

‘THE MEANING OF INTERNAL BALANCE’ THIRTY YEARS ON*

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In his Nobel Prize lecture, Meade advocated allocating demand management policies to pursuing price stability, reformed wage-fixing institutions to achieving full employment and foreign exchange policies to maintaining balance-of-payments equilibrium. But with respect to the first, he advocated a target for nominal income rather than the price level. I evaluate Meade’s programme with the benefit of hindsight and in the light of experience with inflation targets. I also discuss some of the issues associated with the application of flexible inflation targets, as well as the extent to which financial stability considerations should affect the conduct of monetary policy.

The year 2007 marked not only the centenary of James Meade’s birth but also the thirtieth anniversary of his receipt of the Nobel Prize, together with Bertil Ohlin, for their ‘pathbreaking contribution to the theory of international trade and international capital movements’. The award recognised Meade’s analysis of trade policy in a world with various market distortions, as well as his pioneering work on open-economy macroeconomics. In this regard, Meade’s analysis of the relation between internal and external balance, and the relation between the targets and instruments of economic policy, was of particular importance.

It was therefore somewhat surprising that in his Prize address, ‘The Meaning of Internal Balance’ (Meade, 1978; henceforth MIB), Meade chose to focus not on open-economy issues but on how to define and achieve internal balance in an economy. But it is characteristic of Meade’s modesty that he chose to dwell not on his achievements but rather on where he felt his earlier work had been deficient.

Meade’s *Balance of Payments* (Meade, 1951), one of the two key works which gained him the Nobel Prize,¹ employed a standard Keynesian fixed-price income–expenditure framework, transplanted to an open economy. A key focus of interest was how such an economy could simultaneously achieve balance-of-payments equilibrium (external balance) and full employment (internal balance). In a nutshell, that was to be achieved by a combination of demand management (expenditure increasing/reducing policies) and foreign exchange policies (expenditure switching).

At the time, and following the *General Theory*, Meade felt that nominal wage and price rigidity was an acceptable assumption to make for short-run analysis. The subsequent development of the Phillips curve allowed the endogenisation of wages and prices but the analysis and control of inflation remained something of a sideshow to the main event. But following Friedman’s 1967 address to the American Economic Association (Friedman, 1968), together with the widespread emergence of stagflation in the 1970s, it was clear that inflation needed to be properly brought into the picture. In MIB,

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¹ The other is *Trade and Welfare* (Meade, 1955).

Meade recognised this deficiency in his earlier work and noted that policymakers needed to seek to achieve price stability, as well as full employment and balance-of-payments equilibrium.

How was this to be achieved? Achieving three targets in general requires three instruments and Meade identified demand management (fiscal and monetary policies), wage-fixing and foreign exchange policies as the tools required for the job. But what was more interesting – and at that time novel – was the particular assignment of these instruments to targets, namely:

- Demand management to control total *money* (rather than real) expenditure and thus to achieve price stability;
- Wage-fixing institutions to ensure that wages moved to match the demand for labour to the available supply (rather than to control inflation as in traditional incomes policies) and thus to achieve full employment; and
- Foreign exchange policy to maintain balance-of-payments equilibrium.

In MIB, Meade then went on to elaborate on this assignment of instruments to targets and a host of issues connected with its implementation. But there were so many details to be filled in that it occupied a large team at Cambridge for more than a decade and led to four books (Meade, 1982; Meade *et al.*, 1983; Meade, 1986; Weale *et al.*, 1989), as well as a host of articles. On a personal note, it also provided the stimulus for part of my own PhD thesis (Bean, 1983).

Viewed with thirty years hindsight, it is notable how much of the essence of Meade's thinking is embodied in the current macroeconomic policy framework. But, not altogether surprisingly, there are significant ways in which it differs. In this article, I explore what has survived and what has fallen by the wayside, as well as considering some unresolved issues associated with the current policy framework. As befits a central banker, I focus on the demand management aspects of Meade's policy programme, rather than the wage-fixing and foreign exchange elements, though I touch briefly on each of these too.

1. Meade's Proposals

1.1. *The Policy Assignment*

A key feature of Meade's programme was the assignment of demand management policies to the control of nominal spending and inflation, rather than to the level of real activity and employment, which were instead to be pursued through reform of the institutions determining wages. That is very much the consensus approach to policy today and reflects the belief that, although temporary nominal rigidities or sluggish expectations may create a short-run trade-off between activity and inflation, output cannot systematically lie above its 'natural' level, which obtains once wages, prices and expectations have all adjusted. It is, though, the reverse of the assignment that prevailed in the 1960s and 1970s.

Why does this long-run neutrality of inflation for output lead naturally to Meade's (and the current) assignment of instruments to targets? It is not because the traditional assignment could not work in principle. The level of wages could be set to generate

some predetermined inflation rate, with macroeconomic policies then set to achieve what is believed to be the natural rate of output conditional on that inflation path. In essence, all that is needed is just to solve a pair of simultaneous equations for two unknowns.

The problem comes when the policymaker's assessment of the natural rate of output is wrong. If, for instance, it is too optimistic – as was effectively the case in the UK through much of the 1960s and especially the 1970s – then there will be upward pressure on wages and prices relative to that generated by the policy for wages and prices. Though the latter might hold for a while, experience suggests that such prices and incomes policies eventually need either to accommodate that higher required inflation rate or else collapse. So long as the target for output was too high, there would be a tendency for inflation to keep on ratcheting up.

Meade's assignment prevents this happening. In deciding the target for the rate of growth of nominal spending, the policymaker would need to take a view on the rate of growth of the natural level of output. But if (s)he is too optimistic, the consequence would be higher inflation than intended but no tendency for it to continue to accelerate. So the assignment is potentially more robust to errors in implementation. Moreover, it helps to emphasise to the public that ultimately the level of activity is determined by real factors and cannot be affected in the long run by manipulating the level of nominal demand.

