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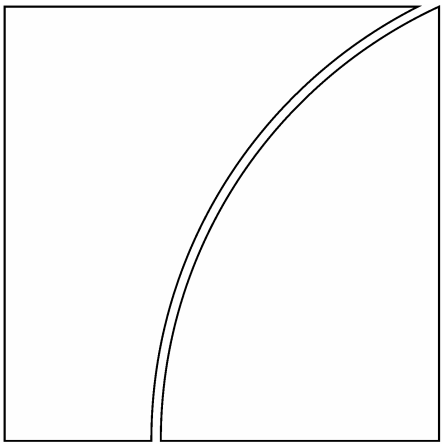

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# Beyond current policy frameworks

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# Foreword

On 18-19 June 2004, the BIS held a conference on “Understanding Low Inflation and Deflation”. This event brought together central bankers, academics and market practitioners to exchange views on this issue (see the conference programme in this document). This paper was presented at the workshop. The views expressed are those of the author(s) and not those of the BIS.

**Third BIS Annual Conference**

# Understanding Low Inflation and Deflation

**Brunnen, Switzerland, 18-19 June 2004**

## Conference programme

**Friday, 18 June** **Inflation and deflation dynamics**

*09.00* *Opening remarks (William White, BIS)*

***Morning sessions (Chair: Lars Heikensten, Sveriges Riksbank )***

*09.15* *Session 1: Changes in the inflation process (Stephen Cecchetti, Brandeis University and Guy Debelle, BIS)*

Discussants: Ignazio Angeloni, ECB; Jordi Galí, Centre de Recerca en Economia Internacional (CREI)

*11.00* *Session 2: Deflation in historical perspective (Michael Bordo, Rutgers University and Andrew Filardo, BIS)*

Discussants: Patrick Minford, Cardiff Business School; Fernando Restoy, Bank of Spain

***Afternoon sessions (Chair: Vittorio Corbo, Central Bank of Chile)***

*14.00* *Session 3: Price setting and deflation in Asia (Hans Genberg, Graduate Institute of International Studies)*

Discussants: Laurence Ball, John Hopkins University; Steven Kamin, Federal Reserve Board

*15.45* *Session 4: Panel on 'Deflation and the financial system' (Presenters: Lesley Daniels-Webster, JP Morgan Chase; Takumi Shibata, Nomura Securities)*

Discussant: Philipp Hildebrand, Swiss National Bank

**Saturday, 19 June** **Implications for monetary policy**

***Morning sessions (Chair: David Longworth, Bank of Canada)***

*08.45* *Session 5: Deflation in Japan: causes, consequences and policy options (Masaaki Shirakawa and Kazuo Ueda, Bank of Japan)*

Discussants: Michael Mussa, Institute for International Economics; Marc Olivier Strauss-Kahn, Banque de France

*10.30* *Session 6: Beyond current policy frameworks (Charles Goodhart, London School of Economics)*

Discussants: Edwin Truman, Institute for International Economics; Ignazio Visco, Banca d'Italia

***Afternoon session (Chair: Malcolm Knight, BIS)***

*13.30* *Session 7: Overview panel (Ben Bernanke, Federal Reserve Board; Willem Buiter, EBRD; Lucas Papademos, ECB)*

*15.00* *Conference adjourns*

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# Beyond current policy frameworks

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London School of Economics

## I. Introduction

The widespread concerns that were expressed about the possibility of deflation affecting the developed world, and of the potential limits on monetary policy in offsetting that because of the zero bound to nominal interest rates, (see Bernanke (2003)), have begun to recede. Not only has the US economy rebounded vigorously, and Europe more hesitantly, from the slight (equity-bust driven) recession in 2000-02, but even Japan has now shown convincing signs of recovery.

But the trade cycle is not dead. Moreover, the last recession was countered in several countries, notably in the United States and United Kingdom, by a combination of fiscal and monetary relaxation, the latter having a particularly strong effect via the housing market. When such relaxation eventually is reversed, there could be some dangers of future economic weakness. Whether for this or other reasons there will in future be further recessions. A recession in the context of low inflation will then, once again, give rise to worries about deflation, and whether, and how, monetary policy can cope. So it is as well to be prepared.

My own view is that such worries have been in any case greatly exaggerated; and, insofar as such worries had justification, were owing to self, or externally,[2] imposed limitations on the central bank's willingness and ability to undertake expansionary open market operations (Goodhart and Hofmann (2003)). Let us start with the fact that several periods of goods price deflation have been associated with continuing strong trend real growth and positive nominal interest rates. Notable examples were the "great depression", 1873-96, and the People's Republic of China, 1998-2003, (see Goodhart and Hofmann (ibid), Bordo et al (2004)).

The characteristics that mainly differentiate "bad" deflations from "good" deflations are that in the former asset prices on property, housing and equities are falling, and the nominal interest rate on riskless short-dated debt is driven down towards zero; whereas in "good" deflations such asset prices do not decline, certainly not precipitously, and nominal short-term interest rates remain at positive, normal levels (say around 2/3%). These conditions are, of course, inter-linked by the no arbitrage requirement in efficient markets. Assuming that property has a positive (convenience/use) return, and that there is some expectation of future dividends from equities, then a zero nominal short-term riskless rate of return has to be balanced by an expectation of declining property/equity asset prices.

In the case of bond prices, deflation and a zero nominal risk-less short rate will drive bond prices so high that the risk premium rises to nudge the risk-adjusted return into line. Indeed Japanese long-dated government bonds (JGBs) are currently, on this view, amongst the riskiest assets in the world.[3] We will discuss what implications this may have for central bank operations in more detail later. We will also discuss the risks that operations in the foreign exchange market may have for central banks.

A further factor that has exacerbated recent "bad" deflation in Japan and Hong Kong SAR has been the persistence of expectations of deflation, which served to raise real interest rates; the evidence on what were the expectations of future price changes in the United States in the interwar period is not clear. This contrasts with the gold standard era where inflation was extremely variable from year to

[1] My thanks are due to J Amato, W Mosler, H Tomura, E Truman, I Visco and R Werner for their help and suggestions, and to the participants of the BIS Conference at Brunnen, Switzerland, 18-19 June 2004, for their encouragement. All remaining errors are my own responsibility.

[2] For detailed discussions of the powers of the Federal Reserve System to undertake expansionary asset purchases, see Clouse et al (2003), Small and Clouse (2000) and Tinsley (1999).

[3] Small et al (2003), Section 4.2, and Tinsley (1999) discuss the possibility of a central bank, in their case the US Federal Reserve, writing put options on longer-term government bonds, thereby lowering the risk premium and required yield on such bonds.

year, partly owing to the importance of agriculture; trends were only observable from multi-year averaging, and expectations were normally of price stability.

Such persistence of expectations is not, however, necessarily a distinguishing feature between good and bad deflations. Rapidly rising productivity, as in China or the IT industry, can lead to a combination of persistently falling goods prices alongside stable, or appreciating, asset prices.

The maintained position of this paper, which was set out at greater length in Goodhart and Hofmann (ibid), is that bad deflations involve a combination of falling goods *and* asset prices. It is against this background that the rest of this paper is set out. In Section II we shall discuss whether there is any need to adjust the target of monetary policy to lessen the danger of general deflation. In Section III the question of the interaction between financial stability and monetary policy issues will be briefly considered. Perhaps the most important operational (and accounting) issue to be raised here is the nature of the interaction between fiscal policy (including debt management) and monetary policy; this is analysed in Section IV. Next, in Section V, I shall review the possible options of open market operations in other (unconventional) assets, foreign exchange, property and equities. The paper concludes with a discussion in Section VI of whether there might be a re-entry problem from a lengthy period of deflation. To give a flavour of the overall message of this paper, a sufficiently aggressive, (and courageous) central bank in a fiat money regime with a floating exchange rate can always prevent persistent deflation. In that sense deflation is a self-imposed injury, not a potentially unavoidable danger.

## II. The choice of targets

### (a) Asset price targets?

If the distinguishing mark of "bad" deflations is that goods deflation is accompanied by asset price deflation, then this might suggest that asset prices should be included in the objective function of central banks, either as a component part of the appropriate price index, or separately.

