Discussion of "Inflation Targeting: A Victim of Its Own Success"*

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1. Introduction

Gillitzer and Simon have written a provocative paper on inflation-targeting (IT) experiences in general and specifically in Australia. They see the very success of inflation targeting as opening the door to critics who can point to what IT has *not* done, and of course one thing it did not do was prevent the Great Recession. Focusing on Australia, they illustrate the success of IT in multiple dimensions, which I will summarize as (i) a decreased sensitivity of inflation and inflation expectations to shocks, and (ii) a "de-linking" of traded-goods prices from inflation. They use the successes of inflation targeting to refute critics urging for wholesale changes, instead arguing for changes at the margin.

I will focus my remarks on three areas. First, I will provide a slightly different perspective than the authors on the Australian traded- and non-traded goods inflation decomposition. Second, I will provide some follow-up discussion on the theme of IT as a victim of its own success. Finally, I will ruminate on the question of why it may make sense to put more weight on some price changes than others in determining the optimal volatility of inflation.

2. Pre- and Post-IT Decomposition of Inflation

Table 1 in the paper compares several statistics across the pre- and post-IT regimes in Australia. The variance of non-tradables price

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Table 1. Augmented Statistics

	Pre-Inflation Targeting: 1982:Q2–1990:Q4	**Post-Inflation Targeting: 1993:Q1–2013:Q4**
Variance: Non-Tradables	0.90	0.15
Variance: Tradables	0.60 (0.88)	0.58 (0.77)
Covariance	0.31 (−0.59)	−0.02 (−0.17)
$\text{Cov}(\pi_t^T, \tau_t)$	0.29	0.60

changes fell dramatically, while there was little change in the variance of tradables price changes, and the covariance between tradable and non-tradable price changes vanished. The authors view tradables prices as reflecting external influences to a large extent. Thus, the results indicate IT's success. I have no quarrel with this interpretation. However, I would argue that it is really the relative price change of tradables which we should view as reflecting external influences.

Tradables price changes $\left(\pi_t^T\right)$ are the sum of a relative price change (τ_t), which I will view as exogenous with respect to monetary policy, and the price change of non-tradables (π_t^N), which I will view as endogenous with respect to monetary policy:

$$\pi_t^T = \tau_t^T + \pi_t^N. \tag{1}$$

In table 1, I augment the statistics in Gillitzer and Simon's table 1 with corresponding statistics (in parentheses) that replace the price change for tradables (π_t^T) with the change in the relative tradables price (τ_t^T). The calculations use the following three equations:

$$var\left(\pi_t^T\right) = var\left(\tau_t^T\right) + var\left(\pi_t^N\right) + 2cov\left(\tau_t^T, \pi_t^N\right),$$
$$cov\left(\pi_t^T, \pi_t^N\right) = cov(\tau_t^T, \pi_t^N) + var(\pi_t^N),$$

and

$$cov\left(\pi_t^T, \tau_t\right) = var\left(\pi_t^T\right) - cov\left(\pi_t^T, \pi_t^N\right),$$

which are implied by (1).

Reassuringly, as with nominal tradables prices, there was also a small (though larger) decline in the variance of *relative* tradables

price changes, from 0.88 to 0.77. Although this is entirely speculative, perhaps the decline in variance reflects a more stable overall inflationary environment, so that price changes became more effective, in some sense. Also, pre-IT there was a greater degree of monetary policy "offsetting" changes in relative price of tradables: the covariance between non-tradables price changes and the change in relative tradables prices went from -0.59 to -0.17. That is, pre-IT, an increase in the (exogenous) relative price of tradables tended to be accompanied by a decrease in nominal non-traded goods prices, and this effect subsequently fell. It seems that in the credible IT world, monetary policy no longer needs to slam on the brakes in response to relative price shocks to prevent expectations from becoming unanchored. Finally, post-IT, the nominal and relative price changes of traded goods moved more closely together, which is an implication of non-traded goods prices having been stabilized.