The argument here is similar to that found in the literature on the time inconsistency of monetary policy developed by Kydland and Prescott (1977) and Barro and Gordon (1983). In those models, an inflationary bias arises because distortions, associated with the exertion of monopoly power in product and labour markets, lead the policymaker's target for output to exceed its natural rate. The microeconomic underpinnings of the bias may differ from that in MIB. But the same basic idea led Meade to advocate a nominal income target as led contemporary macroeconomists to recommend targeting inflation; see e.g. Bernanke *et al.* (1999).

1.2. *Fiscal or Monetary Policy?*

One aspect in which Meade's assignment differs from contemporary practice is in the roles played by fiscal and monetary policies. In MIB, Meade noted that if the velocity of circulation were stable, then a steady rate of expansion of nominal demand could be achieved through a steady rate of growth of the money supply. In turn that could be delegated to an independent central bank with a constitutional requirement to aim to achieve steady but moderate growth in nominal income. However, instability in the velocity of circulation – and remember this was before the experiment of monetary targeting in the 1980s had been derailed by shifts in velocity associated with financial market innovation – persuaded him that monetary policy, i.e. interest rates, should be used to directly target nominal income and that this should be supplemented by the use of fiscal policy, i.e. the use of two instruments to hit one target.

That one might want to use more than one instrument to hit a single target can be rationalised by uncertainty about the impact of each instrument on the goal variable. With multiple instruments, one can increase the precision of control by diversifying across instruments, placing more weight on those instruments whose impact is felt to

be more certain, as well as exploiting any covariances between policy multipliers (Brainard, 1967). Meade's analysis was different though. He noted that what sort of fiscal action was called for depended on the nature of the shock – he gave the example of an adverse terms-of-trade shock requiring a fall in real consumption – and that the best model was therefore to let the fiscal authority (which should *not* be independent) set fiscal policy in the light of circumstances, knowing that the central bank would then maintain nominal demand at its desired level.

This is pretty much the arrangement that we do have, with the important proviso that monetary policy is seen as the *primary* tool for managing nominal demand. Interest rates are a flexible tool that can be changed instantaneously, though the transmission lags to demand and thence to inflation are certainly, in Friedman's famous phrase, 'long and variable'.

Fiscal policy is, by contrast, these days seen as a less effective weapon – at least in normal times, when financial markets are functioning properly and the efficacy of monetary policy is not in doubt. Increases in government spending take time to initiate. And temporary changes in income taxes are likely to be ineffective in stimulating or constraining demand, at least if consumers obey the life-cycle/permanent income hypothesis. Temporary variations in sales taxes or investment credits may, though, be viable as a countercyclical fiscal tool, as they induce intertemporal substitution in spending; the recent temporary cut in VAT is such an example. Finally, fiscal expansions, whether as a result of higher spending or lower taxes, tend to be hard to reverse politically. For that reason, the conventional wisdom has for some time been to set fiscal policy with an eye to the longer term, ensuring that budget deficits are purely temporary phenomena reflecting unusual events, e.g. cyclical downturns or wars, and matched by appropriate surpluses in the good times. The exception to this rule is when the transmission mechanism of monetary policy is impaired, as in a classic liquidity trap. In such a case, fiscal policy may be the only viable demand management tool.

It is worth noting, however, that Meade also advanced another reason for using fiscal policy in tandem with monetary policy to manage demand, stemming from the need to ensure an appropriate balance between consumption and investment. That was determined by the level of the interest rate and exclusive reliance on monetary policy to control demand might result in an inappropriately low/high interest rate and cumulating imbalances. That idea was developed in more depth in Weale *et al.* (1989).

1.3. *Central Bank Independence*

MIB did not expand in detail on the arguments for an independent central bank. Indeed, in other writings, Meade showed considerable scepticism about the case for an independent central bank, because of the potential inefficiencies resulting from a lack of co-ordination in the setting of monetary and fiscal policies (Meade, 1990; Meade and Weale, 1995). But as I note below, that should not be an issue under the present UK arrangements.

That central banks should be at least operationally independent is now the conventional wisdom, though in 1977 it would have still been a relatively unusual position to take. Much of the impetus to academic thinking came from the work of Kydland and Prescott (1977) and Barro and Gordon (1983) mentioned earlier, as well as that of

Rogoff (1985), who showed how delegation to a 'conservative' central bank could reduce the inflation bias and raise social welfare. Subsequent work has explored alternative ways of achieving the same end through mechanisms such as performance-related contracts, which provide the monetary policymaker with an incentive to offset any inflation bias.

Interesting though this literature may be, in my view it was the better comparative performance of countries with independent central banks, such as the US and Germany, coupled with an appreciation that delegation of monetary policy would allow the Chancellor and the Treasury to focus on fiscal and structural issues, that provided the main impetus behind the decision to give the Bank of England operational independence in 1997.

There are, however, also degrees of independence. The Bank of England has only operational independence; our target – 2% CPI inflation at all times – is given to us by the Chancellor each year. Other central banks, such as the European Central Bank (ECB) and the Federal Reserve have more latitude in setting their own objective within their general legal mandate. I think Meade would have approved of the UK arrangement, as it helps to reduce the likelihood of unco-ordinated decision making by the Bank and the Treasury leading to a sub-optimal policy mix. If the Bank had freedom to set its own goal, there is always some possibility that it would differ from that of the Treasury. If the Bank (Treasury) then sets monetary (fiscal) policy treating the policy setting of the other agency as given, the resulting Nash equilibrium is inefficient. But the Chancellor presumably sets us an objective that is consistent with the Government's, so that misalignment of objectives is impossible; the Treasury sets fiscal policy, knowing that the MPC will then adjust monetary policy to keep inflation at the target, i.e. the Treasury is a Stackelberg leader and the Bank is a Stackelberg follower. Under such circumstances, the outcome of such unco-ordinated decision making will be optimal from the perspective of the former, at least so long as we share the same assessment of the economic conjuncture and of the short-run output–inflation trade-off (Bhundia and O'Donnell, 2002).

