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**Central Bank Independence and the Conduct of
Monetary Policy in the United Kingdom**

Prepared by Jan Kees Martijn and Hossein Samiei¹

Authorized for distribution by Sharmini Coorey and Juha Kähkönen

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Abstract

The U.K. monetary policy framework, which combines inflation targeting with operational independence, provides a suitable arrangement for focused and credible monetary policy. However, potential weaknesses could result from features that have not yet been fully tested: the credibility and transparency of the inflation forecasts, which form the core of policy decisions, have diminished as a result of independence; and the framework could encourage excessive activism and frequent changes in interest rates. Although policy coordination could also suffer from independence, the new partly rules-based fiscal and monetary regimes will promote overall macroeconomic stability.

Keywords: Inflation targeting, central bank independence, United Kingdom

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I. INTRODUCTION

Following the shift to inflation targeting in October 1992 and 4½ years of relatively successful experience with this regime, in May 1997 the U.K. authorities granted operational independence to the Bank of England. Under the new arrangement, the inflation target is set by the Chancellor of the Exchequer in the annual budget, and the Monetary Policy Committee (MPC)—established following the decision to grant independence, and consisting of Bank of England staff members and outsiders—sets interest rates to achieve the inflation target.²

This paper examines the impact of operational independence on the conduct of monetary policy in the United Kingdom, focussing in particular on transparency and policy coordination issues. Section II describes the inflation targeting framework introduced in 1992. Inflation targeting, while not entirely new in terms of its basic idea, has been a rather significant step toward establishing a workable and well-defined framework for monetary policy. It has developed into a system that aims to be transparent in both the process and the result achieved by setting measurable objectives; by being explicit about the processes that link instruments with targets; and by specifying procedures for accountability.

Section III discusses the potential benefits of operational independence relative to the 1992–97 inflation targeting framework. These largely result from a further reduction in inflationary bias inherent in a system where decisions may be excessively motivated by political consideration and a desire to use monetary policy to influence the short-term path of unemployment and output. The Section assesses the implications of independence from a theoretical point of view, and looks at the U.K. experience during the first year and a half the arrangement has been in operation. It concludes that independence will likely enhance the credibility and price-stability focus of monetary policy.

Section IV examines the analytics of the decision making process under the new monetary framework and the tradeoff between inflation targeting and output stabilization. The section argues that while the framework retains the notion of medium-term rules—as advocated, for example, by the proponents of monetary targeting—to deal with inflationary bias in monetary policy, it nevertheless involves a partial return to the idea of explicitly attempting to stabilize major macro variables. The framework recognizes that the goal of stabilizing prices should not be at the expense of excessive fluctuations in output.

Section V looks at independence and the issue of “gradualist” monetary policy. It is often argued that monetary policy suffers from excessive gradualism, in the sense that decision making seeks to smooth interest rates relative to some optimal policy rule. Operational

²See, among others, articles by Budd, Bean, and Artis, et. al. in “Policy Forum: The New Monetary Policy Framework in the U.K.”, *Economic Journal*, 108, November 1998. See also Lane and Van Den Heuvel (1998) for an empirical examination of the impact of inflation targeting in the United Kingdom.

independence has made decision making a more transparent, focussed, and analytical process. This could encourage activism and make monetary policy less cautious. On the negative side, it is possible that, despite the focus on a two-year horizon, the new framework may encourage frequent changes in the interest rate and give a distorted sense of transparency by appearing to suggest that the MPC's monthly decisions are based only on information made available between two successive meetings. While it is too early to assess the evidence in this regard, there are examples which suggest that at least some MPC members favor a less gradualist approach to interest rate policy.

Section VI examines how the new framework purports to enhance transparency in the monetary policy process. The system introduced in 1992 had already made substantial progress on that front by initiating the publication of the Quarterly Inflation Report and the minutes of the monetary policy meetings. Under the new framework, the Inflation Report presents the views of the MPC and the rationale for monetary policy decisions, as well as an assessment of developments and prospects. The minutes of the MPC meetings, including the members' votes, are published two weeks after the meetings. Moreover, there is a new element of accountability, whereby if inflation deviates by more than one percentage point in either direction from the target, the governor is required to explain the reasons in an open letter to the chancellor. This Section argues that while transparency has been strengthened in many respects, the framework, nevertheless, has some way to go before seriously testing the limits of transparency. In particular, the credibility of inflation forecasting by the BoE has likely been weakened as a result of the transfer of decision making to the Bank, since the Inflation Report no longer presents an independent assessment of monetary policy decisions. It is possible that replacing the assumption of unchanged interest rates in the Inflation Report by a more realistic and explicit discussion of the likely future path of the interest rate—as, for example, practiced by the New Zealand Reserve Bank—may strengthen the framework further.

Finally, Section VII examines the implications of central bank independence for the fiscal-monetary policy coordination. Most analyses of central bank independence do not take due account of the possibility that policy coordination may weaken, thus potentially offsetting the benefits of the lower inflation bias. At the same time, when independence accompanies a general move toward more stable policies, as it seems to be the case in the United Kingdom, the impact on macroeconomic stabilization is likely to be positive. This Section argues that improved communication (including advanced announcement of the tax and expenditure measures that are likely to be included in the budget, as promoted by the new fiscal arrangements) would clearly help policy coordination. So would a more transparent approach to inflation forecasting by the Bank and its likely future interest rate policies.

