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Inflation Targeting after the Bubble[1]

The bottom-line for monetary policy coming out of the crisis is, if you have a financial problem, use financial policy tools to fix it. That applies to bubbles, which means monetary policy should not be targeting asset prices as well as inflation. This is now an embattled position to take – the need to do something to pre-empt boom-bust credit cycles seems to be self-evident on its merits. Yet, just because a situation is bad does not mean there has to be a way to fix it, at least not easily. Wishing does not make it so.

Admittedly, there has been a tendency during the past 15 years of the Great Moderation to oversell inflation targeting as perhaps the panacea for most macroeconomic problems. And this went along with an explosion of discussion in academic conferences and central bank sponsored research about transparency and central bank communication. Those of us in the little piece of the profession who do applied monetary economics have spent far too much effort on that topic. But what we were really trying to do with inflation targeting in design and what I think the actual regimes that were in place were achieving, was getting monetary policy to be very clear about what it could do and what it could not do. And monetary policy really cannot do anything about bubbles or about financial problems. Financial problems come from something else.

Trying to use monetary policy to do things for which it is not suited is a mistake. The issue is not inability to judge what is a bubble, or denial that such bubbles can do harm to the economy. The issue instead is that attempting to deal pre-emptively with bubbles using monetary instruments will almost certainly fail. The connection between monetary conditions and asset markets is far less tight than most commentators assert, if not nearly non-existent. Bubbles arise out of financial system failures, not out of loose money.

This ineffectualness of money is relevant both on the way up and the way down with credit markets. Anything short of monetary tightening that turns the financial system into a wreck is unlikely to make any difference to the development of a bubble. And as we have seen, wrecking the financial system has high costs, making pre-emption probably a bad idea on net, given that is what it takes. Easing after a bubble crash is the right move because it is only effective at reflating the economy when the financial system is functioning – as our recent experience with quantitative easing demonstrates. Reflation will not create new bubbles unless the financial system has not been fixed and had its incentives changed. What appears to be asymmetric policymaking by central banks, sometimes characterized as "the Greenspan put" attempting to protect stock market investors, is actually a reasonable response to the limitations of monetary policy.

Inflation Targeting's Supposedly Too Limited Focus

The primary thrust of criticism after the bubble of inflation targeting (IT) as a monetary regime has been of its supposed too narrow focus. By supposedly requiring policymakers to only care about inflation, IT induced policymakers to ignore the bubbles arising. Oth-

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erwise, it is asserted, policymakers would have looked at a broader set of indicators (including monetary aggregate growth) or reacted to potentially harmful developments that did not show up in inflation forecasts. The more sophisticated versions of this view claim that asset price movements give information that is independent of inflation indicators or usual Taylor rule concerns, and that the information should be acted upon by central banks, despite the short-term output costs. All of these criticisms essentially come down to saying that monetary policy should have been tightened more than IT alone would have (and central banks did) in the run-up to the bubble, and monetary policy should have eased less than IT would indicate (and central banks did) in the aftermath.

What is ironic if not misguided about this line of attack is that, right up until the global financial crisis, the criticism of IT was that it paid too little attention to output fluctuations. The criticism essentially was that IT was too tight a policy versus what was desirable. This, for example, is one of the key reasons why IT was never formally proposed let alone adopted by the Federal Reserve in the USA – IT was seen by some, including in Congress, as contradicting the Fed's dual mandate to worry about both output volatility and price stability. I do not believe that criticism was valid, but it points out how much of a shift has taken place for IT to be criticised now on the other side as too concerned with short-term output fluctuations.

Just because a policy is attacked from both sides does not mean it is the right one. One side could be correct, and moderation is not always a sign of optimality. Still, if one thinks about this situation empirically, it is difficult to see how IT's focus on medium-term (two- to three-years out) inflation is the source of the problem. The central bank that did not have formal IT and was mandated to care about output as well as inflation (the Fed) had a bubble. The central bank that had a monetary pillar to go with IT and was mandated to care about that as well rather than just inflation (the ECB) had bubbles in a number of its currency zone Member States. The central bank that had purest IT (the Bank of England) had a bubble, too.

