INFORMAL CENTRAL BANK INDEPENDENCE: AN ANALYSIS FOR THREE EUROPEAN COUNTRIES

David Cobham*, Stefania Cosci** and Fabrizio Mattesini***

ABSTRACT

Changes in formal and informal central bank independence (CBI) in France, Italy and the United Kingdom in the period from the mid-1970s to the 1990s are examined; the major changes occurred in the 1990s, after the disinflations of the 1980s. Broad trends in the informal independence of central banks (CBs), defined as the ability to pursue price stability regardless of the government’s preferences, are identified on the basis of a monetary policy narrative and an analysis of a set of qualitative determinants of informal independence. The most important determinants are the social/political acceptance that monetary policy is the sphere of the CB, the existence of anti-inflationary commitments in the form of intermediate targets for monetary policy, the degree of social consensus on the means and ends of macroeconomic policy, and the relative technical expertise of the CB. These broad trends help to explain some of the inflation experience of the 1980s and 1990s, which cannot be understood in terms of changes to formal CBI.

I INTRODUCTION

In the last few years, central bank independence (CBI) has become both an important topic in academic economic debates and an almost universally recommended strategy for efficient macroeconomic policy. A large number of countries have taken steps to make their central banks (CBs) more independent than they were before, and the most significant institutional experiment of the last decade, the establishment of the European Central Bank, was predicated on the assumption that a CB should be independent from the political authorities.

The academic case for CBI is based largely on the idea that a time-consistency problem may arise from government attempts to stimulate output above the natural level (Kydland and Prescott, 1977; Barro and Gordon, 1983). The seminal models were developed mainly to explain the stagflation of the 1970s, and solutions were sought in terms of pre-commitment through the

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announcement of intermediate targets for monetary policy. Later work has emphasised CBI as a more effective way of securing low inflation than pre-commitment, and has gone on to analyse the optimal relationship between government and CB (Rogoff, 1985; Persson and Tabellini, 1993; Svensson, 1995; Walsh, 1995; Bean, 1998).

Empirical research has involved the construction of indices of formal or legal CBI for large samples of countries (Alesina, 1988, 1989; Grilli et al., 1991; Cukierman, 1992; Eijffinger and Schaling, 1993, 1995). These indices have then been used in cross-sectional studies to analyse the relationship between CBI and the level and variability of inflation and economic growth. The general finding of such studies is that there is a negative correlation between CBI and inflation, while the relation between CBI and growth is unclear.1

However, it is more difficult to explain the evolution of inflation over time on the basis of such indices. In France, Italy and the United Kingdom, real interest rates became positive in the very late 1970s or early 1980s and inflation fell significantly during the 1980s (as noted, e.g., by Clarida, Galí and Gertler, 1998). Yet there were no major changes in CBI over this period. The questions that arise here and that are addressed in this paper are: does this mean that CBI as conventionally measured is irrelevant? Or do we need a different concept or measure of independence? We suggest that this puzzle can be explained in part by introducing a concept of informal CBI and investigating the way in which this informal independence changed for the three countries over the last two to three decades.

In Section II we present two of the principal indices of formal CBI for France, Italy and the United Kingdom for relevant dates between the mid-1970s and the late 1990s. On these indices CBI did not change in these countries between the mid-1970s and 1993 (except for a marginal change in Italy in 1981), so that changes in CBI cannot have been responsible for the disinflation that occurred.

In Section III we define informal CBI as the ability of a CB which is not formally independent to pursue price stability regardless of the preferences of the government, and we discuss a range of determinants of informal independence.

In Section IV we use a combination of a narrative account of the evolution of CB behaviour and monetary policy in the three countries from the late 1970s to the early 1990s, on the one hand, and reference to the qualitative determinants, on the other, to identify broad trends in the informal independence of the three CBs considered. This informal independence will be less important for a low-inflation outcome insofar as the government itself favours price stability.