II. INFLATION TARGETING, 1992-97

The adoption of inflation targeting in October 1992 followed unsuccessful experiences with monetary targeting in the 1980s and exchange rate targeting through ERM membership during early 1990s. Under the new arrangement the chancellor made interest rate decisions, taking into account the governor's views in an explicit manner through monthly meetings on monetary policy. The initial ambiguity regarding the nature and operation of the new regime,

which reflected the urgency of establishing an alternative to ERM membership, was mitigated over time. In particular, the inflation objective was modified from an initial “target range of 1-4 percent with the aim of being in the lower half in the medium term”, to the relatively more precise “2.5 percent or less”.

An important feature of the framework has been increased transparency and accountability through the publication of Quarterly Inflation Report, which contains the Bank’s inflation forecasts, and (starting in April 1994) the minutes of the monthly monetary policy meetings between the chancellor and the governor. This change in the institutional setup has also helped in subduing the new element of nontransparency introduced by the fact that the operational target of 2-year ahead inflation (unlike current-period money growth or the exchange rate, which were targeted in the previous frameworks) is unobservable.

Inflation targeting, while not entirely new in terms of the basic idea, is a rather significant step toward establishing a well-defined framework for monetary policy, which aims to be transparent in both the process and the result achieved. Thus it increases the weight the authorities attach to low inflation by strengthening accountability with respect to the public; and contributes to enhancing credibility, strengthening the medium-term focus of monetary policy, and reducing inflationary bias in economic policy.³

While the framework retains the notion of medium-term rules for monetary policy, as advocated by the proponents of monetary targeting, it nevertheless involves a partial return to the idea of attempting to stabilize major macro variables. The fact that inflation targeting uses expected inflation, as opposed to actual inflation, as an operational target (or as intermediate target, see Svensson, 1997) is significant. It implies that factors, such as the output gap and fiscal policy, that play a role in the determination of future inflation should in principle enter the decision making process, as well as the expectations of their future path

³ Arguments in favor of rules over discretion are typically based on the notion that monetary policy has an inherent bias in favor of inflation (Kydland and Prescott, 1977): policy makers have an incentive to exploit the difference between the short-run and the long-run trade off between inflation and unemployment through surprise inflation. Anticipating such policies, forward looking agents raise their expectations of the inflation rate in setting wages and prices, thwarting the *ex post* positive effect on output. Inflationary bias could also be associated with political business cycles or attempts to collect inflation tax. The relevance of the concept of an inflationary bias and the dominance of rules has been questioned on a number of grounds. First, in general pre-set rules would be inferior to discretion in the absence of bias arising from the institutional setup, as policy makers would always have the option of following the policies that a rule would prescribe. Second, to the extent that wages are adjusted at intervals shorter than the time it takes monetary policy to actually affect inflation, the credibility issue may not be significant (see Goodhart and Huang, 1998). Third, several observers have denounced the premise that the authorities, as a rule, aim for a level of output above its potential level, which creates surprise inflation (see Bean, 1998, Goodhart, 1998, Blinder, 1997).

and future interest rate decisions. For example, tight product and labor markets would be expected to raise inflation and within the inflation targeting framework, generate a stabilizing monetary policy response even before actual inflation rose. Given the estimated lags between monetary policy and inflation, such forward looking behavior is necessary to achieve the target.

Monetary targeting's solution to the inflationary bias problem implicitly aims to lower the political content of economic policy decision making by focussing on a variable that is not of immediate interest to politicians, thus in effect depoliticizing monetary policy (see von Hagen, 1995). Inflation targeting, by contrast, allows politicians to have an interest in monetary decisions, which, by itself, could strengthen the inflationary bias in monetary policy, but compensates for it by strengthening transparency and accountability, in particular when accompanied by central bank independence.

Despite obvious improvements in the operation of monetary policy, and the apparent success in controlling inflation (see, for example, Lane and Van Den Heuvel, 1998), the system introduced in 1992 did not include sufficient protection against inflationary bias. The government remained in control of the policy process, and no institutional safeguards existed against the use of unsustainable politically motivated monetary policy decisions.⁴

III. OPERATIONAL INDEPENDENCE

In May 1997 the U.K. government took a crucial step to remedy this deficiency by giving operational independence to the Bank of England. It also adopted an explicit and symmetric point target for inflation of 2½ percent. The Monetary Policy Committee (MPC) was set up with the task of setting interest rates to pursue the inflation target. The forward-looking nature of the target is retained, but the two-year horizon is no longer explicit as in the 1992–97 framework; the MPC is, in principle, required to aim to reach the target at all times. Yet in practice, given the policy lags, there is still a focus on the two-year period.

Under the new framework, the Inflation Report presents the views of MPC members (and not that of the Bank's staff), including the rationale for monetary policy decisions and an assessment of developments and prospects. The Report presents projections for inflation and GDP over a two-year horizon in the form of fan charts. These charts reflect not only the diversity of views among the members, but also uncertainties involved in projections.

⁴A possible example is monetary policy during the last year of the previous government, when the Chancellor persistently declined to raise interest rates, despite recommendations by the Governor to the contrary. Of course, it is only with hindsight that one might be able to decide whether these were politically-motivated decisions or whether they were justified by economic prospects. See Lane and Samiei (1998), on the impact of monetary policy disagreements under the previous regime.