1.4. *Nominal Income v Inflation Targets*

An obvious divergence between Meade's programme and current practice is that the Monetary Policy Committee (MPC) has been given a target for consumer price inflation, not total money spending. Indeed, there are at least 22 central banks around the world that have explicit inflation targets and a number of others, such as the ECB, which have something that looks like an inflation target, even if they choose not to describe themselves as inflation targeters. The chosen regime for those central banks which do not have an inflation target is usually some form of exchange rate target – most often in small, open economies. But to my knowledge, no central bank has ever formally pursued a nominal income target.

In MIB, despite having declared that price stability should be one of the two components of internal balance, Meade argues that

...to make price stability itself the objective of demand management would be very dangerous. If there were upward pressure on prices because the prices of imports had risen or indirect taxes had been raised, the maintenance of price

stability would require an offsetting absolute reduction in money wage costs; and who knows what levels of depression and unemployment it might be necessary consciously to engineer in order to achieve such a result?

He goes on to observe that

... this particular danger might be avoided by choice of a price index for stabilisation which excluded both indirect taxes and the price of imports; but even so, the stabilisation of such a price index would be very dangerous. If any remodelled wage-fixing arrangements were not working perfectly ... a very moderate excessive upward pressure on money wage rates and so on costs might cause a very great reduction in output and employment if ... the whole of the impact were taken on profit margins. If, however, it was total money incomes which were stabilised, a much more moderate decline in employment combined with a moderate rise in prices would serve to maintain the uninflated total of money incomes.

The argument here is quite straightforward. While nominal income and price (or inflation) targets should lead to identical interest rate decisions in the face of shocks that affect only the level of demand, they have different implications in the face of supply shocks, with nominal income targets being more 'forgiving' than an inflation target. In Meade's example – a deterioration in the terms of trade or a rise in indirect taxes – trying to stabilise consumer prices would require falls in both the money wage and the price of domestic value added. And even if the target were for the price of domestic value added, any resistance by workers to the requisite fall in the real consumption wage would have to be reflected entirely in lower output, rather than a combination of higher prices and lower output as would happen under a nominal income target. Meade therefore felt that a nominal income target offered more flexibility in the face of supply disturbances.

Indeed, in the case of some sorts of supply shock, a nominal income target generates an optimal outcome. Specifically, if labour supply is inelastic, then a labour-augmenting productivity shock which raises the output of a given quantity of labour by $x\%$ requires an $x\%$ increase in both the real wage and output in equilibrium. If nominal wages are pre-set and output prices are flexible, that can be achieved through an $x\%$ fall in the price level, leaving nominal income unchanged (Bean, 1983). But in more general settings and with arbitrary types of supply shock, neither a nominal income nor an inflation target would ensure that output was always at its 'natural' level associated with fully flexible wages and prices.

So why is an inflation target the chosen regime for so many countries? And why are nominal income targets conspicuous by their absence? The answer is, I think, twofold. First, the choice between a nominal income target and an inflation target is an artificial dichotomy. Given that neither generally delivers the optimal outcome, why should the policy choice be so restricted? Why not adopt a more flexible approach? That is exactly what inflation targeting as it is actually practised does. Second, an inflation target has some practical advantages over a nominal income target, particularly in terms of the likely impact on inflation expectations.

All inflation targeting central banks pursue 'flexible' inflation targets, in which there is 'constrained discretion' in choosing how to respond to supply shocks of the sort

considered above and in how quickly to correct any deviation from target (King, 1997). Although the Chancellor's *Remit* to the MPC says that our target is to achieve 2% CPI inflation 'at all times', it goes on to recognise 'that the actual inflation rate will on occasions depart from its target as a result of shocks and disturbances. Attempts to keep inflation at the inflation target in these circumstances may cause undesirable volatility in output.'

Indeed, Svensson and Woodford have argued that optimal monetary policy can be implemented through a regime of flexible inflation targets (Svensson, 2003*a*; Svensson and Woodford, 2005). Contemporary discussion of macroeconomic policy issues is dominated by the New Keynesian/New Classical Synthesis approach that recasts traditional Keynesian macroeconomic thinking in a setting with explicit micro-foundations. On the demand side, consumers are intertemporal optimisers, follow the life-cycle/permanent income hypothesis and have Dixit-Stiglitz preferences for individual goods. On the supply side, monopolistically competitive firms use labour to produce those goods, charging a price that reflects the elasticity of demand. However, those prices can only be changed periodically, with a random fraction of firms getting the chance to re-set their prices each period.

A log-linearised representation of the demand side is given by:

$$x_t = E_t x_{t+1} - r_t/\sigma + v_t, \quad (1)$$

where x_t is the deviation of output from its flexible-price or natural level, r_t is the deviation of the (expected) real interest rate from the flexible-price or natural real interest rate, and v_t is an aggregate demand shock. This is essentially the intertemporal optimality condition characterising the representative household's optimal consumption path.

The supply side is correspondingly given by a New Keynesian Phillips curve:

$$\pi_t = \beta E_t \pi_{t+1} + \kappa x_t + u_t, \quad (2)$$

where π_t is the deviation of inflation from target, β is a discount factor close to unity and u_t is a supply (strictly a mark-up) shock. This relationship reflects the pricing behaviour of firms; firms only get the opportunity to change their price periodically, so the price they set will reflect expected future cost and demand conditions.