In practice the closest, and econometrically most reliable, relationships between asset price movements and the real economy have been between housing and property price movements and fluctuations in output and in other domestic prices, (see Detken et al (2004), Goodhart and Hofmann (2003)). The relationship between equity price movements and the wider economy has been weak and erratic (Cecchetti et al (2000b)), and there are few advocates of any formal inclusion of equity prices either in an expanded price index, (or only with a minuscule weight), or as a separate, additional objective.

In any case, the equity market is a presumably efficient, flexible financial market, so it is difficult for officials to claim to identify disequilibria from fundamentals, or to justify in public raising interest rates because of "bubbles". Moreover, equity prices do not meet the Woodford criterion (2003, pp 440-3), that most weight should be placed on the stickiest prices in the appropriate price index for achieving price stability. Nor for that matter do exchange rates. Furthermore, the effect of both exchange rate changes and of equity prices on subsequent movements in output and on inflation can be estimated and forecast, more or less, and hence do impact on policy.

There is, perhaps, one qualification. This is that a really large decline in equity prices might cause a (non-linear) panic reaction. No one really knows how far the crash in the New York Stock Exchange in autumn 1929 was responsible for the "bad" deflation there in 1929-33. Although current studies (eg Meltzer (2003)) tend to put more blame on passive monetary policies, and the October 1987 crash was weathered quite comfortably, the risk of a severe downwards equity market adjustment triggering a more general panic is not taken lightly. Hence there is some evidence of an asymmetric approach of monetary policy to the equity market, in that severe downwards corrections may well trigger a policy response, whereas equity price surges will not, see Rudebusch and Wu (2004). This syndrome has been termed the "Greenspan Put", and its potential effects on equity markets analysed by Miller et al (1999).

In contrast, housing and property prices are (probably) relatively stickier, and have a much closer and more stable relationship (than do equity prices or, perhaps surprisingly, than do exchange rates for most economies) with other prices and output. So, the real issue in this context is whether, and how, to include some measure(s) of housing costs and prices in the main price indices for assessing inflation.

A problem in this respect is that the treatment of housing, and the current services housing provides, in the preparation of overall price indices is an arcane topic that has become the speciality of a sub-set of statisticians. Euro-Stat is still, I believe, wrestling with this subject; the harmonised index of consumer prices (HICP) does not at present give much (or any?) weight to housing services, but that could change in future. The subject of the treatment of housing in price indices is a statistical thicket, (there are several alternative ways of approaching the problem), into which macroeconomists are understandably reluctant to enter. A result of such statistical difficulties is that housing costs and services enter with widely differing weights and are measured in quite different ways in various countries. Whereas most macro economists are prepared to discuss in broad, general terms whether housing prices should enter price indices, few know how housing is actually now treated in their own indices, or have taken part in the nitty-gritty of the statistical debates on this matter (on all this, see Goodhart (2001)).

**(b) Monetary targets?**

One of the problems with asset price targets, or objectives, is that there are several key sets of asset prices, notably property and housing, equities and exchange rates; and these often are pointing in different ways (for the economy and for policy). For example, in the United Kingdom in recent years real exchange rates have seemed too high, whereas housing prices have had an inflationary/expansionary effect on the economy. Similarly in the United States housing and equity prices have been moving in opposite directions.

Bank credit extension to the private sector is closely associated with asset market conditions. One of the advantages of a bank credit, or a broad money, target is that it can give a supplementary measure of whether the economy as a whole, including - importantly - asset markets in general, is subject to expansionary or deflationary pressures. This is, in a sense, an additional boon of monetary targets beyond the wider point that in the longer run inflation or deflation are in themselves monetary phenomena, see Issing (2004).

Like price indices, there are many varieties of monetary aggregate. As in the United States in 1929-33, in Japan in recent years, the relationship between the monetary base and nominal incomes seems to have become unreliable and subject to extension during crisis periods. This is not to say that central banks should not aggressively expand the monetary base during severe depressions; it is rather that the quantitative test of whether enough has been done is not some percent growth figure in MO, but some combination of data and forecasts from the economy itself (inflation, output, etc) together with measures of credit and broad money growth. Somewhat like MO, M1 and other narrow money aggregates may also grow quite rapidly during depressions, since the decline in nominal interest rates towards zero makes the opportunity cost of holding zero-yielding monetary balances virtually nil.

So the evidence from recent periods of “bad” deflation in Japan, and to a lesser extent in Hong Kong SAR, suggests (to me at least) that the appropriate focus on monetary variables should be on the broad aggregates, both broad money (M3) and bank lending to the private sector.

The currently fashionable, stripped down DSGE macro model has only three equations, a (forward-looking) IS and AS curve, and a central bank reaction function. In this system, the thrust of monetary policy is solely dependent on the central bank’s nominal interest rate, so that, although there is a demand for money function implicit in the model (McCallum (2001)), it has no role in the determination of output or inflation, (shocks to the D for M function are just automatically offset by changes in the quantity of money, given the desired level of interest rates).

Underlying this model, however, is a transversality assumption that all agents always can, and do, pay off all their debts by the terminal horizon, so there is no bankruptcy, no liquidity constraints, no concern about confidence, and no real need for banks (except perhaps owing to informational asymmetries). Given the reality of default, all these other factors, eg liquidity constraints, the need for collateral, trust and confidence, and a role for banks, come back into play. That said, macro models in which default enters, perhaps as a choice variable (as in Shubik (1973), Shubik and Wilson (1977) and Dubey et al (2000)), are rare. This needs to be rectified. I, and my co-authors, Sunirand and Tsomocos, are making a stab at this, (Goodhart et al (2004)).

In the meantime, for practical policy purposes, it needs to be realised that there will be a time-varying assessment of the risks of default. This will be exhibited both in fluctuations in risk premia (spreads) over and above the risk-free rate of interest, *and* in changes in the willingness of banks to grant credit, (at any given level of interest rates). Thus, changes in commercial banks’ behaviour and attitudes, and

indeed changes in risk appetites more widely, will have an influence on the real economy, additional to that of the risk-less (short-term) rate of interest.

There are various possible measures of such uncertainties, and of risk appetite, including many from markets themselves, eg from spreads and option pricing. Nevertheless, the trends in the broad monetary aggregates will also contain potentially valuable information on the overall effects of all these factors on the future development of the economy. That said, such information needs careful interpretation. Structural innovations in financial intermediation can have strong effects on the aggregates, separate from macroeconomic factors. There is no fixed, or necessarily stable, inter-relationship between the growth of any monetary aggregate and of nominal incomes. Yet there can be much potentially useful information in their time paths.

Excessive, and unsubstantiated, reliance was placed on the robustness and stability of demand for money functions in the era of monetary targets (notably between 1973 and 1982). But when those relationships failed to live up to their prior billing, and monetary targets were (mostly) abandoned, there was a general tendency to go too far in the opposite direction, ie to deny any useful informative role to monetary aggregates and bank credit. As the monetarists have constantly and correctly claimed, it is not sufficient just to look at (nominal) interest rates as the gauge of the thrust of monetary policy. This is particularly so during deflations when nominal interest rates are constrained by the zero lower bound. Whether it is necessary, however, to put a broad monetary aggregate on a "pillar" to give it the visibility that it does deserve is debatable, but there is certainly a case for it.

### (c) Price level targets?

At one stage, about three years ago, I did advocate in one of the many (and generally fruitless) discussions with Japanese officials that Japan adopt a medium-term price level target. The reasoning was as follows. The Bank of Japan (BOJ) was then publicly proclaiming its inability to employ instruments that could enable it to hit a short-term inflation target. Partly in consequence the private sector there was (apparently) expecting continuing deflation, thereby raising real interest rates and making such deflation a more probable self-fulfilling prophecy. My thinking was that a medium-term (say five year) price level target would put ever-increasing pressure on the BOJ to be aggressive in its expansionary measures, the more it failed to halt deflation in the short run. Moreover, insofar as the ultimate achievement of that price level target had any credibility, it might help to mitigate the depressing expectational effects of continuing short run failure to prevent deflation.