Somewhat more rigorously, if one plots real interest rates versus either housing price growth or equity market appreciation for a wide variety of countries, there is no relationship. Chart 1 presents annual housing price inflation and real policy interest rates for most of the major economies (subject to data availability) from 2004 to 2007, and one finds a cloud, meaning no correlation between the two.[2] To drive the point home, the UK observations are

[2] *Switching to multi-year averages or including 2003 or 2008 observations make no difference to this picture. The countries included are Australia, Canada, Denmark, France, Finland, Germany, Greece, Iceland, Italy, Japan, the Netherlands, Norway, Spain, Sweden, the UK, the USA, South Korea (equities only), and China (house prices only).*

designated by a lighter colour, and, despite having among the highest policy interest rates over the period in real-terms, had a housing price bubble. The same lack of pattern applies if one considers equity price appreciation, as done in chart 2. Differing monetary policy goals were presumably proxied by the differences in the instrument interest rates, given how little difference there was in inflation forecasts over this period for the countries considered. In short, appreciably different monetary goals during the pre-crisis period made no difference to the emergence of bubbles (or at least to asset price appreciation).

What this really comes down to, however, is a misunderstanding of the purpose of inflation targeting. IT was a form of disciplined discretion, meaning a policy regime to limit some of the flexibility of central banks over the medium-term through law and transparency. The intent was to anchor inflation expectations with the hoped for additional benefit that short-run stabilisation policy could be more activist without harming price stability. And IT has delivered that result both in the years leading up to the financial crisis and in the crisis itself.

We should not be afraid to recognise what is real, even though current times are tough. And the fact is the great moderation for 15 years was real, and inflation targeting's contribution to that was real. Inflation expectations became much less volatile. Even today, if you look at the data on the OECD economies at the moment, it is shocking how anchored the inflation expectations remain. In a couple of countries, looking beyond the immediate recessionary period, they have popped up slightly, but that is it.

This stability of expectations remains despite the most aggressive policy easing in decades, if ever. Consider that in light of the massive issuance of public debt we've seen, all the incentives for inflation according to our models of political economy, and the sharp declines in many currencies excepting the euro, as well as the steep cuts in interest rates and the quantitative measures undertaken. Absent an effective policy anchor, you would think that inflation expectations would be shooting up, and we are not seeing evidence of that. Now, this may not be an entirely good thing, in that it may reflect the severity of the downturn, though thankfully that seems to have abated. But the basic logic that inflation targeting actually serves a useful purpose by allowing you to anchor inflation expectations for the long run, and thereby allows you as a central banker to be more flexible in responding to shocks in the short run, seems to be unchallenged by an extreme stress test.

IT delivered what it was supposed to deliver, and continues to do so. IT did not prevent there being a wide range of policy responses to the asset price run-up in this decade, reflecting a wide range of policy preferences. IT central banks were not the only ones whose economies saw asset price bubbles emerge. IT simply was not an answer to all our macroeconomic problems, and it was a mistake to think that it ever was. IT, however, was not the source of the bubble or even of policy non-response to it.

Monetary Policy and Asset Prices: Wishing Does Not Make It So

Still, given the cost of a bubble bursting, when it takes out the financial system, it is more than justified to think about trying to prevent or pre-empt such crashes in future. In fact, it is critical for central banks to do what they can in this regard. Yet, just because we

want there to be a policy response to a problem does not mean that the problem can be solved with the tools at hand. If I have a hammer, it can be useful for all sorts of household tasks, but useless for repairing a leaky shower head – in fact, if I take the hammer to the shower head, I will probably make matters worse. I need a wrench to fix a pipe leak, and no amount of wishing will make a hammer a wrench. This is the essential reason why central bankers are now looking around for what has been called a *macroprudential instrument* – that is a tool suited to the job – and a tool additional to the one that they now have in their toolkit.