3. On IT as Victim of Its Own Success

I agree with the statement in the paper's title. But I cannot resist giving it my own twist. In many countries, IT was introduced in the hope that it would bring about or reinforce a secular decline in inflation. Foreseeing success (as many countries did), we could have also foreseen the inevitable criticism: real fluctuations wouldn't disappear, and at some point would lead naturally to a discussion of whether monetary policy should have done more to dampen them.

Alas, we can't answer the question of what monetary policy should do without knowing—or having a view about—what monetary policy *can* do. So what can monetary policy do? Surprise: we don't know! This is perhaps the biggest question for a monetary economist. Even the sub-question—how much inflation stability can monetary policy achieve?—is unresolved. A theme of the paper is how much inflation variability *should* be tolerated. But I think the prior question—what is the smallest feasible variability in inflation?—deserves much more attention. I can't answer that one either, but by looking at the distributions of realized inflation across countries, we can at least find upper bounds for the smallest feasible variation in inflation. From the U.S. perspective, this question is especially relevant right now: inflation is widely perceived to be "low" over the last three years. But is it meaningfully low given the

kind of variation a central bank must accept as inevitable? Again, I do not think we know.

4. Theory and Desirable Inflation Volatility

Data alone can provide some information about the minimum feasible degree of inflation variability, but theory is needed to provide sharp estimates. Since there is no consensus theory, there can be no sharp estimates that are viewed as plausible. Nonetheless, we should use theory to inform our thinking about why certain kinds of inflation might be more tolerable than others. While Gillitzer and Simon argue against changing central banks' targets to something like nontraded goods inflation, their suggestion to lengthen the target horizon has a similar motivation: persistent idiosyncratic shocks to inflation should not require offsetting actions by an inflation-targeting central bank.

Why is it optimal to tolerate inflation if it is associated with idiosyncratic shocks, say to tradables prices or commodity prices? One simple theoretical justification, as mentioned by the authors, is from Aoki (2001): prices are sticky in one sector and flexible in the other sector, and in a Dixit-Stiglitz monopolistic competition model it is optimal to stabilize the sticky prices, which means inflation will fluctuate optimally along with the flexible prices. I like this theory, even if I doubt the realism of the "stickiness + Dixit-Stiglitz" part. Speaking loosely, I think some relative prices are naturally volatile—volatility is the fundamental factor, as opposed to price stickiness or lack thereof. It is optimal for the goods with volatile relative prices to have fluctuating nominal prices, because nominal price changes may be costly: for example, there may be physical costs of nominal price changes, or nominal price changes may sow confusion about relative prices. By pushing nominal price changes toward goods experiencing large relative price changes, it may be possible to limit the physical costs of price changes, and to limit the degree of nominal/real confusion.[1] Note that the Aoki/New Keynesian mechanism—which I have also studied—is not about price *changes* being costly, but about price *level* variation being costly: the model has symmetry

[1]I conjecture that, in general, zero overall inflation may not correspond to the smallest quantity of overall nominal price changes.

of demand and supply fundamentals within a sector, which implies that price *levels* should be equated across goods within a sticky-price sector.

Another reason to tolerate inflation volatility from relative price shocks may have to do with feasibility: monetary policy does not have the ability to offset certain relative price shocks within the period, which may make it optimal not to attempt to offset them at all. This is a story not so much about lags in the effects of monetary policy as about recognition lags for the monetary policymaker—that is, monetary policy reacts to lagged information about the economy. For both of these reasons, it seems optimal for monetary policy not to attempt to offset large relative price shocks. Of course, this prescription requires that large relative price shocks not cause inflation expectations to become unanchored. The authors' results in section 2 are encouraging in this regard.

5. Conclusion

This fine paper stimulated my thinking about several questions: What does it mean for inflation targeting to succeed? What is the nature of the interaction between relative price changes and inflation? Relatedly, what makes some degree of inflation fluctuations unavoidable, as opposed to merely "optimal to allow?" What is the minimum feasible volatility of inflation, and why might it be optimal to tolerate more than this minimum volatility? I look forward to both consuming and producing research on these questions in the years to come.

References

Aoki, K. 2001. "Optimal Monetary Policy Responses to Relative-Price Changes." *Journal of Monetary Economics* 48 (1): 55–80.