Now that there seems a reasonably good chance of Japan emerging from its decade-long depression, I am quite glad that my advice then was not followed. If a price level target had been adopted, say in 1999 or 2000 for end-2005, it would presumably now involve the BOJ either aiming for a relatively high rate of inflation between now and end-2005, or consciously deciding to miss the target altogether. One of the concerns, which will be discussed in Section 6, and which needs wider discussion now, is whether the combination of fiscal and monetary policy most often used to combat inflation entail a re-entry problem, whereby the economy having exited "bad" deflation becomes particularly prone to high (perhaps hyper) inflation; in which case no one should want to see inflation in Japan bounce from, say, +1% to +5% in a year.

Of course medium-term targets with undesirable end-period implications can be, and are often, finessed by continually rolling forward the relative period. The European Central Bank's medium-term target for price stability is an excellent example; indeed it is so imprecise as to dates as hardly to count as a target at all! As the above suggests, the alternative of fudging the target by rolling forward, or simply not giving dates, does not add to credibility.

However, if private sector agents are mostly forward-looking and the targets are credible, price level targets are superior to inflation targets. The reason is obvious. If there is a deviation of outturn from target, then with forward-looking expectations and credible targets, real interest rates and price/wage expectations will move in a strongly stabilising fashion without having to adjust nominal interest rates (by much), or cause output to deviate (by much) from its equilibrium level. Since price level targets, if achieved, also give greater certainty for long-term economic developments and long-term contracts, their relative advantage, under these assumed conditions, over inflation targets is clear.

The problem, of course, is that these conditions do not empirically hold. Whereas theorists like forward-looking models, most empirical work suggests that expectations are - at least half - backwards looking, see Campbell and Mankiw (1989) and Mankiw (2000). Moreover, as already indicated, experience with targetry suggests that price level targets would not, initially at least, have much

credibility. Consequently, setting a price level target would run the risk of forcing a more disruptive readjustment on to the economy, following a deviation of actual from target, than any central bank/Ministry of Finance has yet been prepared to attempt. Such readjustment frictions could be mitigated by allowing it to occur over a run of years, but that would lead to a complex, time-varying target for inflation which would be difficult to explain easily to the public. For such reasons there is little or no current enthusiasm amongst policymakers for shifting from an inflation target to a price level target.

It should go without saying that ex ante inflation and price level targets are effectively identical. They differ in their implications on how to respond to ex post deviations of inflation from target. So the issue of whether the target should be zero inflation, or some positive number, is a conceptually separate question. That said, there has been some overlap between enthusiasts for a zero inflation objective and for a price level target, (John Crow of the Bank of Canada may fit the bill, see (2002, Chapter 11)), also see the Bank of Canada Conference on *Economic Behaviour and Policy Choice Under Price Stability*, especially Session 2, October 1993, published 1994. Recent concerns about "bad" deflation and the zero bound to nominal interest rates have, however, left central banks content that their targets of around 2% inflation seem about right. Again there is no current enthusiasm for a change on this front.

### (d) Raising the inflation target

If the inflation target is higher, the likelihood of adverse deflationary shocks triggering the nominal zero bound limit becomes less. On the other hand, a higher target is hardly consistent with most people's definition of price stability. Quite a lot of simulation/empirical work on this trade-off has been done in recent years, mostly in the United States, eg Coenen and Wieland (2002), Fuhrer and Madegan (1997), Fuhrer and Schneiderman (2000), Johnson et al (1999), Lebow (1993), Orphanides and Wieland (1998, 2000), Reifschneider and Williams (1999) and Tetlow and Williams (1998).

That work seems to have re-affirmed most central banks' adherence to a target rate of inflation of around 2-2.5%. I have nothing further useful to add on this matter.

## III. Financial stability issues

"Flation", whether bad deflation or serious inflation, is bad for financial stability, as are unanticipated shocks to the economy (an argument for gradualism in adjusting the setting of policy). The worst periods of bank failures have coincided with severe "bad" deflations, eg Australia 1891-93, United States 1893-96, United States 1929-33, Europe 1929-33, Japan 1990-2002. So, policies to prevent systemic "bad" deflations will also help to maintain financial stability. The idea that monetary policy may be deflected from its true purpose of maintaining price stability by concerns about financial stability *may* have some validity in circumstances where the macro objective is to quash inflation and break inflationary expectations, but is rubbish when the perceived enemy is deflation.

The problem is rather the reverse, that policies imposed on financial stability grounds (rightly or wrongly) may make the task of macro policy in preventing "bad" deflation harder. Because bank borrowers are more prone to default during depressions, bad loans will rise, and the ratings of extant loans will deteriorate. The value of equity holdings of financial intermediaries will drop. So the fragility and riskiness of the individual financial intermediaries will rise. If capital adequacy is assessed on a risk-related, fair (market) value basis, the banks are likely to become increasingly constrained by their capital adequacy ratios. This will limit their willingness to lend, and may force them to sell equities into a declining market, as with Japanese banks and UK insurance companies. The possibility of an adverse dynamic spiral whereby the recession causes banks to reduce their asset books, and such cut-backs worsen the recession, is clear (see Cifuentes et al (2004)).

This potentially damaging dynamic process will become worse the more banks' accounting frameworks are on a fair (market) value basis, and the more that compound annual returns (CARs) are based on the relative riskiness of assets. Moves towards market (fair) valuations and relating CARs more closely to risk are, however, in process now. This is not the place to go into the arguments for and against these trends. That takes a separate paper(s), of which I am writing my share, (Goodhart (2004)).

Insofar as developments on financial stability issues are likely to worsen cyclicality (ie they exhibit procyclicality), there is a question of whether there are mitigating procedures that can and should be undertaken on the financial stability side; or whether the macro monetary branch of central banks will just have to act even more aggressively to counter the unhelpful macro effects of financial stability requirements. Again this is a major separate subject on which much has been written, notably here at the Bank for International Settlements (eg Borio et al (2001), Borio and Lowe (2002), Borio and White (2003)); also see Gordy and Howells (2004). Again these questions are too large and distinct to be taken here, so we shall move on.

## IV. Monetary and fiscal interaction

One of the arguments against central bank operational independence used to be, and sometimes still is, made that there needs to be coordination between monetary and fiscal policies, but that such independence prevents such coordination. I have never accepted that argument. What operational independence does is to commit the adjustment of interest rates to the achievement of price stability. The Treasury (Ministry of Finance) knows that commitment, and can therefore coordinate its fiscal policy with the pre-committed monetary policy to achieve some secondary macro objective, eg the level of real interest rate or exchange rate, should it so wish.

But when adjustments in short-term interest rates come up against the zero lower bound, the issue of coordination between monetary and fiscal policies re-emerges. Moreover, the central bank and Treasury may adopt separate targets and maximise separate objective functions, and both may ignore the important question of the identity of their private sector counterparties.

Let me start with the central bank. It may decide, as did the BOJ, that given its inability to reduce nominal interest rates further it would aim for a monetary base target. However with interest rates being very low, the purchase of long-dated government debt from the private sector would leave it exposed to potentially severe capital losses, depending on the accounting regime, (see Martinez-Resano (2004)). So, following its own individual interests it is likely to undertake open market operations in relatively short-dated bonds.[4] Oda and Okina (2001) comment, (p 343) that,

> "In addition, if prices of existing government bonds fell rapidly, the total asset value of a central bank would also decrease substantially, which might erode the credibility of central bank banknotes. In such a case, a reduction in money value would be induced and uncontrollable inflation might be generated. In order to avoid such a serious situation, a central bank should not increase the outright purchase of medium- to long-term government bonds when fiscal discipline is not warranted."

Also, they write, p 344 and 346,

> "When the economy enters a recovery phase, medium- to long-term interest rates would have already risen by the time the central bank absorbed money. Thus, the outright purchase of long-term government bonds would result in unrealized losses in the central bank's bond position at this stage. Even if the central bank absorbed money through different measures, such as bill selling operations, the bond position would lead to

---

[4] Of course, any losses on central bank holdings are exactly matched by off-setting gains to the Treasury (Ministry of Finance). So, from the view-point of the public sector as a whole, *there is no such risk of capital gains/losses*. But, perhaps especially after "independence", this is not the way that capital losses in the central bank's books will be perceived, or treated by the accountants. Moreover, especially after "independence", a central bank will be loathe to approach the Ministry of Finance for "recapitalisation". The IMF's World Economic Outlook for September 2003 urged the BOJ to ignore such accounting issues; thus on p 3 they wrote,

> "Additional purchases of Japanese government bonds (JGBs) would have the added benefit of reducing the private sector's holdings of government debt and hence lowering future interest payments from the public sector to the private sector. Concerns about potential Bank of Japan losses on JGB holdings should not be allowed to detract from the pursuit of price stability, and can in any case be mitigated through loss-sharing arrangements between the central bank and the Ministry of Finance."