In Section V we compare these broad trends with the outcomes for inflation in different periods. We argue that the trends we have identified can help to explain some, but not all, of the disinflation of the 1980s and early 1990s. We

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1 See, for example, Fischer (1994) and Cukierman (1994) for useful summaries of analytical and empirical work in the area, and Eijffinger et al. (1998), Berger et al. (2001) and Cukierman (2006, Section 2.3) for more recent results.
also provide some tentative quantitative evidence of the importance of informal independence.

Section VI summarises our conclusions on the importance of informal CBI.

II Changes in Formal CBI from the 1970s

Changes in legal CBI were introduced by legislation in France in 1993, in Italy in 1993, and in the United Kingdom in 1997. There were also some important changes implemented through a non-legislative process in Italy in 1981 (the ‘divorce’ between the Banca d’Italia (BdI) and the government that succeeded the ‘marriage’ of 1975), and in the United Kingdom in 1993–1994 (the ‘new monetary policy framework’), which may also have affected the formal independence of the CBs concerned. In this section we recalculate the formal independence of each CB in each period in terms of the indices proposed by Cukierman (1992, Chapter 19) and Grilli, Masciandaro and Tabellini (GMT) (1991), in order to evaluate the extent of the changes in CBI.

As of the mid-1970s, all of these three CBs were formally dependent. On Cukierman’s calculation of his unweighted index (LVAU) for the 1980s, the Bank of England (BoE), the Banque de France (BdF) and the BdI were ranked 11th, 13th and 17th out of 21 developed country CBs, with index numbers of 0.31, 0.28 and 0.22, respectively, as against 0.68 for Switzerland, 0.66 for West Germany and 0.58 for the United States (the three most independent countries). On GMT’s calculation of their index of political independence the three European CBs scored 1, 2 and 4, respectively (out of a maximum of 9, with Germany and Netherlands scoring 6 and the United States and Switzerland 5), and on the index of economic independence they scored 5, 5 and 1 (out of a maximum of 8, with Germany, Switzerland and the United States all scoring 7). Among the three, the BoE and the BdF had much in common, in particular with their low political (but considerable economic) independence reflecting the high degree of centralisation in the two countries’ constitutional arrangements and political ethos. The BdI, on the other hand, had more political independence, with its Governor not appointed directly by the government and appointed for an indefinite term of office, but low economic independence with the government able to borrow from the BdI almost without limit.

Tables 1–3 present our recalculations of these indices for the starting period and our calculations for the later changes, and the comparisons between periods that follow are based on the data from these tables, which are constructed in a consistent manner. Our calculations for the earlier period differ in certain respects from those of Cukierman and GMT, for two reasons. First, we believe their calculations are not always completely accurate. Second, while Cukierman in particular tries to maintain precision by considering only formal statutory arrangements, our scorings are based (like those of GMT) on a rather broader view of the constraints on governments and CBs. The differences between our calculations for the earlier period and those of Cukierman and GMT and the