The interest rate tool has been proven to be ill-suited at best for dealing with asset price booms. In the infamous Japanese property and equity bubble of the 1980s, the Bank of Japan actually did start raising rates faster than a Taylor rule would have indicated, albeit late in the game in 1989. Such rate increases were consistent with the stated intent of the Bank of Japan to pop the bubble, and clearly motivated in response to asset prices, not output or inflation. The interest rate increases proved ineffective – while they may have caused some brief slowdowns and temporary reversals in equities and property prices, the bubble kept on inflating overall into 1992. It was only a financial regulatory change, regarding the reserve and collateral requirements for banks lending on real estate, which led to the end of the bubble and subsequent crash. Similarly, the Reserve Bank of Australia raised interest rates in 2003-04 to pop the real estate bubbles in Melbourne and Sydney – as in Japan, deed matching word in that the policy tightening could not be justified on inflation forecasts alone. And similarly to Japan, after an initial deflating effect, the bubble just returned, with Australian property considered among the most overvalued by the IMF less than two years later.

Officials and economists based at the Bank for International Settlements have nonetheless made claims for leaning against the wind. By this they mean central banks raising interest rates or otherwise tightening policy in response to asset prices beyond what inflation forecasts call for. These calls come despite the absence of any successful modern examples of so doing, as seen when tried in Australia and Japan. These calls also duck the question of what scale of *leaning* is required. *Leaning* gives the impression of a rather subtle adjustment, just somewhat tighter policy than one would have absent evidence of asset price inflation. Yet, all indications are that it would take extremely aggressive policy action to counteract bubble dynamics, whether in terms of expectations or access to credit when leverage is available off of rising asset prices. It is quite a daunting prospect to tell a central bank to raise interest rates by 250 basis points when there are no signs of inflation, but it is doubtful that anything much less would have an effect.

These calls also run into the face of logic for all but perhaps the largest economies. Small open economies that raise interest rates to cut off booms can find the policy making matters worse because the interest rate tightening attracts greater capital inflows – as the Baltic states found out recently, and numerous Asian and Latin American economies experienced previously. Even for larger economies, like the USA, if one accepts that some variant of the carry trade or excess savings from Asia contributed to capital inflows bidding up asset prices in this decade, then it stands to reason that interest rate increases would at least be partially offset by additional capital in-

flows. Additionally, if real estate appreciation, and financial sector overvaluation more broadly, reflect an undesirable shift of resources from traded to non-traded sectors, interest rate policy that leads to currency appreciation would also seem to worsen matters rather than help. One might say this is leads to an argument against unrestricted global capital flows, though I doubt that would hold up in general equilibrium, but at least it cautions that unilateral monetary tightening is unlikely to have the effect hypothesized on asset prices.

There also is a legitimate concern about to which indicator a central bank inclined to lean against the asset price wind should respond. There is no persuasive guidance on this problem. There has been a lot of talk that concern for asset prices finally justifies the ECB's monetary pillar. But the ECB's leadership has made it clear, honestly and correctly in my view, that there is no simple rule that could take a central banker from money growth to asset prices or to financial instability. Let us consider that for a moment. Despite a few hundred person-years of BIS, ECB, Deutsche Bundesbank, Swiss National Bank, Federal Reserve Bank of St. Louis, and similarly inclined institutions' staff time devoted to this topic, with every possible glitzy econometric time series technique you could find, no one has been able to find a dependable relationship between any measure of money supply and asset price movements, except over longer than policy relevant spans of time.

If you do the empirical work, there is one exception to this dismissal. One can show something of a relationship between the broadest measures of money growth over multi-year periods and house price inflation. The utility of even this relationship for monetary policymaking, however, should not be exaggerated. First, there is a reverse causality here, with rising housing prices causing the creation of additional credit through increasing collateral values. Of course, that is part of the problem with

bubbles, such feedback loops arise, but for the policymaker this means that trying to stop credit growth with available means does not necessarily deal with the housing asset price growth or even credit expansion.