It is doubtful whether the IMF's plea will be heeded.

unrealized losses (under the cost method) and thus erode the financial condition of the central bank.

Fujiki, Okina, and Shiratsuka (2001) analyzed the current outstanding balance of government bonds issued and the BOJ's balance sheet. They estimated the size of the Bank's likely capital losses by applying certain assumptions with respect to factors such as the degree of interest rate rise upon economic recovery, and reported that the impact of such capital losses would be significant."

"Fujiki, Okina, and Shiratsuka (2001) pointed out that the massive outright purchase of long-term government bonds would, even if successful in rescuing the economy from a deflationary shock, likely result in the central bank incurring a capital loss and lead to an increase in the private sector holding of government debt… Furthermore, they argued that if the government tried to avoid such a fiscal burden by monetization after experiencing a deflationary shock, monetary policy would lose control over inflation. Therefore, they concluded that the outright purchase of long-term government bonds should be considered only if the Japanese economy stood on the brink of serious deflation…

With respect to the cost attaching to the increase in the outright purchase of medium- to long-term government bonds, [...] Okina (1999a, 1999b) emphasized the possibility of the central bank's balance sheet being eroded and suggested it would be a social cost that could not be interpreted in the integrated government model."

If such open market operations (OMO) in short-dated bonds are with the commercial banks as counterparties, the results are likely to be almost nil. The banks have just swapped a very low interest, almost riskless asset, for a zero interest, perfectly safe asset. Much of the increase in BOJ MO was the counterpart of a portfolio reshuffle amongst the very low yielding liquid portfolio of commercial banks. Oda and Okina (ibid) appear to accept that argument.[5]

The purchase of long-dated government debt by the central bank from banks should have a bit more effect. At the same moment it reduces banks' income by slightly more, with an upwards sloping yield curve, but also increases their liquidity by more. So it may make banks more willing to add to their earning assets.

Similarly a purchase of government debt from the non-bank public will raise their deposits, and hence raise both the aggregate money stock *and* bank liquidity. The relative effect of OMO on the non-bank public, whether the OMO are of short, or long bonds, will be the same as with the banks.

---

[5] Thus they write, pp 330-1,

> "The second argument is more straightforward: if excess reserves become huge, mere cost pressure should force banks to invest in riskier assets. However, in reality, under zero interest rates the excess reserves were piled up in the account of *tanshi* brokers and banks with the BOJ, and failed to exert this kind of pressure.
>
> In this regard, a simple quantitative illustration might be useful. Excess reserves provided by the BOJ under zero interest rates are about ¥1 trillion. (The BOJ's current account balance, which includes required reserves, is about ¥5 trillion.) With an interest rate of 0.02 percent under the zero interest rate policy, the cost would only be ¥200 million even if a bank held all excess reserves for one year. If the BOJ increased excess reserves to ¥3 trillion - three times the current figure, as Makin (1999) suggested - the yearly cost would be ¥600 million. Even if excess reserves were increased to ¥100 trillion, 100 times more than now, the cost would be ¥20 billion, or only 0.9 percent of city banks' aggregate annual business profit (which was an average ¥2.3 trillion during fiscal 1990-98). Therefore, the cost of holding excess reserves as a precaution could be considered practically negligible; holding huge excess reserves does not pose a serious cost pressure on banks at all."

Also see Clouse et al (2003), p 20,

> "When the nominal interest rate is zero, the marginal benefits from additional liquidity (or means of payment) provided by open market operations are also zero, and the additional liquidity per se has no effect on aggregate demand."

So we can try our hand at a taxonomy, a classification of relative effects:

Table 1

**OMO**

| | **Banks** | | | **Non-banks** | | |
|---|---|---|---|---|---|---|
| | **Liquidity** | **Income** | **Deposit** | **Liquidity** | **Income** | **Deposit** |
| (1) | Min | Min | 0 | 0 | 0 | 0 |
| (2) | + | – | 0 | 0 | 0 | 0 |
| (3) | + | 0 | + | Min | Min | + |
| (4) | + | 0 | + | + | – | + |

(1) With banks: shorts. (2) With banks: longs. (3) With non-banks: shorts. (4) With non-banks: longs.

Clearly the order of effectiveness is rising. Equally clearly, the order in which a central bank with an MO target, and separate optimisation, will work is (1) (easiest to do), (3), (2), (4).

Similarly a Treasury (Ministry of Finance) is likely to be fixated on a target for its overall deficit. In this case, however, the financial danger that it runs is with the income risk of having to pay a higher rate on its roll-over debt when normality returns. So its individual aim will be to finance the deficit as far as possible by issues of long dated debt, again without that much concern about the counterparty where the debt ends up. But now we have three possible counterparties, banks, non-banks and central bank. Note, however, that, out of obvious concern for inflationary consequences, central bankers have not only been trained not to finance the government directly, but that prohibition may even be written into their statutes.

Again we can go through the taxonomy of deficit financing, remembering that a deficit financed by money creation by the central bank involves less Ricardian expectation of future taxes than one financed by debt sales to the private sector. So we have six alternatives to finance a given deficit:

1. Long debt sales to non-bank private sector
2. Short debt sales to non-bank private sector
3. Long debt sales to banks
4. Short debt sales to banks
5. Long debt sales to central bank
6. Short debt sales to central bank

We rank these again in ascending order of economic effectiveness for generating expansion.

Table 2

| | **Banks** | | | **Non-banks** | | | **Central bank** | |
|---|---|---|---|---|---|---|---|---|
| | **Liquidity** | **Income** | **Deposits** | **Liquidity** | **Income** | **Deposits** | **Riskiness** | **Income** |
| 1 | 0 | 0 | 0 | – | + | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 | Min | + | 0 | 0 | 0 |
| 3 | – | + | + | + | + | + | 0 | 0 |
| 4 | Min | Min | + | + | + | + | 0 | 0 |
| 5 | + | + | + | + | + | + | + | + |
| 6 | + | + | + | + | + | + | Min | Min |

With the long-dated bond market being dominated by non-banks, the most likely course of action for a Ministry of Finance concerned with its own welfare will be (1), with perhaps some sale of long-dated debt to banks (3). Insofar as (3) occurs, the banks will lose liquidity and approach the central bank for extra cash. The central bank, again following its own interests, is likely to adopt course (1) in Table 1, again the least expansionary possible.

Again, self-interest by the Ministry of Finance is likely to lead to a financing of the deficit in the least expansionary way possible, with a decreasing likelihood of more expansionary financing avenues. The point of this exercise is to note that both the central bank and the Ministry of Finance may well focus on a single aggregate (MO/deficit) as representing their contribution to counteracting deflation, and then be led by individual self-interest to a form of financing that variable that goes some long way to negating its expansionary impact. One of the interesting issues in Japan is to assess why apparently strongly reflationary fiscal policies appear to have had so little expansionary effect there, see Werner (2004).

Table 3 below shows the per cent share of new issues of JGBs to the private sector between 1989 and 2003.

The relative share of both long-dated and short-dated issues have trended irregularly downwards over these years, matched by a rapid, but similarly, irregular rise in medium-dated issues. Has the Ministry of Finance perhaps managed to achieve an unenviable combination of high roll-over risk, in the event of recovery, with a financing form that strictly limits the monetary and liquidity impacts of its initial fiscal deficit on the private sector?

If the aim is expansionary finance, then clearly the best, most effective method is a deficit which is financed by money creation by the central bank buying short-dated bills directly from the government. The supposed income risk to the Ministry of Finance will be exactly offset by the potentiality for higher seignorage transfers from the central bank to the Ministry of Finance. There is no risk then to the central bank. But just because it is most inflationary, it has been drummed into generations of central bank and Ministry of Finance officials that it would be more than unconventional. It would be almost ethically unthinkable. And so it is not done. As noted at the outset, “bad” deflation in a fiat money system is a self-imposed injury. It is easy to prevent deflation if the authorities are not hidebound by convention. Let us turn next to some other “unconventional” actions that a central bank can take to counter deflation.