The minutes of the MPC meetings, including the members' votes, are published two weeks after the meetings. Moreover, there is a new element of accountability, whereby if inflation deviates by more than one percentage point in either direction from the target, the governor is required to explain the reasons in an open letter to the chancellor. Finally, there is a mechanism to ensure that the MPC uses all the relevant sectoral and regional information.⁵

The case for central bank independence is largely theoretical. It is based on the notion that independence can increase the credibility of monetary policy by convincing private agents that the monetary authority has little incentive to create surprise inflation. While in the case of political business cycles, the mere granting of central bank independence would likely suffice to remove the distortion,⁶ in the case of a permanent inflation bias associated with time inconsistent policies, a credible commitment to price stability by the central bank would also be required (Barro and Gordon, 1983). After all, an independent central bank could still seek to create surprise inflation with the aim of boosting output, given that doing so, although time-inconsistent, could be in line with the bank's perceived social objective function. Empirical evidence tends to provide qualified support in favor of the benefits of an independent central bank: independence appears to be associated with lower inflation, but causality is hard to confirm.⁷

Several arrangements have been put forward to solve the problem of insufficient policy credibility, to which the new U.K. arrangement may be usefully compared.

- A monetary policy rule could be made mandatory (e.g., monetary targeting). However, this approach would leave little scope for dealing with structural shifts

⁵The Bank's non-executive members of Court are assigned the task of implementing an external evaluation of the MPC's performance in this regard (see the Bank's Annual Report).

⁶Moreover, to the extent that the policy shocks are not fully anticipated, removing these would also result in lower output variability. Surprise inflation linked to government elections could also result from uncertainty regarding the election outcome. As the inflation-unemployment preference of a new government depends on this unknown outcome, with preset nominal wages based on expected inflation, real wages will turn out to be either higher or lower than their equilibrium level. In this setup, transferring monetary policy to an independent central bank would eliminate the policy uncertainty and the associated variability in inflation and output (Alesina and Gatti, 1995).

⁷It is, therefore, possible that independence and low inflation both have a common cause (for example increased public concern over the cost of price instability). See Eijffinger and de Haan (1996) for a survey of these studies. Moreover, evidence does not seem to indicate a correlation between independence and output instability (as predicted by the conservative central banker model, see below), and there is little evidence that independent central banks face lower output costs of disinflationary policies, in spite of their presumably higher credibility. Correlation between central bank independence and political budgetary or monetary cycles also appears to be weak (Posen, 1998).

(e.g., in money demand), and would likely hamper macroeconomic stabilization (see below).

- Society could rationally grant independence to a 'conservative central banker' with a higher inflation aversion than embodied in social preferences (Rogoff, 1985). This arrangement would leave the central bank the discretion to balance price and output stabilization. However, while the central banker's high degree of inflation aversion would limit the inflationary bias, output variability could be higher than socially optimal.
- A central bank, that shares society's preferences on inflation and output behavior, could be given a target rate of inflation and an optimal incentive contract specifying its rewards for meeting it. In that way, a first best inflation-stabilization policy could be attained (Person and Tabellini, 1993; and Walsh, 1995). An equivalent but simpler solution to the incentive problem was provided by Svensson (1997): if the central bank is charged with attaining an inflation target that is below the socially optimal rate, its resulting objective could be identical to that resulting from an optimal performance contract.

Under a mandatory monetary rule, the central bank would not necessarily have independence, while under the second arrangement the conservative central banker would enjoy both goal independence and instrument independence—using Fischer's (1995) terminology. The third arrangement would give the central bank instrument independence only. Also, the implied accountability of the central bank in the latter case could help control the quality of policy makers (apart from their policy orientation).

Comparing the U.K. monetary policy framework since the 1997 introduction of instrument independence of the central bank to the proposals for optimal incentive contracts, it can be noted that no formalized reward structure has been introduced to ensure central bank compliance with the inflation target. But given considerable transparency and procedures to ensure accountability, it is likely to be a de facto incentive created for the monetary authorities not to deviate from the target. The inflation target itself, at 2½ percent, does not appear to have been set below the socially optimal rate—estimated by Fischer (1994) at between 1 and 3 percent.

Given the absence of a formal incentive structure, the arrangement also appears related to the model of a conservative central banker. Indeed, while the inflation target and the dominance of central bank representatives would serve to ensure its 'conservatism', the MPC is given some discretion in targeting low inflation while minimizing output instability (discussed below).

In the proposals for optimal performance contracts for central banks, instrument independence and inflation targeting are a natural union. In the United Kingdom, in the absence of such a contract, the combination has likely provided three improvements relative to the old system of inflation targeting without central bank independence.

First, as explained above, the MPC's focused accountability for reaching the inflation target, and the removal of electoral considerations from policy making, has limited the incentive to create surprise inflation.

Second, regardless of the actual presence of an inflation bias on the side of the policy makers under the previous regime, the clarity and credibility of the inflation target has likely been increased. Public monitoring of whether the authorities' actual inflation target deviates in practice from the announced target, is hampered by the fact that unobserved shocks could cause observed inflation to deviate from the target. However, it appears likely that, given the MPC's clear remit and the professionalism of its members, the public would trust that the MPC bases its decisions on the official inflation target. This may have rendered the monitoring problem less relevant, strengthening the authorities' ability to credibly precommit to the inflation target.

Third, the clear focus of the MPC has allowed for a unique policy formation process, in which the actual policy-makers themselves produce an inflation forecast that provides the basis for the interest rate decision. With technical assistance provided by bank staff, the MPC determines all assumptions underlying the forecast, i.e., the future course of variables affecting inflation as well as the structure and parameters of the empirical models. Thus, all elements that will affect inflation over the relevant horizon are systematically and comprehensively analyzed and incorporated.

The first two of these advantages can explain the instant gain in credibility following the announcement of the new arrangement in May 1997, that can be inferred from interest rate developments. Expected inflation (measured as the differential between index-linked and non-indexed bond yields) declined by more than half a percentage point to about 3½ percent.⁸

The new system could be subject to McCallum's (1995) general criticism of such arrangements that the credibility problem is relocated rather than solved. Just as the mere announcement of a rule may not be credible, private agents would recognize that the granting of central bank independence, or the official inflation target, could also be revoked (McCallum, 1995). However, in practice, central bank independence would be harder to abolish (because it would require legal changes) than revoking the inflation target. In addition, the lags associated with monetary policy would ensure that, even if the political authorities altered the inflation target, actual inflation would not affect real wages within the period covered by existing (one-year) wage agreements. Thus, wage setters have no reason for anticipating such behavior.

