inflation targeting in monitoring and providing for financial stability is perhaps even more justifiable shortcoming of inflation targeting regime. In the 1.0 variant of inflation targeting strategy, central banks didn't pay much if any[3] attention at asset-price bubbles or credit-fueled booms, and were instead concentrated and felt responsible for price stability only, while financial stability was left out of the picture. Prior to global financial crisis, central banks didn't care about it, among other benign neglect reasons, because bubbles are notoriously difficult to detect *ex ante*, so the order of the time was 'mopping up' *ex post* rather than 'leaning against the wind' before hand [Woodford, 2011]. It is by now patently obvious that serious asset-price bubbles may occur without any heads-up in terms of rising inflation spiraling out of central bank's control. Therefore, controlling for price stability although conducive to financial stability does not represent a sufficient condition for avoiding financial instability. In other words, monetary authorities should definitely pay more attention to credit booms and departures of certain asset classes from their realistic intrinsic values. Unfortunately, all the macroprudential policies and laws rightfully launched in parallel with ongoing monetary policy regimes ever since Lehman's demise are concerned with setting the firewalls for the future, rather than dealing with the legacy of international financial meltdown the world went through and still suffers from [Baldwin-Gros, 2013].

If we were to summarize the earmarked shortcomings of inflation targeting, it would be in order to realise that inflation targeting framework, in its most commonly practiced pre-crisis version, proved unable to handle cost push and high-powered terms of trade shocks, insufficient in underpinning broader financial stability, and incapable of stimulating growth potently enough in the teeth of recession. Apart from nominal GDP targeting, which could be modeled as the special or the very least compatible case to flexible inflation forecast targeting, and which is advisable only for advanced economies facing the zero lower bound, it is completely unclear how any of the known monetary strategy alternatives would have done systematically better than flexible inflation targeting in any of the identified underperforming aspects [Broadbent, 2013]. Be that as it may, policy of multiple targets is not unheard of and could be effectively deployed if no target is set unrealistically ambitious or too lose so to create drastic inconsistencies and face bitter trade-offs [Malovic, 2007]. In that regard, our general observation would be that inflation targets across the postindustrial world are probably set too low, in spite of which upper inflation margin has never been substantially breeched. However, even when inflation expectations remained anchored to the announced target, in some countries (like Sweden) actual CPI fell short of the target thereby inflicting some unemployment costs [Svensson, 2013]. Hence, something ought to be done about the fact that inflation targeting provides no explicit

[3] In fact, central banks paid attention to real-estate and alike bubbles in as much as they caused non-negligible tilts in either CPI inflation or in level or real activity.

guidance as to the exact definition of price index to be aimed at, as well as about its emphasis on a long run of uncertain timing [Whelan, 2013]. Nevertheless, fine-tuned differences between flexible core inflation targeting and nominal GDP targeting (inclusive headline price level and expected output) shouldn't be exaggerated: expect when there is spot-on forecastable supply volatility, performance of monetary policy of stabilizing nominal GDP versus stabilizing inflation comes very close to one another [Broadbent, 2013].

All in all, relationship between financial crisis and inflation targeting cannot be depicted by strangers in the night. Five years into the crisis, it is evident this is not a one night stand, but it isn't cause a break up of central banking and inflation targeting framework either. Inflation targeting did stabilise medium-term inflation expectations throughout and despite global financial meltdown, so none of the major economies in the world fell in deflation spirals of 1970s vintage. Oil price hikes notwithstanding, wages and prices did not spiral out of control, while monetary authorities retained their credibility in the face of adversity. However, in order to fight toxic assets contagion and ensuing recessionary trends, central banks had to come out of their comfort zones and experiment with many new tools other than interest rates and reserve requirements in order to solve the assignment problem and provide for both price and financial system stability. As eloquently noticed by Baldwin and Gros (2013), those tools and tactics have been far more diverse from conventional monetary policy regimes available in textbooks, as well as far more controversial, ranging from *a)* QE and market making (balance sheet tools), over *b)* expectations management and verbal intervention tools ("Make them believe by making them understand" in M. Woodford's words also known as Jedi mind tricks), and lastly to *c)* switching or multiple targets (like simultaneous unemployment and inflation targets in the US or monetary conditions index elsewhere). That said, probably the main worry remains the timing and execution of deleveraging of central banks (this time around), following still active accumulation of different assets on their balance sheets. In EMU, at least, problem is still too low an inflation and not enough expansionary boost of monetary policy, as a reflection of deeper political clashes. Therefore, blaming it all on (in) flexible inflation targeting, would boil down to irrational slaying of the messenger.

CONCLUSION

Once the global financial crisis broke out, many a voice started questioning the usefulness and viability of inflation targeting strategy in this new reality. Critique has been predominantly twofold: a) that international financial meltdown usurped some of the assumptions inflation targeting strategy rests upon and b) that inflation targeting itself proved inadequate in monitoring and providing for financial stability in the first place. After careful examination of allegations made, this paper argues that inflation targeting strategy has a future after introduction of several important improvements which rendered its previous versions vulnerable and less effective, but without obvious better alternatives among other known monetary regimes at any recent point in time.

Elements of fiscal dominance already at play as a corollary of governments' unwillingness to resolutely deal with debt overhang problem and bank solvency issues extends pressure on inflation targeting regime to give up its credibility. Specificity of global financial crisis and recession it brought on in addition hugely increased the set of goals assigned to central bankers as well as set of weapons they can resort to – alas, consequence has been massive credit risk accumulated on central banks' balance sheets. Not enough inflation on both sides of the Atlantic and many times seen danger of little inflation becoming too much inflation remains the biggest challenge of heavily overexposed monetary authorities in the immediate future.

More guidance in realistically setting the bars for multiple targets probably represents the hottest ally of future research in this domain. Nominal GDP targeting appears to be a better solution from (un) employment targets for advanced postindustrial economies, for its better aligned with inflation target as an intermediate overarching goal. In emerging markets with less developed statistical base and still

far away from liquidity trap, some sort of monetary conditions index or flexible inflation targeting split into tradable and nontradable portion of output gap seem to be more promising alternatives.

In a nutshell, both inflation targeting and global financial crisis proved resilient and destined to stick around for a while longer. Without credibly anchored inflation expectations, crisis would have been far worse, no doubt. Hopefully, before too long, macro prudential reforms and fiscal prudence will hand in their part of the homework too.

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