## V. Other asset purchases

In a fiat money system a central bank can purchase *any* asset, indeed any good (or service), in order to expand the money stock, unless it is prevented from so doing by legal restrictions. There may be circumstances where a central bank finds obstacles to purchases of government debt. Purchases of short bonds, especially from banks, may be subject to a liquidity trap, and ineffective. Purchases of long bonds may make the central bank’s portfolio (be perceived as) unduly risky. Or there may be little public sector debt outstanding.

Moreover there may be other reasons, relating to their individual markets, for purchasing other types of asset. The most common example, of course, involves purchases of foreign exchange. Choices of strategy on foreign exchange regimes are usually a matter for the government, but the central bank usually executes the operations, and advises not only on tactics but also on strategy. So large scale foreign exchange operations normally require the prior agreement of both Ministry of Finance and central bank.

A disadvantage of foreign exchange operations is that they involve transacting in the currency of a foreign country. That country’s own effective exchange rate will thereby be influenced. Since the US dollar remains the hegemonic currency, the counterparty to most bilateral currency transactions, foreign exchange operations may affect geo-political relationships with the United States, and indeed have done so on various occasions. Unlike OMO in domestic assets, foreign exchange operations may be constrained both by the need for Ministry of Finance agreement and by concerns about geo-political relationships with the counterparty, usually the United States, but in some cases the euro zone.

Table 3

**New issues of Japanese government bonds, distributed to private holders**

| Fiscal year | (100 million yen) | | | | (Share) | | |
|---|---|---|---|---|---|---|---|
| | Long-term JGB (more than 10 years maturity) | Medium-term JGB (2-6 years) | TB and FB (short-term bonds, not more than 1 year maturity | Total | Long-term JGB (more than 10 years maturity) | Medium-term JGB (2-6 years) | TB and FB (short-term bonds, not more than 1 year maturity) |
| 1989 | 82157 | 16945 | 52936 | 152039 | 54.0% | 11.1% | 34.8% |
| 1990 | 95754 | 17391 | 83861 | 197007 | 48.6% | 8.8% | 42.6% |
| 1991 | 99343 | 14964 | 89644 | 203951 | 48.7% | 7.3% | 44.0% |
| 1992 | 106991 | 17066 | 95059 | 219115 | 48.8% | 7.8% | 43.4% |
| 1993 | 124686 | 44667 | 100162 | 269515 | 46.3% | 16.6% | 37.2% |
| 1994 | 136553 | 67837 | 109604 | 313994 | 43.5% | 21.6% | 34.9% |
| 1995 | 145083 | 96978 | 120638 | 362699 | 40.0% | 26.7% | 33.3% |
| 1996 | 148000 | 57433 | 125001 | 330434 | 44.8% | 17.4% | 37.8% |
| 1997 | 149210 | 70300 | 128026 | 347536 | 42.9% | 20.2% | 36.8% |
| 1998 | 205000 | 131900 | 170076 | 506976 | 40.4% | 26.0% | 33.5% |
| 1999 | 180061 | 218974 | 269794 | 668828 | 26.9% | 32.7% | 40.3% |
| 2000 | 221883 | 283003 | 295660 | 800546 | 27.7% | 35.4% | 36.9% |
| 2001 | 277987 | 370169 | 275943 | 924099 | 30.1% | 40.1% | 29.9% |
| 2002 | 326000 | 461207 | 310451 | 1097658 | 29.7% | 42.0% | 28.3% |
| 2003 | 348000 | 437600 | 341709 | 1127309 | 30.9% | 38.8% | 30.3% |

Assuming that these hurdles can be overcome, there is the further issue of whether such foreign exchange intervention is sterilised or not. So long as the central bank has a separate domestic financial objective, eg an interest rate peg or a desired level of MO, then foreign exchange intervention is always *automatically* sterilised. Moreover, in the common case where the foreign exchange reserves are held to the account of the Ministry of Finance or Treasury, as in Japan or the United Kingdom, the purchase of foreign exchange reserves will be, quasi-automatically, financed by the issue of more treasury bills. There is no need, or case, for the central bank to ask itself whether to sterilise, or not. It just happens quasi-automatically in pursuit of the domestic objective. It is only when the domestic objective is open-ended, eg interest rates as low, or monetary base as high, as possible that foreign exchange operations are not quasi-automatically sterilised.

If the purpose of the exercise is getting out of "bad" deflation, there seems little point in undertaking sterilised intervention. In any case there is a vast literature on this. So we will confine ourselves to unsterilised foreign exchange intervention. As with government debt, such intervention will be more effective if the counterparty is a non-bank rather than a bank. Again as with government debt, purchases of foreign exchange debt involve a risk of loss to the public sector, central bank or Ministry of Finance depending on the account on which the foreign exchange reserves are held. In one sense that risk is considerably less since policy success in restoring normality should make domestic prices higher, and hence under Purchasing Power Parity depreciate the exchange rate, (making the foreign currency more valuable), whereas success in restoring normality should lead to a fall in bond prices. Yet movements in foreign exchange rates are largely unpredictable, and losses on foreign exchange holdings can be large. Concern about the possibility of being held accountable for such losses has been a factor in limiting the willingness of governments and central banks to intervene in foreign exchange markets. Nevertheless the massive intervention by the authorities in Japan in the yen/US dollar market over the months up till April 2004 has probably played a key role in fostering Japan's recent marked recovery.

Assuming that such concerns over potential losses, and geo-political relationships with the hegemonic neighbour, can be overcome, can unsterilised foreign exchange intervention prevent "bad" deflation? The answer is "yes"; Svensson (2001, 2003) had such a plan for Japan in his papers. Moreover, in most cases the foreign exchange market, and US Treasury bond market, are so large, relative to other countries, that this can be done without much distortion to relative prices.

Bad deflation generally occurs if, and only if, other domestic asset prices, notably property but also equity prices, are also declining. Moreover bank lending is closely associated with the housing and property markets, much more so than with equity markets (see Goodhart and Hofmann (2003, 2004), Ludwig and Slok (2004)). These links occur since much lending is directly for property, housing, construction and related services, and because even wider lending, eg agriculture, is collateralised on property values. If the central bank can check the decline in such asset values, it is likely to halt the deflation. Moreover policy success in achieving normality is likely to bring about a recovery in such prices. At a time when a central bank's portfolio will often be stuffed to the brim with highly risky government debt, (the risk dependent on the duration of that debt), a purchase of equity/property by the central bank will provide diversification, and reduce its own (individual) risk, (though raising that of the public sector as a whole). On this view the criticism of the BOJ's policy introduced in autumn 2002 of buying equities from commercial banks, on the grounds that it was unduly risky, was wrong. If anything, it reduced the risks of the BOJ, if taken as an individual entity.

There used to be a problem constraining central bank purchases of unconventional assets, equities and properties, with the view that these would involve decisions about purchases of *individual* assets. "Improper intrusion" into the operation of "free markets" and general governance problems were adduced. Thus Clouse et al (2003), note, p 45, that,

> "While purchases of eligible private-sector credit instruments may be a way in which the Federal Reserve could provide stimulus to aggregate demand, a program of such purchases has potential problems of its own. By deciding which securities it was willing to purchase at which price, the Federal Reserve would be placing itself in the business of evaluating credit risk. And by doing so, it would be affecting the allocation of credit across firms and households. The Federal Reserve does not possess any comparative advantage relative to the private market in doing such credit evaluations, and credit-risk evaluations and credit allocations could well suffer as a consequence."

The development of index futures, and the existence of indexed mutual funds, lessens such problems considerably for equities. Similarly the wider existence of real estate investment trusts (REITs) could

allow a central bank to undertake open market operations in property generally without having to choose, or to manage, any particular property.

That still leaves the general issue whether it is acceptable for a central bank to hold, and to affect prices/returns on, government debt and foreign exchange, but not so for equities or property. Somehow I have never fully understood the grounds for this distinction, which are passionately maintained by some. Nevertheless, given such strong feelings and the historical development of central banking, there is a case for refraining from OMO in domestic private sector assets unless the need for such an unconventional measure becomes overwhelming. For an account of such a case in the shape of the Hong Kong Monetary Authority's intervention in the Hang Seng equity market in August 1998, see Goodhart and Dai Lu (2003).