The social welfare function is assumed to be given by the expected discounted loss:

$$L_t = (1 - \beta) E_t \left[\sum_{k=0}^{\infty} \beta^k (\pi_{t+k}^2 + \lambda x_{t+k}^2) / 2 \right]. \quad (3)$$

Because of the presence of expected variables in (1) and (2), the optimal policy depends on whether or not the central bank can commit to follow a particular monetary strategy. When it cannot pre-commit, the optimal policy satisfies the first-order condition:

$$\pi_t = -(\lambda/\kappa)x_t. \quad (4)$$

Thus policy should 'lean against the wind' in the event of supply shocks but demand shocks should be neutralised.

When the central bank can commit, the optimal policy satisfies instead the set of first-order conditions, for all $k \geq 0$:

$$E_t \pi_{t+k} = -(\lambda/\kappa)(E_t x_{t+k} - E_t x_{t+k-1}). \quad (5)$$

Both (4) and (5) ensure that inflation will be brought back to target but at a rate that recognises the consequences for activity. Svensson has characterised optimality conditions of this type as describing ‘flexible inflation-forecast targeting’. Note that the optimal policy in (5) is history-dependent, even though there are no lagged endogenous variables in the model. That is because if there is an adverse supply shock, the central bank would prefer to get inflation down today by promising to run an extended period of small output gaps into the future, rather than having a larger output gap today. Note also that if λ and κ happen to be the same and the rate of growth of the natural level of output is constant (an heroic assumption), then the policy characterised by (5) is tantamount to maintaining a constant rate of growth of nominal income.

In this interpretation, specifying the inflation target involves specifying a ‘high-level’ objective for inflation, leaving the central bank then to apply the policy strategy (4)/(5) to bring it back to target. One might be tempted to suggest that a ‘high-level’ target for the natural level of output should be specified too. However, the natural level of output is not known with any certainty. Given the inability of monetary policy to influence anything other than inflation in the long run, nothing is lost by this omission as output will gravitate to its unknown natural level in the long run as expectations adjust and nominal rigidities work their way out. Moreover, if the government were to set a ‘high-level’ target for output, it would reintroduce scope for pressure to manipulate interest rates in order to achieve short-term political ends. The wording and lexicographic structure of the mandates of both the Bank of England and the ECB instead help to insulate the central bank from pressures to pursue a more accommodative monetary policy in the short run if that conflicts with keeping inflation close to target.

So while Meade advocated a nominal income target rather than a price/inflation target because it offered greater flexibility in the face of supply shocks, a flexible inflation target – operated under ‘constrained discretion’ by an independent central bank – permits even greater flexibility in the response to such shocks.

Looking at the demand management problem this way does, though, invite the question as to whether a ‘flexible nominal income target’ would do just as well as a flexible inflation target. After all, instead of delegating to the MPC the task of achieving a 2% inflation target, if the average rate of growth of the natural level of output were, say, 3%, the Chancellor could just as easily have told us to target ‘5% growth in nominal income at all times’ but given us the same ‘constrained discretion’ that we employ in pursuing the inflation target. In that way, we could take exactly the same interest rate decisions as now.

There are a couple of reasons why I think a flexible inflation target dominates a flexible nominal income target. First, data on nominal income appears with a lag and is subject to considerable revision. From the point of view of holding the MPC to account, having a target measure that is both relatively timely and never, or only rarely, revised holds considerable attractions.

Second, and more importantly, inflation in the prices of things that people buy is something that they recognise. And expected inflation is something that matters both

in determining the level of demand, via the real interest rate, and in the setting of wages and prices. Indeed, in the sort of New Keynesian model outlined above, inflation expectations represent the key channel in the monetary transmission mechanism. By contrast, the expected rate of growth of nominal income is only relevant indirectly. Now rational agents might have no problem calculating the likely rate of growth of real income and then working out the implied inflation rate. But many households and businesses are probably not particularly sophisticated and will tend to follow simple heuristics in forming their expectations (see King, 2005). In that case, provided it is credible and well understood, a clear inflation target may help to anchor private sector inflation expectations more effectively than would a nominal income target.

1.5. *Wage-fixing*

The second ingredient of Meade's proposals in MIB was the assignment of structural policy to the achievement of full employment. Meade recognised that the necessary reform of wage-fixing institutions was even more demanding than achieving price stability through appropriate macroeconomic institutions and policies. His approach was marked by an emphasis on the need to balance supply and demand in each sector of the labour market, not just overall. That chimes well with both modern macroeconomics and the preoccupations of contemporary policymakers. Meade identified five broad approaches to achieving this: government edict; corporatist wage-bargaining; increased competition; workers hiring capital rather than the other way round; and arbitration in which supply–demand conditions were paramount. His preferred approach was the last.

That he discarded government edict (on the grounds that government lacked the necessary information) and labour co-operatives (on the grounds that it was only feasible with small-scale enterprises) is unsurprising. More interesting was his dismissal of both the corporatist approach and the competitive solution, since some of the smaller European countries have successfully achieved low unemployment through the corporatist approach, while the UK has done the same through the pursuit of a more competitive paradigm.

Meade rejected corporatism on the grounds that, at least in a relatively large country like the UK, there were sure to be outsiders who would be excluded. The idea that corporatism could work in small countries but not in large ones was subsequently formulated rigorously by Calmfors and Driffill (1988), though their argument rests not on the exclusion of some outsiders but on the reduced incentive to internalise externalities as bargaining units become more fragmented. In addition, increased competition in product markets associated with globalisation and in labour markets associated with increased migration has made corporatist solutions harder to maintain even in small countries.