⁸See also SM/97/256.

IV. INFLATION TARGETING AND MACROECONOMIC STABILIZATION

The new framework has implicitly recognized that adopting a pure inflation target may limit the scope for macroeconomic stabilization, and that the goal of stabilizing prices should not be at the expense of excessive fluctuations in output. For, although, a long-run trade off between the levels of inflation and output may not exist, a trade off between the variability of output and the variability of inflation may. This holds especially in the case of supply disturbances, like an oil price shock, which affect output and inflation in opposing directions, implying that attempts to stabilize inflation would tend to amplify the output shock. Thus, inflation targeting might appear to pay insufficient attention to macroeconomic stabilization compared to, for example, nominal income targeting: following a positive supply shock, monetary policy would exert a further stimulus under inflation targeting, while nominal income targeting would imply the correct policy response.

The inflation targeting system in the U.K. has gone some way to deal with this problem. First, the focus on expected inflation, as noted earlier, requires that the policy authority should incorporate the behavior of other variables, including output, in its decisions, which helps in stabilizing demand shocks. This medium-term focus also mitigates the problem of supply shocks as the price effect of such shocks is likely incorporated fully within the two-year horizon (see Haldane 1997). Second, the new Bank of England remit stipulates that, without prejudice to the inflation target, the Monetary Policy Committee is expected to set interest rates so as to "support the general policies of the government, including its objectives for growth and employment". Since a particular inflation target can be achieved using different paths for the interest rate, output considerations can be allowed to determine which particular path is chosen. This allows for stabilization of output as a secondary objective. Svensson (1997) defines "flexible" inflation targeting as aiming to achieve the inflation target but also minimizing the deviation of output from its natural or average level (given the existing distortion in the economy). A policy rule consistent with this mandate can be represented as resulting from minimizing a loss function that includes deviations of inflation from its target, as well as that of output from its natural rate in each period:

$$L_t = \sum_{t=1}^T \rho^t [(\pi_t - \pi^*)^2 + \lambda (y_t - y^*)^2]$$

where ρ is the discount rate, y is output, and y^* the natural level of output. It is important to note the asymmetry between inflation and output in this function: while inflation is desired to be close to its target, output is only forced to be close to its equilibrium level (which, in theory at least, does not require any policy action). Thus, in equilibrium the loss function is only determined by the deviation of inflation from its target, and such a rule would achieve the inflation target. However, if the output norm is set above the natural level of output, there will be an inflation bias in the system.

While "flexible" inflation targeting appears consistent with the Bank of England remit discussed earlier, it is not possible to be conclusive about this issue. Indeed, in practice it is difficult to distinguish "pure" from "flexible" inflation targeting when the system is subject to

demand shocks, because the response of policy would be in the same direction under both rules. The scope to distinguish the two is larger in the presence of supply shocks, when the response of output and inflation are in the opposite directions. While, there are examples when the MPC appears to have responded to supply shocks in a way suggested by “flexible” targeting (for example, in relation to the impact of the introduction of the minimum wage and changes in taxation), the evidence is still rather tentative.

Finally, this representation of inflation targeting also suggests that its difference with other frameworks may be less real than apparent, and that the short-term operation of the monetary authorities under an inflation target may be indistinguishable from those operating under other rules. There is evidence that monetary policy decisions in different industrial countries may be approximated by similar rules (see Taylor, 1998). These so-called Taylor rules (which under other strong assumptions could be consistent with minimizing the above loss function) relate the interest rate to its neutral rate and deviations of inflation from some target and of GDP from potential:

$$i_t = r_t^* + \pi_t^e + w_1(\pi_t - \pi^*) + w_2(y_t - y^*)$$

where r^* is the neutral real rate of interest.⁹ Notwithstanding the estimation and interpretation problems associated with these rules, given the number of unobservable variables involved¹⁰, they provide some evidence that various monetary policy frameworks are likely to base their decisions on the same fundamental factors. What may distinguish them in practice, apart from performance, is how well the decisions makers incorporate latest information in their decisions, how depoliticized and independent the decisions are, and how transparent and accountable the decision making processes are.

These considerations strongly indicate that, *ceteris paribus*, the new monetary arrangement would likely result in lower average inflation, without a destabilizing effect on output. This general conclusion leaves aside several issues concerning the actual conduct of monetary policy under the new arrangement. These questions will be addressed in the following sections.

V. GRADUALISM IN MONETARY DECISIONS MAKING

Historically, monetary policy in the United Kingdom appears to have been “gradualist”, and the question arises as to whether the introduction of central bank independence is likely to

⁹One set of estimates for the United Kingdom used frequently by the private sector sets w_1 and w_2 equal to 0.5—in effect, a nominal income target—and assumes the neutral rate of interest at 3.5 percent.

¹⁰It is also difficult to use these rules to draw conclusions regarding the appropriateness of a policy path *ex post*, because they are estimated using actual historical policy decisions.

change this practice. Policy has often involved a series of small interest rate changes in the same direction, and exhibiting particular caution in reversing the interest rate trend (see Goodhart, 1998). Between 1978 and 1998, the Bank's interest rate adjustments included 35 reversals to 112 continuations (Figure 1). Also, mechanical feedback rules do not fit actual policy well, unless a significant degree of interest rate smoothing is allowed for, suggesting further that monetary policy has tended to be gradualist. An alternative way of conceptualizing smoothing may be more relevant under inflation targeting. Smoothing could be defined as a less than full instant adjustment of interest rates given the objective of exactly reaching the inflation target in two years time. Full adjustment would require the interest rate to respond to all relevant unanticipated news.