2 See also Tavelli et al. (1998) and Arnone et al. (2006) for updating of the Masciandaro and Spinelli (1994) version of the GMT indices.
| Table 1 | Cukierman’s (1992) index of CBI recalculated |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| **Chief executive officer** | | | | | | | | |
| 1 Term of office | 1 | 0.75 | 1 | 1 | 1 | 0.5 | 0.5 | 0.5 |
| 2 Who appoints Governor | 0.25 | 0.25 | 0.75 | 0.75 | 0.75 | 0 | 0 | 0 |
| 3 Provisions for dismissal | 1 | 0.83 | 0.67 | 0.67 | 0.67 | 0.83 | 0.83 | 0.83 |
| 4 Is the Governor allowed to hold another office? | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| **Policy formulation** | | | | | | | | |
| 5 Who formulates monetary policy? | 0.67 | 1 | 0.67 | 0.67 | 1 | 0 | 0.33 | 0.83 |
| 6 Government directives and resolution of conflicts | 0.2 | 1 | 0.4 | 0.4 | 0.4 | 0 | 0.2 | 0.4 |
| 7 Is the CB given active role in the formulation of Government budget? | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **CB objectives** | | | | | | | | |
| 8 Price stability? | 0 | 0.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Limitations on lending** | | | | | | | | |
| 9 Limitations on advances | 0 | 1 | 0.33 | 0.33 | 1 | 0 | 0.67 | 0.67 |
| 10 Limitations on securitised lending | 0.33 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 11 Who decides control of terms of lending? | 0.33 | 1 | 0 | 0.33 | 1 | 0.33 | 0.33 | 0.33 |
| 12 How wide is the circle of potential borrowers from CB? | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 13 Type of limit when such limit exists | NA | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 14 Maturity of loans | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 1 |
| 15 Restrictions on interest rates | 0.25 | 1 | 0.5 | 0.5 | 1 | 0.25 | 0.25 | 0.25 |
| 16 Prohibition on lending in primary market | 1 | 1 | 0 | 0 | 1 | 0 | 1 | 1 |
| **Indices of legal independence** | | | | | | | | |
| 17 LVAU (unweighted) | 0.39 | 0.91 | 0.33 | 0.38 | 0.79 | 0.31 | 0.57 | 0.70 |
| 18 LVAW (weighted) | 0.36 | 0.87 | 0.34 | 0.37 | 0.74 | 0.26 | 0.51 | 0.66 |
reasons for our calculations for the later periods are spelt out in detail in Appendices A and B.

The French changes of 1993 represent a large change in CBI, with the Cukierman LVAU index rising from 0.39 to 0.91, and the GMT indices

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Table 2
Grilli et al.'s (1991) index of political independence recalculated

<table>
<thead>
<tr>
<th></th>
<th>Appointments</th>
<th>Relations with government</th>
<th>Constitution</th>
<th>Index</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>1 2 3 4 5 6 7 8 9</td>
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<td></td>
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<tr>
<td>France 1973–1993</td>
<td>* *</td>
<td></td>
<td></td>
<td>2</td>
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<td>France 1993–1998</td>
<td>* *</td>
<td>* *</td>
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<td>6</td>
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<tr>
<td>Italy 1975–1981</td>
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<td>* *</td>
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<td>Italy 1981–1993</td>
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<td>5</td>
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<tr>
<td>UK 1971–1993</td>
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<td>*</td>
<td>1</td>
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<tr>
<td>UK 1993–1997</td>
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<td>*</td>
<td>1</td>
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<tr>
<td>UK 1997–</td>
<td></td>
<td></td>
<td>1/2 1/2 1/2 11/2</td>
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</tbody>
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Key: (1) Governor of central bank not appointed by government; (2) Governor appointed for more than 5 years; (3) none of Board of central bank appointed by government; (4) Board appointed for more than 5 years; (5) no mandatory government representative in Board; (6) no government approval of monetary policy needed; (7) statutory requirement that central bank pursues monetary stability; (8) legal provisions protect central bank against govt; (9) overall index = sum of columns (1)–(8).