Meade dismissed increased reliance on competitive forces on the grounds that monopsony power was inevitable on the demand side of the labour market because of increasing returns to scale, while one could not prevent employees combining together to undertake collective bargaining. Moreover, he thought that it would necessarily lead to reduced compensation and support for workers who did lose their jobs. Here, he clearly underestimated the extent to which legislative changes and the shift away from

traditional heavy manufacturing towards services and niche manufacturing would lead to a fall in UK union density from nearly 60% in 1979 to around 30% today, as well as the emergence of a more co-operative approach to bargaining on the part of union leaders. And while he was right to see that there would be downward pressure on unemployment benefits – and particularly the duration for which they were paid – he failed to foresee the shift in emphasis away from providing financial assistance to job losers towards providing support to job seekers – so-called active labour market policies. But Meade was certainly right to highlight the importance of labour market institutions in delivering low unemployment, a theme that emerges strongly in the voluminous literature on European unemployment (Blanchard and Wolfers, 2000; Layard *et al.*, 1991; OECD, 1994)

2. Has Internal Balance Been Achieved?

2.1. *Performance under an Inflation Target: The 'Great Stability' 1993–2007*

In the previous Section, I argued that the current macroeconomic policy framework based around a flexible inflation target can be seen as the embodiment and elaboration of many of the ideas contained in Meade's Nobel Prize lecture. But has that framework proved its worth and will it survive, especially given the present stresses in the banking system and the associated severe and synchronised downturn afflicting the global economy? Or will recent events prompt the search for another framework for macroeconomic policymaking?²

For much of the period since the inception of inflation targeting after the exit from the ERM in September 1992, inflation in the UK was low, close to target and unusually stable, in marked contrast to earlier experience. Indeed, Benati (2006) concludes that the inflation-targeting regime constitutes the most stable macroeconomic environment in recorded UK history. Between October 1992 and June 2007, RPIX inflation averaged 2.6%, while CPI inflation averaged 1.8%,³ the corresponding figures for the period since June 1997 are 2.4% for RPIX and 1.4% for CPI.

Moreover, inflation has been far less variable than was expected. It took ten years before inflation deviated by more than one percentage point from the target, thus triggering an Open Letter of explanation from the Governor to the Chancellor. But calculations at the time the regime was set up had suggested that such letters were likely to be triggered around 40% of the time (Bean, 1998)! This unexpected decline in inflation volatility is documented in Figure 1. Of course, since then inflation has been rather more volatile, reflecting in particular the extreme movements in the prices of

² The original draft of this article was completed in July 2007, immediately before the seizure of financial markets on 9 August 2007, which marked the start of the present period of financial turmoil and the sharp global downturn. I have deliberately retained much of what was contained in the original version, rather than re-writing it with the benefit of hindsight.

³ The target was initially defined in terms of RPIX inflation. At inception in October 1992, the target was specified as a range of 1%–4%; later in the parliament, that was altered to 2.5% or less. In June 1997, it was re-specified as a simple point target of 2.5%. The target measure was switched to CPI inflation at the end of 2003, with the target itself changed to 2%; on average, CPI inflation has run about 3/4 percentage point below RPIX inflation.

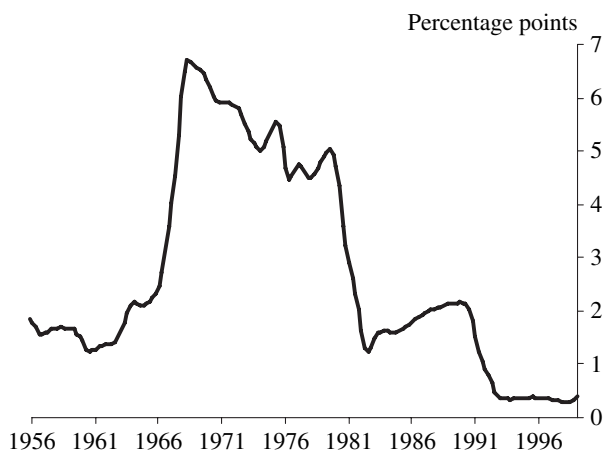


Fig. 1. *Volatility of UK Inflation*

Source: ONS. Rolling eight-year standard deviations of four-quarter RPIX (RPI before 1976) inflation. Standard deviations are leading, i.e. 1997 Q1 observation shows standard deviation from 1997 onwards (for eight years).

commodities, especially that of oil, with both measures of inflation exceeding 5% in late Summer 2008.

Such stability might have been expected if the MPC had behaved not as flexible inflation targeters but, as – in Mervyn King’s pithy phrase – ‘inflation nutters’. But in that case, one might have expected output growth to have been rather variable, for two reasons. First, the anchoring of inflation expectations at a low level should tend to flatten the short-run inflation–output trade-off, both because inflation expectations are less responsive to the current output gap and because price changes are likely to become less frequent. That indeed appears to be what has happened; see Figure 2. As a consequence any demand shocks that are not neutralised have less effect on inflation but more effect on output. Second, stabilising inflation involves a less forgiving response to cost shocks. Given that, the *really* remarkable thing was the unusual stability of output growth, with 63 consecutive quarters of expansion, the longest such run on record. This decline in the volatility of output is documented in Figure 3. Low and stable inflation coupled with relatively stable growth was a characteristic of most developed countries over that period but none experienced quite such an improvement; see Figure 4.

There are a number of possible causes of this ‘Great Stability’ (also known as the ‘Great Moderation’ in the US). As well as better monetary policies, these include smaller and more benign shocks and structural changes that have led to smoother macroeconomic outturns. As far as the good luck explanation goes, the period from 1993 until 2007 does not seem to have been an especially tranquil period. At a global level, there was: the integration of China, India and the former Communist countries of Eastern Europe into the world economy; the ICT revolution and the associated dot-com boom–bust; the emerging-market debt crisis and the collapse of LTCM in 1998; the sharp correction in international equity prices and the associated global slowdown in 2001; the attacks on the World Trade Centre and subsequent conflicts in Afghanistan and Iraq; and the rise in oil and other commodity prices. In