Several explanations of such caution in changing the rate of interest have been proposed, with differing degrees of relevance to the United Kingdom.

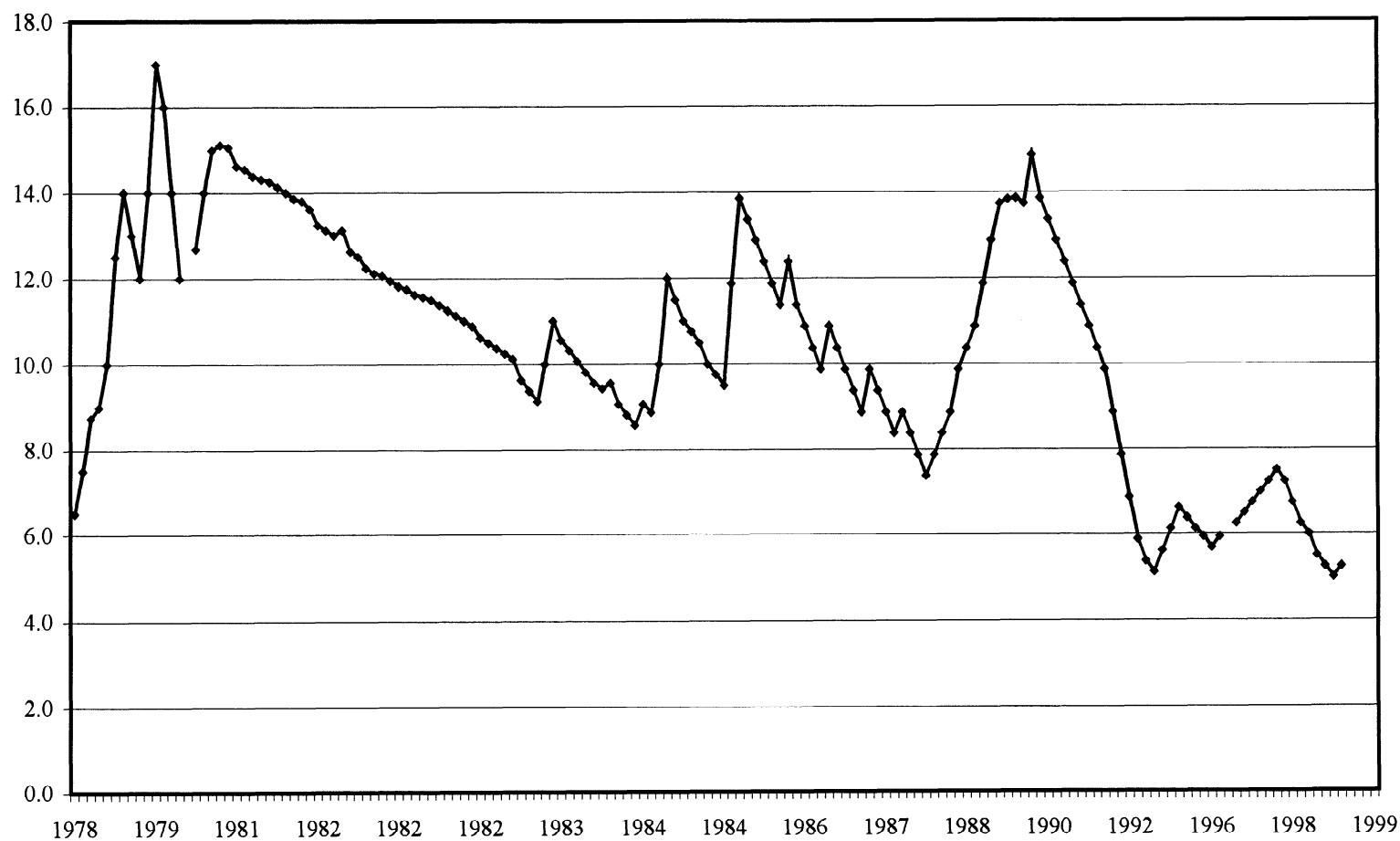
- Gradual interest rate movements may be optimal given the dynamic structure of the economy, which is not captured well by standard policy feedback rules. In particular, given that the target variables exhibit a high degree of serial correlation, the existence of
- transmission lags implies that the optimal policy response will also consist of a series of steps in the same direction.¹¹
- The Bank of England may seek to smooth interest rates because of concerns about financial sector stability. Given banks' traditional function in transforming short term liabilities into longer term assets, they may be vulnerable to unanticipated interest rate increases.¹²
- A cautious monetary policy could be based on multiplicative uncertainty relating to the use of policy instruments. As first described by Brainard (1967), if policy makers are concerned about the variability of policy targets (in addition to the expected value), small steps are optimal if the effect of changes in a policy instrument is uncertain. For this conclusion it is assumed that higher uncertainty is attached to larger deviations from the current policy stance. Applied to monetary policy, the more sharply interest rates are adjusted to keep expected future inflation close to its target, the higher the resulting policy-induced inflation variability. This argument is all the more important given sizable policy lags which preclude a swift feedback.¹³

¹¹It should be noted that while this may help explain gradual interest rate adjustments, there would be no smoothing as defined above. See Sack (1998a) for an empirical analysis of this phenomenon for the US.

¹²See Cukierman (1992), pp. 117-129.