Table 3
Grilli et al.'s (1991) index of economic independence recalculated

<table>
<thead>
<tr>
<th></th>
<th>Monetary financing of deficits</th>
<th>Monetary instruments</th>
<th>Index</th>
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<tr>
<td></td>
<td>1 2 3 4 5 6 7 8</td>
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<tr>
<td>France 1973–1993</td>
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<td>4</td>
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<td>France 1993–1998</td>
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<td>Italy 1975–1981</td>
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<td>Italy 1981–1993</td>
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<td>Italy 1993–1998</td>
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<td>UK 1971–1993</td>
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<td>UK 1993–1997</td>
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<td>UK 1997–</td>
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Key: (1) Direct credit facility: not automatic; (2) direct credit facility: at market interest rate; (3) direct credit facility: temporary; (4) direct credit facility: limited amount; (5) central bank does not participate in primary market for public debt; (6) discount rate set by central bank; (7) banking supervision not (***) or only partly (*) entrusted to central bank; (8) overall index = sum of columns (1)–(7).
rising from 2 to 6 (political CBI) and from 4 to 7 (economic CBI). The most important elements within these changes were the allocation to the BdF of the responsibility to formulate and implement monetary policy itself with an objective of price stability; the ending of the government’s right to borrow in any form from the BdF; and the change in the term of office of the Governor (from an unspecified length to 6 years, renewable once). At the same time the procedure for appointment of other members of the Monetary Policy Committee involved a smaller role for the French President. Before 1993 the independence of the BdF had been around the average for industrialised country CBs and well below the levels of the Bundesbank or Federal Reserve, but after 1993 the BdF was close, both overall and in detail, to the Bundesbank.

In Italy the 1975 ‘marriage’ between the Treasury and the BdI had left the latter with a commitment to act as residual buyer of Treasury bills, in return for the ability to carry out open market operations in the secondary market. The 1981 ‘divorce’ agreed between the BdI and the Treasury freed the BdI from this commitment, and obliged the Treasury to pay (higher) market rates on its debt. However, the change hardly registers in the indices of formal CBI. The 1992–1993 changes, on the other hand, show up strongly in the indices with Cukierman’s LVAU rising on our calculations from 0.38 to 0.79 and the GMT indices rising from 4 to 5 (political) and from 1 to 5 (economic). The most important elements were the ending of the government’s right to borrow from the BdI and the allocation to the BdI of the responsibility to formulate monetary policy on its own. However, the BdI remains at this point rather less independent formally than the BdF, mainly because it has no mandate for price stability and its constitutional position is weaker.

In the United Kingdom, the ‘new monetary policy framework’ of 1993–1994 produced a clearer institutional separation between the Treasury and the BoE, but power rested firmly with the former. At the same time the Maastricht Treaty (including the UK Protocol) required the BoE’s advances and securitised (Treasury bill) lending to the government to be formally limited (in line with previous informal practice), and required the BoE not to operate for itself in the primary market for government debt. The GMT indices are little changed, but the Cukierman unweighted index shows a considerable increase from 0.31 to 0.57, mainly due to the tighter lending restrictions but partly due to the BoE’s strengthened advisory role. The 1997 changes were more dramatic, with the BoE acquiring the responsibility for setting interest rates, although the goal of monetary policy was still set by the government. The Cukierman index rises to 0.70 and the GMT economic index rises from 5 to 8, but the change in the GMT political independence index is limited. The BoE remains formally less independent than the other two, mainly because it has operational but not

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3 In the French and Italian cases the Maastricht requirements were incorporated in the legislative changes of 1992–1993.

4 However, neither the Cukierman nor the GMT indices were designed to deal with the separation of goal and instrument independence which was central to the 1997 UK changes.
goal independence and because the Governor (and Deputy Governors) are appointed by the government for a term of only 5 years (other members of the Monetary Policy Committee are appointed for only 3 years).

We can summarise the preceding discussion as follows: these CBs all had relatively low independence in the 1970s and 1980s, but each of them had major changes in the 1990s (but not before) that made them essentially independent.

III The Concept of Informal Independence

We define informal CBI as the ability of a CB which is not formally independent to pursue price stability regardless of the preferences of the government; as already noted, such informal independence is less important for a low-inflation outcome insofar as the government itself favours price stability. Informal independence is difficult to measure directly. In particular, possible ex post indicators, such as the rate of inflation or the extent to which monetary growth or interest rates accommodate nominal income, and measures of credibility, such as the long-term interest differential against a low-inflation anchor currency, are open to obvious criticisms. Instead we try to identify broad trends in informal CBI, through a narrative account of monetary policy and CB behaviour focused on a number of determinants of the informal independence of a CB, which are summarised in Table 4.