If pursued resolutely, there is no reason to doubt that direct intervention by the central bank in the property (equity) markets could prevent "bad" deflation persisting. Once more we conclude that "bad" deflation is easily curable in principle in a fiat money system. Its persistence is a symptom of self-imposed constraints on central bank expansionary actions.

## VI. Is there a re-entry problem?

One reason the BOJ put forward for not undertaking "unconventional measures" was not that these would not work, but that they might work so violently as to transfer the country from deflation to serious inflation in some short space of time, see for example Oda and Okina, op cit, especially p 355,

> "Furthermore, if the central bank tried to inflate the economy at any cost, excessive easing would result, and the resulting stop-go policy would lead to a higher variability of interest rates and inflation expectations. Higher uncertainty regarding future inflation would increase long-term interest rates, reflecting the increased risk premium."

also see Yamaguchi (1999), Fujiki et al (2001), Okina (1999a,b), and Ito and Hayashi (2004), especially pp 55-6. The mechanism whereby this might occur was not made clear. Of course, an indication that the BOJ was adopting policies that would (finally) eliminate deflation should affect forward-looking expectations, but surely this was to be desired?

A much greater problem, on this view, is that the delays, and policy errors, that had led to persistent deflation in Japan also led to a build-up of deficits and a large stock of outstanding debt in the public sector, much of it quite short-term (see Table 3 above). If this adverse starting financial position is combined with deteriorating demographics, the prospect could be of a tax burden on labour and capital that could weaken growth prospects. If growth prospects are lower, rising interest rates could rapidly make the public sector's financial position unsustainable. Moreover, how far could Japan's financial system absorb quite rapid rises in interest rates, given their large scale holdings of JGBs? The path between inflation and financial collapse may indeed have become narrower with each year of delay in restoring normality.

In this paper I have argued that the fear of deflation was always exaggerated. In a fiat money system deflation only persists because of self-imposed constraints on central bank expansionary actions. Because of such limitations on OMO, delays in restoring normality have led to a severe worsening in the public sector financial position. Now that the United States is recovering rapidly, and even Japan is returning to normal, the time has come to switch attention to the problems of the future. They are, on this view, more likely to involve dangers of renewed inflation, than of deflation.

But that deserves another paper.

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# Comment on Charles A E Goodhart "Beyond current policy frameworks"

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Charles Goodhart has provided us with an insightful, wide ranging and provocative paper. Perhaps the most provocative aspect of the paper is his observation that he was asked to write on the wrong topic. In other words, as a former central banker, he is not losing much sleep worrying about an outbreak of either deflation or dangerously low inflation - rather, that he worries about inflation.

Goodhart's message on deflation (page 4) is that "a sufficiently aggressive (and courageous) central bank in a fiat money regime with a floating exchange rate can always prevent persistent deflation. In that sense deflation is a self-imposed injury, not a potentially unavoidable danger". I agree with this central conclusion.

In my own study of inflation targeting, in which I address many of the same issues that Goodhart does, often also in the context of my reading of the lessons from recent Japanese experience, I reach the same broad conclusion (Truman (2003)). In a deflationary environment, the effectiveness of various monetary policy instruments becomes more uncertain, but their combined impact is in the correct direction. This means that with enough courage the central bank will be able to achieve its objective. In this context, the role of inflation targeting is to provide a guide to not doing too much for too long - a reverse safety net.

Goodhart does not directly address the issue of timing: whether a central bank can in advance prevent deflation by acting forcefully. His implicit answer is that it cannot because of the possibility of unexpected shocks, but the central bank can prevent persistent or bad deflation once it has emerged. By addressing the timing issue, Goodhart would have given us his view on an aspect of the Japanese case that is flagged in Borio and Filardo (2004): were the problems of Japanese stagnation traceable to conventional deflation and a failure by the Bank of Japan (BOJ) to be sufficiently aggressive in dealing with it, or were they traceable to the asset price deflation? Of course in Japan, the asset price deflation came first. However, that does not necessarily absolve the BOJ from dealing with the deflation in prices of goods and services. Representatives of the BOJ stress that they are confronted with asset price deflation; the issue is whether the BOJ can or should be able to cure the Japanese economy of goods price deflation even while the effects of asset price inflation is being felt. Goodhart says yes, and I agree.

Goodhart opines that the path between inflation (deflation) and financial collapse narrows with delay by the central bank in addressing the deflation. However, he does not opine on the central lesson of recent US experience: once asset price deflation is decisively under way, the central bank should aggressively ease conventional monetary policy in order to avoid deflation and reduce the possibility that it will have to use unconventional techniques.[1]

I also wish that Goodhart had addressed directly the question of what is the best monetary policy framework to deal with potential deflation, good or bad. Is it inflation targeting, some other framework, or inflation targeting buttressed with some other elements? The implicit answer in his paper is the third option. He would not have the central bank abandon, or not adopt, inflation targeting as its framework for the conduct and evaluation of monetary policy. He would not favour adding asset prices to the target. He would, I think, have it pay more attention to money and credit aggregates short of elevating them to pillar status. He would not favour a price level target or a target higher than 2-2.5%. However, I may have read him incorrectly in all this.

[1] Notwithstanding the conclusions in Ahearne et al (2002), Greenspan provided this advice to the Japanese authorities in October 1992 as reported in Truman (2003, p 145).

In the remainder of my comments I focus on two broad topics addressed in part by Goodhart: (1) internal policy coordination and (2) asset prices, financial stability, and monetary policy frameworks.

## Internal policy coordination - the perils of central bank independence

Goodhart provides three good reasons why the operational independence of central banks should not be absolute: operational independence may inhibit coordination of policy with the fiscal authority; cooperation might compromise the central bank's independence; and intervention policy might be complicated. I will comment on each of these in turn.

Goodhart illustrates in Tables 1 and 2 how the narrow interests of the monetary and fiscal authority may differ under conditions of deflation. These differences exist under other circumstances as well, for example, the fiscal authority would always prefer to minimise the cost of its debt service; the conflicts are just starker under a deflation.

On the other hand, the distinction that Goodhart draws between monetary and fiscal operations with banks and with the non-bank public does not do much for me, except in the limiting case where the central bank does not engage in open market operations but rather restricts itself to bilateral operations with individual commercial banks, which are more analogous to discount window operations. With normal operations, neither authority can choose its counterparties. It must rely on market mechanisms for the transmission of the effects of its policies. In the case of monetary policy, the provision of reserves to the banking system is intended in part to cause banks to buy market instruments, including government debt from the non-bank public, and push down interest rates further out on the maturity spectrum.

Nevertheless, the basic point remains: the finance ministry and a central bank with operational independence should cooperate. They are natural allies, they have common interests, and to a first approximation, they should be treated as if they have a common balance sheet. The obligation to cooperate in both directions, to answer the telephone and engage in frank, confidential conversations should be written into the legislation that governs their operations.

Good policy and common sense fly in the face of the commonly heard proposition that the central bank should limit its purchases of long-dated government debt because not to do so would impair its balance sheet or limit its de facto independence. This proposition falls in Mike Mussa's category of nonsense.

First, although it is nice for central banks to have a bit of capital, their governments own them, and central banks create money. A financial loss to the central bank that is offset by a financial gain to the fiscal authority is not a problem, unless the loss covers up an off-budget fiscal adventure. Therefore, any losses should be disclosed, along with an accompanying explanation protecting the central bank's operational independence. Moreover, since central banks create money, they cannot fail to meet their domestic obligations, and they normally have few foreign obligations.

Second, as long as the central bank purchases long-dated government obligations in the open market, and has no obligation to roll them over, the central bank should have no legislated or self-imposed limit on the amount of such obligations it may purchase. If the central bank is trying to influence the yield curve and communicate to the general public that short-term interest rates are likely to be low for a considerable period, they should not hesitate to purchase long-dated government obligations to make their points. Presumably it should take this step long before purchasing private instruments or foreign currency instruments because with long-dated treasuries any losses to the central bank are offset by gains to the finance ministry.