¹³The latter argument has been developed further by Sack (1998b), to explain a policy of interest rate smoothing. With every step, the monetary authority gains insight into the interest rate effect at the new level. The reduced uncertainty allows it to move further. It also follows that after a period of relatively large interest rate changes, new shock can be met with larger interest rate adjustments, as recent information is still available on the effects of a range of interest rates.

Figure 1. United Kingdom: Official Interest Rates
(In percent; scaled by the occurrence of interest rate adjustments) 1/



Source: Bank of England website, Annual Data

1/ Until August 1981, the minimum lending rate is used; from then until end 1996, the minimum Band 1 dealing rate, and thereafter the repo rate.

- Finally, the central bank may be specifically hesitant to reverse the direction of interest rate changes, and adopt a “wait and see” attitude when new information tends to indicate the desirability of such step. Short-lived reversal—even if defensible on optimality grounds—could call into question the bank’s competence and credibility (Goodhart, 1998).

A further consideration combines the timing of private investments and interest rate anticipations in case of gradualist central bank behavior. Interestingly, depending on whether borrowing is predominantly at fixed interest rates or at adjustable rates, this argument could go either way. In the case of predominantly fixed rates, forward looking investment behavior would undermine policy effectiveness if investors anticipate a gradualist monetary policy. For example, in case of an initial decrease in interest rates to stem economic slowdown, investment would be postponed in order to benefit from expected further lowering that would make investments at a later stage even more profitable. Moreover, as argued by Caplin and Leahy (1996), this phenomenon could give rise to a vicious circle, in which, first, investors delay investment in anticipation of further interest cuts, and, second, the resulting lack of economic recovery indeed urges policy-makers to provide these cuts. In case of adjustable rate borrowing, on the other hand, private investment will adjust sharply following a interest rate decrease, as a large change in borrowing costs is anticipated, given that all investments will be refinanced at interest rates that are expected to continue to decline.

A crucial question is whether there is excessive caution after taking into account all legitimate aspects of optimal policy formation. For the United Kingdom there is little empirical research that would shed light on this issue.

If, as has been argued by, for example, Goodhart (1998), the Bank of England's actions include excessive caution, the further question arises of how the changed institutional framework will affect this pattern. Goodhart expects central bank independence to lead to a more aggressive policy approach, presenting some preliminary evidence. Such change would reflect the Bank's more one-sided focus on the inflation target, and its more analytical (as opposed to political) approach. A further consideration may be that the separation of prudential supervision, which has been delegated to the Financial Services Authority, and monetary policy may limit the degree to which concern about financial sector soundness serves as a motive for interest rate smoothing. A final consideration is that MPC behavior is the result of the dynamics of majority voting within the committee, with views diverging among the members. The public voting record to date indicates that some members appear to be less gradualist than others. One implication is that a small change in membership could have a relatively large effect on policy.

VI. TRANSPARENCY IN THE NEW FRAMEWORK

An important feature of the new monetary policy framework is increased transparency, in particular through the quarterly Inflation Report and the minutes of the monetary policy meetings. Transparency of the MPC's goals and achievements is a precondition for

accountability, which, in turn, serves to discipline MPC behavior and may also be considered essential in ensuring its political legitimacy. In addition, transparency can also help enhance policy credibility. Given the absence of a track record of policy achievements, transparency of the policy-making process may serve as a substitute in convincing the public of the MPC's intentions and competency.

At the same time, however, while the focus on inflation forecasting has imposed accountability and discipline on individual members of the MPC, it may have weakened the credibility of the forecasts as presented in the Inflation Report. During the 1992-97 inflation targeting framework, the Bank, in effect, acted as an advisor to the government on monetary policy decisions, and presented independent forecasts. Since the MPC took over the job of monetary policy decision making, the analysis and the inflation forecasts reported in the Inflation Report cannot be treated as those of an independent reviewer: the body that makes interest rate decisions also assesses these decisions. As a result, it would be difficult to envisage a situation where the forecasts suggest that the two-year ahead inflation, on which public scrutiny tends to focus, would (in probabilistic terms) be missed, because then the report would in fact be questioning the committee's own policy decisions. Indeed, since the Bank became independent, two-year ahead inflation has always been around the target. While this is possible logically, it raises questions as to the credibility of the Bank's inflation forecast.

The problem is compounded by the absence of an explicit assessment of the likely future path of the interest rate in the Report. While more recently there has been an effort to emphasize alternative views held by MPC members, the primary inflation forecasts are made under the assumption of unchanged interest rates. In principle, there are many interest rate profiles that could deliver an inflation of 2.5 percent two years ahead. Clearly, and as discussed in the previous section, there is no reason to suppose that a policy that holds interest rates unchanged and delivers a two-year ahead inflation of 2.5 percent is necessarily superior to other policies.

The Inflation Report, therefore, appears to lack transparency and credibility in relation to its inflation forecast. It is not obvious to what extent the inflation forecast based on constant interest rates is an expositional or an operational construct. If it is the latter, the MPC indeed does not intend to smooth interest rates, and consistently expects to hit the target at the newly set rate. In that case the framework is transparent, but, given a history of interest rate smoothing, it is not considered credible by market participants, as is evidenced by the deviating market forecasts. During October 1998 to June 1999, as signs of an economic slowdown become apparent, options prices indicated that a gradual lowering of interest rates by the MPC was anticipated, even though the MPC itself consistently motivated its steps as a response to new information.¹⁴ At the same time, private sector inflation forecasts

¹⁴In early November 1998, expectations of three-months market rates derived from options prices were for a gradual decline from 7¼ percent to about 5½ percent by the third quarter of 1999. By early February 1999, reflecting the stepwise lowering by the MPC of the repo rate, rates had indeed fallen, to 5¾ percent, and a further lowering was expected over the next half year, to

(continued...)

underscored the credibility of the MPC's inflation forecast. On the other hand, the constant interest rate assumption may merely be an expositional tool. In this case, the MPC in fact considers that further interest changes are likely to be necessary, even in the absence of news, implying that the MPC's forecasts lacks transparency as well as credibility. In defense of the constant interest rate assumption it has been argued that the setup provides a clear benchmark that allows an evaluation of the direction of policy changes (Haldane, 1997).