First, in a society in which there is a more clearly accepted division of responsibilities and monetary policy is seen as the sphere of the CB rather than the government, the CB will find it easier to implement its own policies. Second, a CB faced by a government that is politically weaker, either because it lacks popular support or because it is the product of a coalition between groups or parties with differing views, will have more room for manoeuvre. Third, a CB that has a high level of technical expertise in monetary policy compared with the expertise available to the government will find it easier to resist policies other than those that it would choose itself. Fourth, a CB will be less likely to be pressurised when there is a higher degree of consensus among CB, electorate and politicians (government) on the objectives to be pursued and the instruments by

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Table 4

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<th>Determinants of the informal independence of central banks</th>
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5 There is also a danger with such ex post measures that the argument could become circular, with lower inflation being used as an indicator of higher informal CBI while the latter is also being used to explain the former.
which to pursue them. Fifth, an anti-inflationary pre-commitment by the government, in the form of a monetary target, an exchange rate target or an inflation target, will typically strengthen the CB’s position against government pressure to accommodate inflation. Sixth, mechanisms of accountability, such as those used by Briault et al. (1996) to construct an index of the accountability of CBs, may similarly increase the scope for the CB to resist pressures from governments. And seventh, the greater the CB governor’s personal independence and commitment to price stability, the more likely it is that the CB will pursue low inflation regardless of the preferences of the government.

It should be noted that these are determinants of the ability of the CB to act in a particular way, rather than ‘elements’ of informal independence. We ‘measure’ them for the three countries of our study in the next section only in terms of a three-point scale where one asterisk indicates low informal independence and three asterisks indicate high independence. In addition, although we present summary overall indices we think that comparisons between different periods or, particularly, between different countries should be made only with considerable caution.

IV INFORMAL INDEPENDENCE AND CB BEHAVIOUR FROM THE MID-1970S UP TO THE CHANGES IN FORMAL CBI

France

The statutes of the BdF had been modified in 1973, but the new version had made clear its continuing lack of independence: although the statutes regulated the BdF’s lending to the government they also stated that the BdF should ‘contribute to the preparation and participate in the implementation of the monetary policy decided by the government’ (Article 4).

The mid-1970s saw the introduction of monetary targets, in the aftermath of the widely acknowledged failure of the fiscal expansion (accommodated by monetary policy), which had been launched by Jacques Chirac as Prime Minister.
in 1975. Chirac’s successor, Raymond Barre, was an old-fashioned liberal economist with sound-money views rather than a radical ‘monetarist’ of the kind that came to power in the United Kingdom in 1979. Monetary targets, which had been set within the BdF since 1973, were made official and published as from 1977. Monetary authority was partly restored to the BdF, and there was no attempt by the Treasury to challenge its expertise in monetary affairs. The monetary targets were accompanied by structural reforms designed to limit the BdF’s financing of budget deficits and to increase the scope for non-monetary financing of the private as well as the public sector (the Loi Monory of 1978). The creation of the European Monetary System in 1979 gave a further focus for monetary policy, which, for most of the 1980s and 1990s operated with intermediate targets for both money stock and exchange rate.

The Mitterrand government, which came to power in 1981, initially pursued an expansionary macroeconomic policy, despite opposition from Governor Renaud de la Genière; however, the expansion led to a large external deficit and some rise in inflation, but had little impact on domestic growth. The failure of this policy led to the introduction of a strict incomes policy from June 1982 (including the de-indexation of wages), a fiscal retrenchment from March 1983, and a renewed commitment by the government to the franc’s position in the EMS, as well as to structural reforms and to a wide-ranging programme of financial innovation. Over the next few years the exchange rate gradually became more important, with the competitive disinflation of 1984–1985 paving the way for the ‘franc fort’ policy, which was pursued continuously from 1986 to 1987 under both right-wing and left-wing governments.