This brings me to the matter of purchases of foreign currency instruments by the central bank - foreign exchange market intervention sterilised or unsterilised. Japanese foreign exchange market intervention is *always* sterilised because that is the way the Japanese have designed their institutions. Foreign exchange operations are recorded on the books of the Ministry of Finance (MOF) not on the books of the Bank of Japan. Accumulations of US Treasury securities by the government of Japan has no impact on the monetary base; that is the definition of sterilised intervention. Goodhart in an earlier version of his paper was confused on this issue. However, he was in good company. Greenspan (2004, p 7)

makes the same mistake, saying that "partially unsterilised intervention is perceived as a means of expanding the monetary base of Japan, a basic element of monetary policy".

The MOF in Japan has been issuing large quantities of Japanese government debt and using the proceeds to purchase large quantities of US government debt - more than $250 billion over the past 18 months. The BOJ also has been expanding the monetary base; in part, by buying Japanese government debt. However, it has not been buying dollars or investing in US government debt. In thinking about the effectiveness of Japanese financial operations on the yen-dollar rate, we therefore have two questions: what is the effect on the exchange rate of the sterilised foreign exchange market intervention by the MOF? What is the effect on the rate of the expansionary monetary policy by the BOJ in purchasing domestic assets? Since both were occurring at roughly the same time, it is difficult to identify effects of each operation on the value of the yen, but in principle that should be our analytical objective. If we mix up these matters, then we'll only succeed in confusing ourselves.

It is debatable whether the effects on the real economy, as well as on the exchange rate, would be the same if the Bank of Japan did not purchase domestic assets but rather purchased dollar assets. The answer lies not simply in hypothetically consolidating the balance sheets of the MOF and the BOJ. The reason is that the BOJ, in part, has been buying assets of, or making advances to, other entities than to the government. The hypothetical and the actual operations only would be identical if (1) the government issued the same amount of debt and (2) with proceeds equivalent to the difference between the hypothetical BOJ intervention and (3) the actual BOJ purchases of government debt the MOF purchased the domestic assets or claims that the BOJ actually has purchased.

On the other hand, the division of labour between the MOF and the BOJ that is enforced by Japanese legal arrangements underscores the basic internal coordination problem to which Goodhart correctly points. In the best of circumstances, from the perspective of the Japanese, the MOF and the BOJ would agree that there should be simultaneous purchases of dollar assets by the MOF in one market and purchases of Japanese government debt in the other market. As Goodhart also points out there is the small matter of the other country whose currency, and ultimately whose debt, is involved. Apparently the United States does not care. Perhaps, the US authorities think that sterilised intervention, even on the massive scale practised of late, has no effect on the dollar. Perhaps, the US authorities are ignorant of this basic point. Perhaps, they know, but they think strategically that only via MOF intervention on such a scale could the BOJ be persuaded to be as aggressive as it has been in expanding the monetary base. One can only wish that it had followed Goodhart's implicit guidance and purchased more JGBs.

## Asset prices, financial stability and monetary policy frameworks

Goodhart has it about right, in my view, about asset prices and monetary policy frameworks. What we are interested in is the effects of increases and decreases of asset prices on inflation and the performance of the real economy. In this connection, the price of housing is probably the only one whose behaviour is sufficiently systematic to provide much guidance. In some economies, the euro area, for example, with the HICP index, aggregate measures of inflation do not incorporate house prices or housing services. (I do assume that the ECB looks at proxy measures.) In other economies, an attempt is made to incorporate housing services in aggregate price indexes, but the result may be so imperfect as to be misleading. However, this does not prevent a stability oriented monetary policy, such as inflation targeting, from taking account of house prices or equity prices for that matter. Indeed, the central bank would be derelict in its duty if it did not.[2]

However, the interpretation of the behaviour of asset prices in general is complex. This is one of the reasons why some today favour resurrecting the role of monetary and credit aggregates in monetary policy. My view is that they never were or should have been fully disregarded. However, an effective

[2] I understand that some believe that the Bank of England (BOE) has replaced its inflation target with an asset price target - property prices. I would note that if this description is accurate, it does not mean that the BOE has abandoned its inflation target. It would seem to be doing its duty to the best of its ability by taking account of property prices within its framework of inflation targeting.

case for reintroducing them officially into frameworks for monetary policy has not been made. Nothing that I have read suggests that their behaviour in most economies does not remain highly erratic.

For some, concerns about asset prices are proxies for concerns about financial stability, and monetary and credit aggregates are proxies for movements in asset prices that in some circumstances should be of concern. So the root question is whether financial stability considerations should have a role in monetary policy frameworks in an era of low inflation or possible deflation. This is only an interesting question if there is a conflict between the monetary policy framework and financial stability. Under conditions of deflation, Goodhart provides the correct answer: no conflict, therefore no problem. Under conditions of low inflation, the argument is a bit subtler. There is no real conflict. However, the question is whether the objective of monetary policy should be to burst a possible bubble in order to avoid, or reduce the probability of, paying a very large non-linear cost in terms of "bad" deflation and lost output down the road. That is very much a judgment call in my view. It is one that should rarely be made in the affirmative because the evidence is not convincing that the cost of the medicine exceeds the expected cost of the disease. In this I disagree with, or have not yet been convinced by, the "BIS View" of financial stability, as I understand it, which envisages a more frequent need to act to control asset prices because of financial stability concerns.

However, I agree with Borio and White (2004), two leading proponents of the BIS View that implementing such a judgment, either frequently or rarely, in principle calls for a degree of coordination between the central bank and what they call the "prudential authority". Moreover, the broader concern, expressed by Goodhart in this paper and others, about the procyclicality of risk-based-capital devices is one with which I have more sympathy. In the context of rapid economic expansion, the prudential authorities, at a minimum, should be tightening up both their oral and the actual interventions. In the context of economic downturns, they should back off. The incentives facing the prudential authorities point in the other direction in both cases.

Again we have a coordination problem. My conclusion is that, perhaps out of excessive and misplaced concern about potential conflicts of interest, central bank operational independence in the context of inflation targeting or the equivalent has been exaggerated to prevent independent central banks from playing a continuous, day-to-day role in the prudential arena.

In summary, to paraphrase a remark by Paul A Volcker: when you wish for central bank independence, don't be surprised if you get a less-than-complete package.

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# Discussion of "Beyond current policy frameworks" by C A E Goodhart

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## Introduction[1]

In this paper Charles Goodhart claims that deflation can be either "good" or "bad". Only the latter should be of concern, and this might give scope for some asset price targeting. In principle, however, in a fiat money system central banks can always get rid, through open market operations, of (goods price) deflation, so that if a deflation were to occur it would be only for self- or externally-imposed limitations on central banks' actions. In this case there might be, as in the recent Japanese experience, possibly relevant re-entry problems. However, worries of deflation seem in general to Goodhart to be greatly exaggerated.

In what follows I shall advance a few comments on what I see to be Goodhart's four main points concerning (1) the nature of deflation, (2) the scope for asset price targeting, (3) the possibility of limitations to the central bank's action, and (4) the relevance of re-entry problems. There is, however, much more in this paper that is thoughtfully addressed and that will not be touched in my discussion. In particular, Goodhart's remarks on the potential and risks of price level targets and on the possibility of procyclical effects of financial stability requirements are especially noteworthy.

## Bad vs good deflation

Three conditions would appear to characterise a "bad" deflation: (i) both goods and asset prices should be falling; (ii) nominal short-term interest rates should be basically zero; (iii) no strong rise in real productivity should be accompanying the fall in prices. These are, indeed, very sensible conditions, but what about a "good" deflation? Here the situation is less clear-cut as there obviously are various kinds of good deflation, when one or more of those conditions are not met. What Goodhart considers to be crucial for a good deflation, it seems to me, is the joint occurrence of sustained and continuous trend productivity growth and overall stability in asset prices. I will shortly comment on the latter. I would like to point out, however, that risks might also stem from such a good deflation (perhaps the one that the Fed was able to avert), as opposed to those we know to be attached to a bad one (like the one still being experienced, though hopefully soon to be over, in Japan).