Second, central banks do not control broad money growth – they control short-term interest rates and narrow money growth. Obviously, one can and should have intermediate targets that are not necessarily under complete control – what else is IT if not that? – But it matters how much partial control one has. Third, as has been seen with the rather spotty history of monetary targeting in the 1970s and 1980s, it is a real risk that efforts to target such an indicator would only lead to financial innovations that would remove that indicator's relationship with real economic outcomes, such as housing price increases.

Still, this does give a suggestion for some reconsideration of how central bankers take into account housing prices. Given the cost to society of asset price busts in general, but given that

real estate boom/busts do have greater economic costs on average than equity price bubbles, it is reasonable to focus on the former (especially if we have some indication that real estate bubbles can be more reliably linked to credit booms). Given that pre-empting some equity price bubbles can interfere with uptake and development of new technologies, and it is difficult to discern when new technologies or industries are overpriced, but real estate has no new technologies and can more reasonably be benchmarked for prices, there seems to be less cost to trying to preempt real estate bubbles than equity bubbles. And given that our standard inflation measures do a relatively poor job of taking into account housing costs, there is certainly room for improvement. But while central banks should invest resources in trying to analyze these issues and make the insights

operational, we should not kid ourselves that a new target for policy will readily emerge. Wish may be father to the research thought, but not to the reality.

Blaming Central Banks in Part, Not Inflation Targeting

Central banks should be held accountable for their roles in the global financial crisis of 2007-09, and even more so for their contributions to the emergence of the situation which led to the crisis. Nothing I say here is an attempt to shift blame or responsibility away from central banks – it is, however, an argument that the monetary policy regime of the period, inflation targeting and its close cousins, had little to do with the bad outcomes. We can place primary blame on central banks' failures, along with those of other parts of government, with regards to financial regulation and banking supervision.

We had a failure of governance. And it was particularly a failure of governance of the financial system, both in terms of legal oversight and corporate governance over banks' decision making. We do not have to get too complicated about this. There was an ideological and intellectual mistake made. A bunch of us in the economics profession got on board with the idea that we could very narrowly define when there were market failures and when there were not, and leave the market free where there were not. The financial system was deemed to be a place where everything looked close to transaction-cost-free, with transactions occurring between consenting rational adults with relatively full information. Add in corporate and individual reputations at stake, and it seemed that self-regulation was enough. And this was consistent with a broader trend of conservatism and anti-regulatory thought that affected policymaking in the USA, the UK, and, only to a slightly lesser degree, in Western Europe and Japan, over the period. It was an intellectual and ideological mistake. But the mistake was not about monetary policy.

The mistake was about the financial sector.

In fact, I would argue that financial regulation and supervision can learn from the real point of inflation targeting – disciplined discretion and accountability through transparency. Financial supervision should be more rule-based. If you move to a much more rule-based system, with very blunt and automatic rules, a lot of the moral-hazard problems and regulatory forebearance will go away. There is a reason why bankers, not just in the USA, spent billions of dollars lobbying politicians and officials to change regulations, getting accounting rules interpreted to their advantage, engaging in mergers solely to broaden activities and get around limitations. By revealed preference, regulations do constrain financial firms' behaviour. Otherwise, they would not have spent the money to change it.

There are always people who say: "Well, self-interested actors eventually get around regulation." Yet, the entire world economy, financial system, cannot be run out of the Cayman Islands and the Isle of Man without the major economies doing something about it (as they have done recently on bank secrecy and tax avoidance). You will never have a hundred percent regulation, but it is like me cleaning my apartment. If I do not clean my apartment, there is a lot more dust and bugs. If I clean my apartment, and do a poor job, there will be 10% of the original bugs and dust, but it is a lot better. And yes, just as I have to clean every week, regulations have to be continually updated to take into account the new efforts to get around them. But one can still make things 90% clean.