One possible solution to the loss of transparency would be for the Bank to publish its own interest rate projections, possibly based on some standard policy reaction function, and include these in its projections of inflation. To prevent suggesting an unwarranted degree of accuracy, and in line with the uncertainty pertaining to the course of inflation and output, interest rate projections could be presented in a fan chart. Presenting an interest rate projection would be similar to the approach adopted by the Reserve Bank of New Zealand, which publishes a projection of a monetary conditions index that includes both interest rates and the exchange rate path. Obviously, the Bank would have to make it clear that it was not committing itself to a particular path, so that without loss of credibility it might revise its projection at a later date as new information becomes available. The Bank could also include outside projections of inflation in the Inflation Report. The MPC could assess any differences between its own and these outside projections, with reference to, for example, differing assumptions on the course of interest rates.

It is important to consider the possible effects of publishing an interest rate projection on private sector behavior. Private agents, of course, already have expectations concerning the future course of interest rates, and information provided by the central bank already constitutes an important input to these projections. More explicit central bank information may alter private sector interest rate expectations, and may, in particular, diminish the subjective uncertainty with which expectations are held, and thus diminish the risk premium. Also, the availability of more information is likely to diminish expectational errors and the deadweight losses related to economic decisions based upon such errors. The argument here is basically similar to that against central bank secrecy in general (see Briault, Haldane, and King, 1996). A danger is that the private sector, by anticipating official interest rate movements, may cause adjustments in market interest rates ahead of the official change, thus limiting the Bank's ability to execute a gradualist monetary policy. Also, if a series of interest rates decreases is foreseen, investors may postpone new investments, undermining policy effectiveness and destabilizing the economy. While, the issue clearly requires further investigation, the experience of New Zealand does not appear to support the empirical relevance of the latter argument.

between 5 and 5½ percent. Further cuts of the repo rate in February, April, and June have since validated this expectation (see the Inflation Reports of February 1999 and May 1999).

VII. INDEPENDENCE AND OPTIMAL POLICY MIX

A fundamental implication of central bank independence is the separation of monetary and fiscal policies, with a virtually unavoidable impact on the policy mix. Most analyses of central bank independence, as discussed above, do not take due account of the possibility that policy coordination may weaken, thus potentially offsetting the benefits of the lower inflation bias. At the same time when independence accompanies a general move toward more stable policies the overall impact on macroeconomic stabilization is more likely to be positive. The issue has gained increased significance in recent years as the United Kingdom has not only adopted a more stability-oriented monetary policy, including central bank independence, but has also moved toward a more rules-based fiscal policy. While both objectives may be worthwhile in their own right, as they strengthen policy discipline, given the interaction between the two policies, in particular as far as macroeconomic management is concerned, the question can be raised as to whether the new arrangement can deliver a desirable policy mix.

Given the interactions of fiscal and monetary policy, a clear case can be made in favor of policy coordination.¹⁵ Specific connections between fiscal and monetary policies are:

- Monetary and fiscal policy can be seen as substitutes for short-term macroeconomic stabilization, albeit with different inflation and contrasting exchange rate repercussions.
- As a corollary, the optimal monetary policy rule—which reflects the trade off between the variability of output and inflation—likely depends on the degree to which fiscal policy is also used for countercyclical stabilization—either discretionary or through automatic stabilizers.
- An increase in official interest rates, will induce an increase in the government's debt service costs—at least in nominal terms.
- An increase in taxes will affect inflation. For indirect taxes, the direction of this effect depends on whether the demand or the supply effect of the tax increase dominates. For direct taxes, an increases in taxes may affect inflation, if it becomes built into wages and subsequently validated by monetary expansion.

Government spending can partly be financed through an inflation tax.

The resulting policy game depends on the institutional setup. In the literature, it is generally assumed that, compared to the fiscal authority, an independent monetary authority attaches more weight to the inflation target relative to the output target and government spending. In the United Kingdom this is, indeed, likely given the bank's responsibility for meeting the inflation target.

¹⁵See Laurens and de la Piedra (1998).

Although, in these policy games, central bank independence generally reduces the inflation bias (see Box 1), the effect on overall welfare is not unambiguous. First, the reduction in the inflation bias has to be balanced against the disadvantages of the absence of coordination. Second, in a dynamic game setting, the interaction between the authorities could, given their differing objectives and information sets, result in policy conflicts, blocking strategies, and system

instability.¹⁶ A result derived by Blake and Weale (1998) is that if the two policy makers are misinformed about each others intentions, no stable equilibrium may be reached.

Applying the above considerations to the United Kingdom, a first observation is that experience before 1997 shows that having both policy instruments under the control of the government provides no guarantee of effective policy coordination.

Under the current policy rules, both fiscal and monetary policy have an explicit and appropriate medium term focus. The absence of attempts towards fine-tuning limits the need for day-to-day policy coordination. Also, credible policies aimed at price stabilization and sustainable public finances are likely to foster private sector confidence and resilience to economic shocks.