While Goodhart claims that worries of deflation are exaggerated when it is the bad kind, he does not appear to be much concerned when it belongs to the good variety. And he is probably right, in general. Even in the case of a good deflation, however, there might be instances when aggregate demand could not match sustained productivity growth, due to the presence of uncertainties of various kinds, of precautionary behaviour in the face of demographic and political shocks, or of the inability, once the zero interest rate bound has been reached, to rely on fiscal policy to get out of a liquidity trap (say, because of very high levels of public debt). In such instances, it seems to me that the possibility of rapidly rising real short-term interest rates cannot be excluded a priori, with possibly negative consequences transforming good into bad deflation. There would seem to be no reason, then, that within Goodhart's policy framework there should be a priori exclusion of recourse to the various options of open market operations in "unconventional" assets, which he appears to suggest be adopted in order to rapidly back away from a bad deflation.

[1] The views expressed are those of the author and do not reflect those of the Bank of Italy.

## On real and monetary asset price targeting

The question here is how central banks should act (and/or react) with reference to the evolution of asset prices. More precisely, should equity and housing prices enter the central bank's objective function? And if so, should they be part of a general price index or independent objectives, for example related to the higher level goal of ensuring financial stability? In the case of equity prices, Goodhart seems to maintain that possibly only a central bank's reaction may be warranted, to avoid the "non-linear" panic consequences of a sudden bust. In this he shares a widely held view that it is not easy to identify disequilibria from fundamental movements when equity prices are on the rise. I believe that there is a lot of merit in this argument, and in the associated observation that equity price movements are not only quite erratic but also only weakly related to the evolution of the real economy. I would also argue for prudence on the part of central banks in subscribing to justifications for high and rising stock prices: if there are no grounds to justify increases in policy rates on the basis of hard to identify bubbles in equity prices, care should also be taken to avoid fanning the flames. Indeed, research and statements that would help counter naive viewpoints and possible herd behaviour might be welcome.

The case of housing, Goodhart observes, is different. Housing and property prices are stickier and in more stable relation with output and goods prices. There might even be a case for including some measures of housing costs and prices in the general price index. The treatment of housing in this case is indeed a bit of an "arcane topic". On their direct inclusion in the consumer price index (CPI), a few observations might, however, be advanced. First of all, one should always remember that housing expenditures have the double nature of reflecting both consumption and investment decisions, and disentangling one from the other is necessarily complicated and to an extent arbitrary. Secondly, the point at issue is really the treatment of owner-occupied housing, as rents and minor repairs are usually included in consumer price indexes (eg their weight in the euro-area harmonised consumer price index, HICP, is on average 6.5 per cent).

On the inclusion of shelter costs for owner-occupied housing, the experience is certainly more diversified. For example, in Australia and New Zealand house prices are included in the general index on a net acquisition basis. In other general price indexes (eg the consumption deflator), some forms of rental equivalence are used and imputed rents are appropriately computed. In other cases a user cost measure is considered, with some paradoxical results, as used to be the case in Britain, if actual mortgage rates entered such measures. In fact, while in the latter case an increase in interest rates would directly push up user costs and therefore the CPI, in the case of net acquisition estimates, too, interest rate movements might exacerbate their volatility. The interest rate effect on the CPI would, however, now be the opposite (and therefore non-paradoxical) of the case of user costs.

The use of a rental equivalence measure would have, I believe, much merit, but it is implicitly ruled out by a 1995 European Union (EU) Council regulation that states that the HICP should "be based on prices of goods and services … for the purpose of directly satisfying consumer needs". As a consequence, a 1998 regulation explicitly excluded imputed rents and mortgage payments from the HICP coverage. In any case, the issue is certainly a relevant one, as it is confirmed by the experiments and discussions that continue to take place between Eurostat and the EU member states.

A more subtle consideration may, however, be advanced. If it were really possible to identify a stable relationship between real asset prices (such as housing prices) and consumer demand, it should in principle be possible to take it into account within a flexible inflation targeting framework à la Svensson and others.[2] The effects of asset price increases would be taken into account in model forecasts of output and inflation and interest rates would be properly moved to maintain overall (properly defined) price stability. Also in the case of housing, however, the issue of non-linear effects due to sudden busts of ongoing bubbles might be raised. It might be hard, and certainly second best, to directly use the interest rate instrument to counter a bubble in the housing and property market, but a case can be made for central bank interventions of a different kind, conceived to explicitly warn the general public,

[2] See, among others, Svensson (2003) and the discussion in Bean (2003).

on the basis of sound analytical evidence and research results, of excessive movements in the prices of these assets (as was recently done, for example, by the Governor of the Bank of England[3]).

Goodhart also observes that one problem with asset price targets lies in their variety and the fact that they often appear to move in different directions. Looking for "a supplementary measure of whether the economy as a whole … is subject to expansionary, or deflationary, pressures" he suggests that much can be gained by looking at "a bank credit, or a broad money target". It is not clear, to this discussant at least, what the meaning of the word "target" is in this context. I very much agree with two of Goodhart's observations, namely that broad monetary aggregates contain valuable information on future developments of the economy at large and that care should be put into how this information is interpreted. Indeed, we are all familiar with Goodhart's law, that "any observed statistical regularity will tend to collapse once pressure is placed upon it for control purposes".[4] While this would very much argue against the use of a monetary aggregate as a target in the strict sense, one cannot but agree with Goodhart that this does not allow one to discard that information altogether. But how to best extract such information is a subject of never-ending research. And how to use it most efficiently belongs to the art of central banking at its best.

## Limitations to central bank interventions?

Since in a fiat money system central banks can intervene with open market operations in any asset market, Goodhart observes that, for a deflation to occur and persist, one needs to appeal for limitations to such operations of one kind or another. In principle this is a powerful observation. In practice, however, this is really the crux of the matter. Limitations do exist in the real world and there are cases in which they make it very difficult to intervene in particular asset markets. Furthermore, as Goodhart very forcefully observes in his interpretation of the recent difficulty encountered by the Japanese Ministry of Finance and the Bank of Japan in their attempts to counteract deflation, a focus on what may seem a priori to be their best conventional actions may lead to ineffective results. I would only like to add two comments to Goodhart's discussion.

First, with reference to the uneasiness of the central bank in buying particular assets, it seems to me that rather than abstract calls for coordination between fiscal and monetary policy and for protecting the bank's independence, an effective cooperation between the government and the bank should lead to the recognition, acknowledgement and willingness to openly address any accounting and balance sheet problem that may rise from such (possibly unconventional but necessary) open market operations. This is needed if the bank's credibility is to be preserved, and the latter is necessary to make such operations successful.[5]

Second, with reference to the possibility of massive foreign exchange interventions it should be observed that, to be effective, the yen should most likely have depreciated so much against the US dollar that it would have easily encountered major and insurmountable political resistance on the part of the United States, as well as of other Asian countries (as we know, "it takes two to tango"). This is not to deny that unsterilised large foreign exchange interventions might in the short run help get out from a bad deflation, but political considerations might simply make them not possible (at least in the measure needed). Furthermore, in a longer-run economic and financial perspective, this would be contrary to the direction suggested by world balance of payment imbalances.

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[3] "… anyone entering or moving within the housing market should consider carefully the possible future paths of both house prices and interest rates" (King, 2004, p 6).

[4] Goodhart (1984), p 96 (originally published in 1975).

[5] Perhaps one may learn from economic history and recall the role that the "letters from the Treasury" played in making it possible for the Bank of England to intervene against liquidity crises notwithstanding its balance sheet limitations. See, for example, Morgan (1965), pp 150-1.

## A re-entry problem?

This is the question with which, drawing from the Japanese experience, Goodhart concludes his paper. Indeed there is merit in it. The issue, as I see it, is the following. With a return to normality, thanks also to strong foreign demand (where a somewhat unexpected role is being played by China), higher nominal rates and still negative primary balances in the government budget might point to a serious risk to fiscal sustainability. When the public debt is so large and is rising without visible limits, its burden is certainly of great concern. Risks of creating a vicious circle cannot easily be dismissed, and one might consider that after a prolonged deflation it might be difficult to resist strong inflationary pressures. Obviously all this calls for further policy action, the object, as Goodhart aptly puts it, of another paper. But, to answer a question with another question, how will it be possible to avoid raising taxes?

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