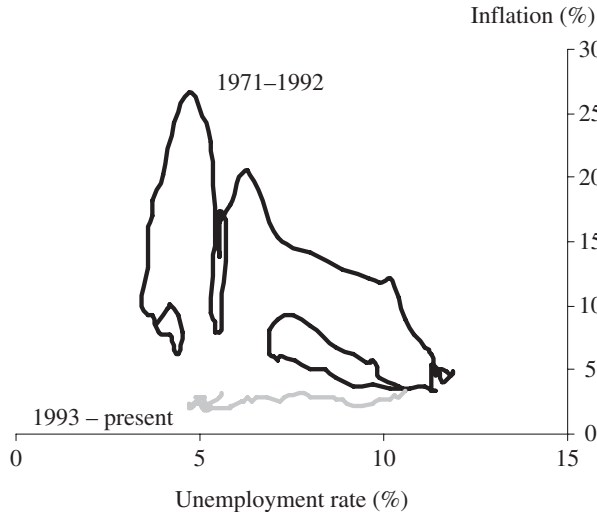


Fig. 2. UK Inflation and Unemployment

Source: ONS. LFS unemployment rate and four-quarter RPIX (RPI before 1976) inflation.

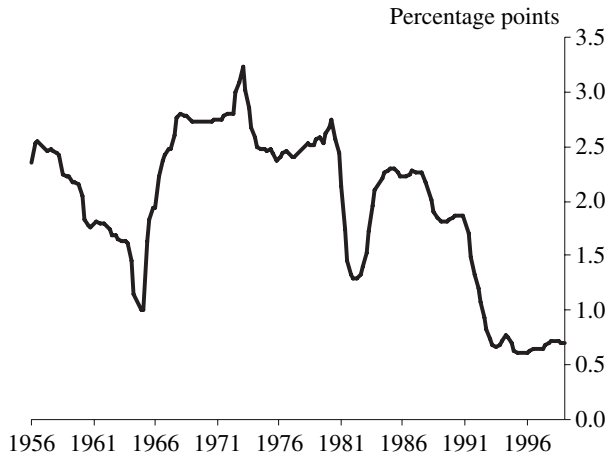


Fig. 3. Volatility of UK GDP Growth

Source: ONS. Rolling eight-year standard deviations of four-quarter GDP growth. Standard deviations are leading, ie 1997 Q1 observation shows standard deviation from 1997 onwards (for eight years).

addition, at a domestic level, the MPC had to contend with: the effects of the shocks that led to the 25% rise in sterling between 1996 and 1998 and the tripling in house prices between 1997 and 2006; ongoing labour market reforms, including the introduction of a National Minimum Wage; and substantial, and highly uncertain, net inward migration, particularly from the Accession countries.

Under the heading of possible structural influences, one could include: better inventory management techniques, which attenuated the stock cycle; the transition to a more services-dominated economy; and more effective risk-sharing as a result of

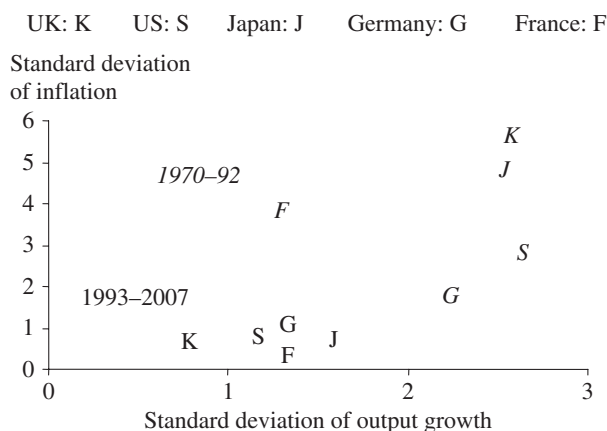


Fig. 4. *Output and Inflation Volatility in the G5*

financial innovation. However, most of these happened gradually. So it is difficult to believe that they were the main drivers behind greater stability.

Turning to the empirical evidence, there are some studies, mainly for the US, which suggest that a sizable portion of the improved performance is related to good luck rather than better policy (Sims and Zha, 2006; Stock and Watson, 2003). Some others have suggested that the role of improved policy has been central (Clarida *et al.*, 2000; Lubik and Schorfheide, 2004). However, those studies which assign a large role to good luck often suffer from a significant shortcoming in that the demand and supply shocks hitting the economy are typically identified with the residuals in econometric equations. That ignores the fact that better monetary policy may itself affect the impact of the true – but in these exercises unobservable – shocks, thus leading to smaller residuals in the estimated models (Bernanke, 2004).

Why might this be? One feature of forward-looking behaviour is that expectations of future changes in policy do a lot of the work, obviating the need for sharp movements in the current level of official interest rates. Thus an adverse shock to demand will lead private agents to expect a reduction in current *and future* interest rates – provided the commitment to stabilise inflation is understood – leading to a depreciation of the exchange rate and a rise in equity prices (compared to what would have been the case without a policy response). These asset price movements will automatically tend to stabilise demand.

Possibly more importantly, a well-understood and credible commitment to stabilise inflation may also reduce the impact of cost shocks. When policy is credible and inflation expectations are well anchored, then the chance of an adverse supply shock triggering a wage–price spiral is much less than when people believe that the central bank will accommodate the shock and allow inflation to rise.

2.2. *Are There Limits to Flexibility?*

Flexible inflation targets dominate both a strict inflation and a strict nominal income target. But that does leave open the question of how best to use that ‘constrained

discretion'. One issue is the weight to place on output versus inflation in deciding how quickly to return inflation to target, i.e. the choice of λ in (3). If (3) is thought of as reflecting the efficiency losses associated with nominal rigidities and the inflation tax on money balances, it can in principle be derived from the micro-foundations of the model underlying (1) and (2); see e.g. Woodford (2003). In that case, λ could be inferred directly from a calibration of the underlying model economy. However, the micro-foundations are of the usual representative agent variety and ignore the distributional issues associated with the uneven impact of unemployment. So one might feel uncomfortable in applying a λ derived in this way. But in any case, λ really ought to reflect the preferences of society.