Furthermore, within the new framework, policy coordination is fostered through the Treasury's (non voting) representative in the Monetary Policy Committee. More generally, the Treasury has publicly emphasized that fiscal policy should support monetary policy in promoting stability, adding that in the current cycle, monetary and fiscal policy were tightened together to slow the economy.¹⁷ Also, as the inflation target is set by the Chancellor of the Exchequer, there should be no disagreement between the fiscal and monetary authorities on this score—although they may still attach different weights to this target in comparison with output-related objectives.

Notwithstanding the above considerations, there are still several features of the new regime that may impair effective policy coordination.

The nature of the "policy game" is not yet clear. On the one hand, the yearly announcement of the fiscal budget and the inflation target by the Chancellor and the more frequent decisions on monetary policy might tend to put the Chancellor in a leading position. On the other hand, the inflation target is unlikely to be adjusted frequently, and, given its independence, the central bank has the option of ignoring the government's preferences, and, for example, decide to offset a fiscal stimulus, to the extent that it considers it inflationary, despite the potentially sharp exchange rate effect.

¹⁶See Hughes Hallet and Petit (1990).

¹⁷H.M. Treasury (1998).

Box 1. Policy Games with Central Bank Independence

Consider a policy game between an independent central bank setting monetary policy (in some cases simplified by assuming it sets the rate of inflation) and the fiscal authority determining government spending. Both players seek to maximize a quadratic objective function that includes an inflation and an output target, and, for the fiscal authorities, also a spending target. The central bank attaches relatively larger weight to price stability. Some fairly general results are (assuming a one-shot game between the monetary and fiscal authorities):

Central bank independence will limit the inflationary bias and the degree to which government spending is financed through an inflation tax (see Alesina and Tabellini, 1987). However, if the overall tax distortion increases as a result, output will be lower than without independence. If the independent central bank can credibly commit to an inflation target, the inflation bias is fully eliminated, and inflation, output, and government spending are reduced further.

Adding the option of debt financing of government spending results in a more ambiguous outcome. The government could then decide to accumulate more debt; a move that would encourage the central bank to create more inflation in the future—in accordance with the fiscal authorities' preferences. The intuition behind this result is that the resulting increase in future debt servicing costs would raise government spending, implying a larger tax distortion. The resulting output loss would strengthen the monetary authority's incentive to create surprise inflation (See Beetsma and Bovenberg, 1997; inflation could be boosted further by the possibility of using an inflation tax to limit the tax distortion).

Only if the monetary authority attached no weight to the output objective, would inflation be unaffected by the fiscal authority (see Fischer and DeBelle, 1994, and DeBelle, 1996).

Although an independent central bank could not directly prevent a political cycle in fiscal policy, a refusal to accommodate the fiscal deficit might still act as a constraint.

Fischer and DeBelle (1994) showed that if the budget process allows the fiscal authority to precommit to a spending level in advance, while monetary policy is determined afterwards, the fiscal authority could act as a Stackelberg leader, which would result in higher government spending and inflation. On the other hand, central bank independence combined with a fixed inflation target that remains in place during several budget cycles, could give the monetary authority the leading position. In their model, this would likely result in a lower rate of inflation.

The Bank and the Treasury may develop different views of economic development and, therefore, of future inflation, thus possibly ending up working at cross purposes.

The new rules for fiscal policy are likely to affect the degree of automatic fiscal stabilization. Given that fiscal policy tends to affect aggregate output more rapidly than changes in official interest rates, this uncertainty complicates forward looking monetary policy. Policy makers' strategies under the current framework are still unclear. In particular, there is still considerable uncertainty on the different policy stances of the members of the MPC, and on their strategic interaction.

Given the evident historical inflation bias in the United Kingdom, and often poor policy coordination, the potential drawbacks of decoupling monetary from fiscal policy making should not be overrated. The above-mentioned uncertainties are likely to be resolved over time, as policy practices are established based on the new framework, and policy makers gain understanding of each others strategies. While, there appears no urgent reason for concern about the adequacy of policy coordination under the new regime, improved communication (including the advanced announcement of the tax and expenditure measures that are likely to be included in the budget, as promoted by the new fiscal arrangements) would clearly help policy coordination. Moreover, more transparent approach to inflation forecasting by the Bank and its likely future interest rate policies would help the fiscal authorities in determining the extent that fiscal policy needs to be used for macroeconomic management.

VIII. CONCLUDING REMARKS

The main conclusion of this paper is that inflation targeting combined with operational independence of the central bank, as exists in the United Kingdom since May 1997, provides a suitable framework for a focused and credible monetary policy that is effective in reducing the inflationary bias in policy making. The framework is also noteworthy in that it incorporates features that are in line with evolving views on best practices, and which, therefore, have not yet been subject to significant empirical scrutiny.

Several potential weaknesses—although probably of minor importance—of the new system have been identified in this paper. First, it has been argued that a pure inflation targeting arrangement could cause excessive output variability. This issue, however, has been broadly addressed through the MPC's remit, and its focus on inflation over a longer horizon. Second, inflation projections based on unchanged interest rates over the two-year horizon, as presented in the Inflation Report, lack transparency and credibility, and, if taken literally, may require changes in policy interest rates in the current period that are unduly sharp. While the Report does contain some broad indication of future policies, the MPC could become more up-front and explicit about its thoughts on the likely future course of the rates and the implications for inflation. Although such an approach would test the limits of transparency, experience in New Zealand suggests it may well be feasible. Third, dividing the responsibility for fiscal and monetary policy could reduce policy coordination. However, given the record on policy coordination, the new partly rules-based framework is likely to be an improvement in promoting overall macroeconomic stability. Still, adequate exchange of information between the Chancellor and the Bank of England is of importance in this respect.

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