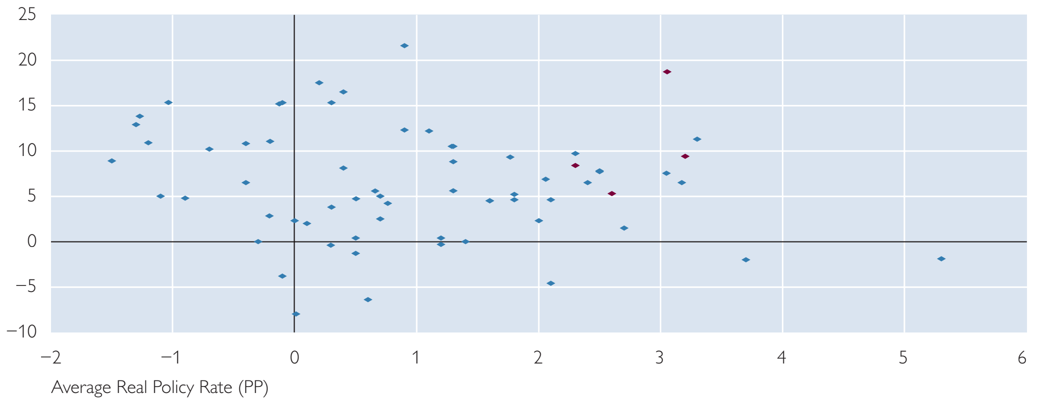
Central banks do have to be more accountable on the financial side, as we have become on the inflation side. The public really needs to watch the watchmen. This is why we talk about governance. If you look as the history of this period is written, it is already becoming clear that there were many decisions made – not just by the Federal Reserve, but by the ECB, the Bank of England, the Bank of Japan, but especially by the Fed – where there were discretionary interpretations and exceptions were granted to give financial firms more room for play with less need to provision or report. This was part of a broader unwillingness to enforce regulations that were on the books, an unwillingness to keep supervisory conduct up-to-date with what was going on. The point is not that we can do a technical fix and tweak all this into place. The point is there should be less discretion about enforcement, and clear benchmarks to hold central banks accountable.

Appendix

Chart 1

Annual (2004 to 2007) Real Policy Rates and House Price Inflation

Annual house price inflation in %

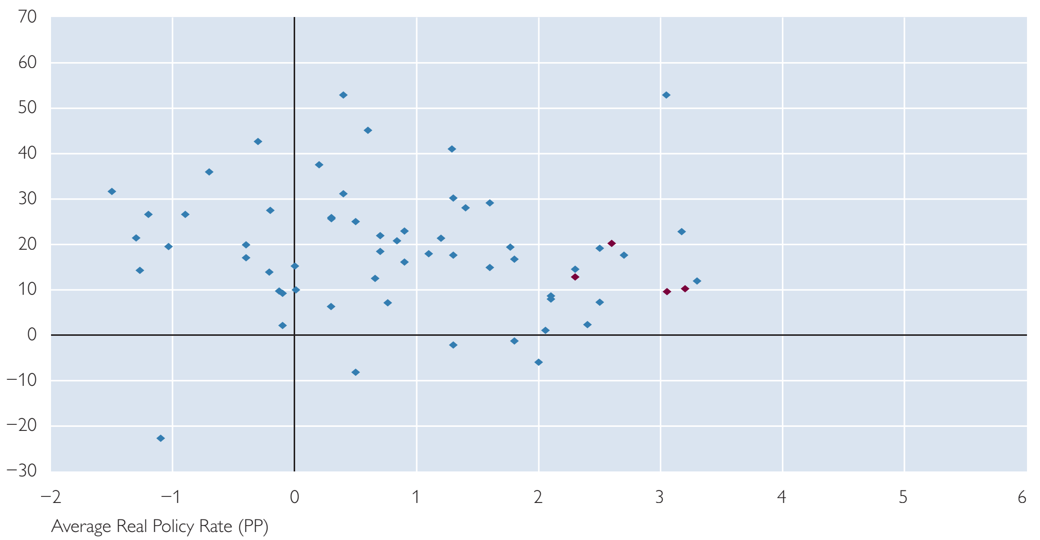


Source: Author's calculations.
Note: UK in red.

Chart 2

Annual (2004 to 2007) Real Policy Rates and Equity Price Inflation

Equity price inflation in %



Source: Author's calculations.
Note: UK in red.