Now the 'contract' between the government and the MPC could be said to be incomplete in that it does not specify what λ is. As noted above, the *Remit* for the MPC tells us that we should avoid unnecessary volatility in output, so we know λ must be non-zero. But that is all. Because of this, Svensson (2003*b*) has suggested that the MPC reveal the relative weight it places on deviations of inflation from target and output from its natural level. But I am not sure this would mean very much to the public at large. In any case, I believe that public uncertainty about 'our λ ' is really a minor issue. In Bean (1998), I showed that a wide range of plausible loss functions lead to rather similar policy choices; though see also Henry *et al.* (2006), who raise some doubts about the robustness of this result. But more importantly, any deviation of inflation of more than one percentage point either side of the target triggers an Open Letter from the Governor to the Chancellor, which amongst other things is required to say how quickly the MPC plans to bring inflation back to target. Moreover, the Chancellor's response to that letter gives him the option of indicating whether that is too rapid, or not rapid enough.

Of greater practical importance is how far the flexibility can be used before the central bank is in danger of losing the beneficial impact on expectations that comes from an inflation target. This issue is side-stepped in most academic analyses by assuming rational expectations and that the central bank's reaction function is understood and credible. But actual policymakers cannot take that for granted. To see this, go back to Meade's example in MIB of an adverse terms-of-trade shock or an increase in indirect taxes. Standard New Keynesian reasoning would say that if there are nominal rigidities in domestic output prices, then the optimal policy is to stabilise the price of domestic output and thus accommodate the shock by allowing consumer prices to rise. And, indeed, the tenet that one should accommodate the first-round impact of a terms-of-trade shock or a rise in indirect taxes but not the second-round effects does constitute the conventional wisdom.

In practice, given that we know so little about how expectations are formed and how credibility is gained and lost, the central bank cannot be sure that private agents will treat a temporary pickup in inflation meant to accommodate the first-round effects of an adverse terms-of-trade shock as just that. The situation is especially difficult if there are a series of adverse shocks, such as the relentless rise in oil and other commodity prices that occurred between the beginning of 2004 and the middle of 2008. Is it safe to assume that private agents will believe that an extended period of higher inflation is just a case of the central bank accommodating the direct effects of the sequence of jumps in commodity prices? If there is a chance that private agents will treat the increase in

inflation as a harbinger of raised inflation in the future too, then it probably makes sense for the central bank to be wary about accommodating even the first-round effects.

This line of thought also points to the danger of targeting a measure of core inflation that excludes prices of volatile components, such as oil and food. Such an approach can be justified on efficiency grounds if the prices that are included are those that are subject to nominal rigidities, while those that are excluded are relatively flexible. But if the shocks to the flex-price components are serially correlated, then there is a risk that the resulting persistent swings in actual inflation will lead to inflation expectations becoming less well-anchored.

2.3. *Is Price Stability Enough? (i) The Place of Financial Stability*

In MIB, Meade elaborated his concept of internal balance to include price stability as well as full employment as an objective. There are, of course, many other objectives that a government may have, e.g. achieving a suitable distribution of incomes, realising a satisfactory pattern of regional development or maintaining global carbon emissions at an appropriate level. These are all amenable to microeconomic interventions to correct market failures and externalities but are largely tangential to the issue of characterising internal balance from a macroeconomic perspective. But the dysfunction in financial markets that began in August 2007, and which metamorphosed into a major systemic financial crisis in September 2008 with the collapse of Lehman Brothers and the subsequent rescue of a number of other financial institutions, has led to a sharp and synchronised downturn in economic activity around the world. That immediately prompts the question as to whether Meade's characterisation – and by extension the inflation targeting framework – is complete or whether financial stability ought to figure somewhere too?

The case for making the maintenance of financial stability – understood as the efficient intermediation of funds from lenders to borrowers – an object of macroeconomic policy rests on the fact that episodes of financial instability can significantly depress activity and impose large welfare losses; see e.g. Reinhart and Rogoff (2009). In that case, might it be worth directing monetary policy to that objective, even if it compromises the pursuit of price stability? There is no dispute that central banks should provide emergency liquidity to ensure the financial markets continue to function when there is the threat of a temporary hiatus but the question is whether they should also take pre-emptive action to try to curtail a credit and asset price boom, over and above any implications it may have for the outlook for inflation, in order to limit the potential costs when the boom turns to bust.

The view that monetary policy should embrace a financial stability objective has been associated particularly with the Bank for International Settlements (Borio and Lowe, 2002; Borio and White, 2003; Bordo and Jeanne, 2002). The argument runs as follows. Some invention (e.g. the railways, the internet) or just plain animal spirits sets in train an increase in investment, at least partially financed by borrowing. Subsequently, excessive optimism about future returns drives up asset values, prompting increased borrowing to finance further capital accumulation. Moreover, appreciating asset values raise the value of collateral facilitating the accumulation of that debt. During the upswing, balance sheets look healthy as the appreciation in asset values offsets the

build-up of debt. But when boom turns to bust, there is a sharp deterioration in borrowers' net worth, followed by a tightening in credit conditions as financial intermediaries react to those stretched balance sheets. As we have seen only too clearly during the current episode, such a credit crunch depresses activity more quickly than a conventional wealth effect and, moreover, also reduces the effectiveness of conventional monetary policy, making the neutralisation of the consequences of the financial instability harder to achieve.

According to this view, monetary policy should focus not just on price stability but should seek to prevent credit excesses building up, even if that means undershooting the inflation target. In principle, that could still be consistent with a suitably flexible interpretation of the inflation target, if the consequence of sticking to the target in the short run (i.e. two years or so ahead) is to increase the likelihood of missing it further out. All that is required is to adopt a somewhat longer decision-making perspective (Bean, 2003).

But though the argument that monetary policymakers should factor in the long-term macroeconomic implications of credit/asset-price boom-busts might seem persuasive – especially at the current juncture – there are a number of practical issues that have to be faced in implementation. It was these sorts of considerations that led the former and present Chairmen of the US Federal Reserve to conclude that monetary policy should focus on achieving low inflation and stable growth but then act promptly to deal with the fall-out when the excesses start to unwind (Greenspan, 2002; Bernanke and Gertler, 2001).

First, the monetary policymaker must judge whether the boom is warranted by the fundamentals or whether it is instead based on misplaced expectations and poses a threat to future financial and macroeconomic stability. A mechanical response that treats all asset price movements alike is surely inappropriate. Since such boom–busts are apt to occur when the fundamentals have also improved, that is not likely to be a straightforward task, at least in the early stages.

Second, once excessive credit/asset-price growth has been diagnosed, the lags in the monetary transmission mechanism seriously complicate the calibration of an appropriate policy. Raising official interest rates will be counterproductive if the boom turns to bust, so that the economy is subject to twin deflationary impulses both from the asset price collapse and any associated credit crunch, and from the effect of the policy tightening. Indeed, in the unlikely event that the policymaker knew that an asset price collapse was imminent, monetary relaxation, rather than tightening, would be called for. Gruen *et al.* (2003) show that the informational requirements necessary to render an activist policy effective are extreme once lags are taken into account.

Third, a modest increase in interest rates will do little to restrain an asset price boom. But an increase large enough to materially affect the evolution of asset prices is likely to depress output growth substantially. So the policymaker needs both to believe that the short-term costs of such a strategy are outweighed by the necessarily uncertain long-term gains and also to be willing and able to justify it to the broader public.

Finally, and perhaps most obviously, this is a classic case of trying to achieve two objectives with one instrument. If financial stability is to be added to Meade's list of internal balance characteristics, then it makes sense to look for regulatory and prudential policies that directly address the relevant externalities and market

imperfections that lead to such credit cycles. The natural tool here is macro-prudential regulation, with banks' regulatory capital requirements rising substantially during the expansion phase and being allowed to fall in the event of a collapse in asset prices and lending. Open questions include the most appropriate key(s) for such a mechanism and whether it should be purely rules-based or whether there should be scope for discretion. As regards the latter, given the likely pressures to loosen regulatory requirements during the upswing phase of a credit cycle, there is probably an argument for making the exercise of such discretion asymmetric, i.e. a statutory floor for capital, which may be supplemented by an additional discretionary component. The development of such a counter-cyclical regulatory regime is very much a priority of regulators and supervisors.

2.4. *Is Price Stability Enough? (ii) External Balance*

Though it was Meade's contributions to the theory of international trade and open economy macroeconomics that won him the Nobel Prize, little more than a page of MIB is devoted to the question of achieving external balance. In the MIB programme, that task is given to foreign exchange policies. That Meade thought of foreign exchange policy as something independent from monetary policy is perhaps not too surprising, given that at the time of writing there were still considerable obstacles to the free movement of international capital between the developed economies, let alone with developing economies. Central banks could undertake foreign exchange intervention to manipulate – or in the UK case, usually prop up – the value of the currency without immediately needing to alter the stance of monetary policy.

Today, with very high levels of international capital mobility and a freely floating exchange rate, sterilised intervention in countries like the UK is largely ineffective. Only countries like China, which retain controls on external capital flows, can hope to offset the impact of foreign exchange intervention on domestic monetary conditions by undertaking offsetting open market operations in domestic bond markets. In countries with open capital markets, foreign exchange intervention to support (depress) the currency is only likely to be effective if it is accompanied by higher (lower) domestic interest rates. But in that case, monetary policy is being directed to achieving stability in the external value of the currency rather than its internal purchasing power. Those two objectives will generally conflict, unless some other instrument is brought into play.

That instrument is provided by policies to affect the level of national savings, including fiscal policy. At the time Meade was writing, it was still problematic for countries like the UK to run a balance of payments deficit for any period and the international trade and payments data were probably amongst the most eagerly watched of all macroeconomic statistics. But with open international capital markets, that is no longer the case and the monthly trade data are of only peripheral interest. Indeed, the UK has experienced a deficit on the current account for most of the period since 1983 without derailing macroeconomic policies (though other factors have).

These days, the current account deficit is simply seen as the counterpart to the savings and investment decisions of the private and public sectors, which in turn are driven by intertemporal considerations, such as the desire to smooth consumption across temporary fluctuations in income. The external constraint is just the counterpart

to the sum of the household, corporate and public intertemporal budget constraints. In such a world, it no longer makes sense to think of external balance as something that needs to hold period by period, though the set of intertemporal budget constraints will impose restrictions on the feasible time paths of macroeconomic variables, including the real exchange rate. While MIB did not engage with this issue, Meade and his collaborators did explore this theme in subsequent work (Weale *et al.*, 1989).

3. Concluding Remarks

Re-reading Meade's Nobel Prize lecture with the wisdom of hindsight only increases one's admiration for one of the most remarkable economists of the twentieth century.

While some of the details of Meade's programme may be open to challenge, he correctly identified the importance of assigning monetary policy to the pursuit of price stability and appropriate reform of labour market institutions to achieving full employment. Today, the Bank of England and many other central banks pursue an inflation target rather than a nominal income target but in a flexible fashion so as to avoid generating undue volatility in output in the face of cost shocks. But in so doing, they come closer to what Meade was aiming for in his advocacy of a target for nominal income. Even so, there is still much to be done in refining the present framework of macroeconomic policymaking, in particular to avoid a repeat of the present financially-driven recession. It will be instructive to see how much of Meade's vision remains after another thirty years' experience but my guess is that it will come through largely intact.

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