The government also acquiesced in the BdF’s increasing informal independence by its retention in post of a Governor who had been publicly very critical of its earlier policies. De la Genière had been appointed by Giscard d’Estaing as President in 1979; he had been officially assured that he would not be dismissed and that his term would last at least 5 years, and the Mitterrand government upheld this promise. However, from 1984 it appointed as Governor Michel Camdessus, the then Directeur du Trésor, someone with whom the government felt more comfortable (although by this time the government’s policy was in any case one that the BdF was likely to approve).

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10 The fiscal expansion (some three quarters of which was financed by monetary means) was introduced despite disagreements between Chirac, on the one hand, and his Minister of Finance, J. P. Fourcade, and the Deputy Governor of the BdF, Renaud de la Genière, on the other.

11 Monetary targeting in France seems to have been less ambitious but more successful than that in the United Kingdom (Cobham and Serre, 1987).

12 De-indexation may make it easier in the short run to control monetary growth, but it also makes the short-run Phillips curve flatter, which raises the long run discretionary rate of inflation in a Barro-Gordon framework (Fischer and Summers, 1989) and therefore increases the benefits from effective pre-commitment or CBI.

13 The policy was associated with French pressure for the adoption of the goal of European monetary union, so it can be argued that the rise in informal independence here was anticipating the EMU that came later.
In 1985 the right-wing opposition talked of increasing the powers of the BdF, and the idea of independence or autonomy for the BdF was included in its manifesto for the parliamentary elections of 1986, which it won. However, the new Gaullist Minister of Finance, Edouard Balladur, was not (at this time, at least) in favour of major change.\textsuperscript{14} The reform was first delayed and then shelved, while attention was directed elsewhere – to financial innovation and the reform of the instruments of monetary policy, and to a relaxation of monetary policy after the stock market crash of October 1987. In 1988, but before the election, Balladur as Minister of Finance had replaced Camdessus as Governor with Jacques de Larosière and made Jean-Claude Trichet Directeur du Trésor, appointments that the new socialist government honoured.

The post-crash loosening of policy may have been partly responsible for a property boom that was followed by a ‘bust’ in 1990. The BdF responded to the property crash by relaxing policy only to a limited extent, and its failure to entirely offset the effects of the crash may be taken as evidence of the growth of its informal independence in this period. In addition, the government committed itself in 1990–1991, in the context of the Maastricht treaty on EMU, to making the BdF formally independent no later than 1997. However, throughout the 1980s and early 1990s the government retained the ultimate power over monetary policy, and there was always a sizeable element of public opinion that regarded CBI as an intolerable diminution of the sovereign power of the government. In addition, parts of the political establishment found the external constraints on monetary policy difficult to accept, as shown by the attempt by the Balladur government to push French interest rates below German levels in June 1993: Mélitz (1994) has argued that the government was trying to reduce French interest rates for domestic reasons, while rejecting the devaluation that was a necessary concomitant of lower interest rates unless the Bundesbank was prepared to accede to the pressure to reduce its own rates, and that this led to the intense speculative pressure against the franc in July 1993.

The above discussion suggests that the informal independence of the BdF was increasing, albeit slowly and against recurring resistance from political quarters,\textsuperscript{15} from the mid-1970s onwards. The trends in the qualitative determinants are presented in Table 5. The summary index shows a rise from a low starting point of 7 through 10 in the late 1970s and early 1980s to 12 in the mid-1980s and 16 from 1987 until formal independence in 1994.

\textit{Italy}

Italy presents a rather different case. The BdI had long had more informal independence than either the BdF or the BoE, for reasons connected with the substantial powers given to the BdI by the 1936 Banking Law, with the status of

\textsuperscript{14} Stronger support came from the UDF under Raymond Barre. See Elgie and Thompson (1998, pp. 121–25) for some discussion of the episode.

\textsuperscript{15} Given that the Governor’s term of office was not defined over this period, it is perhaps worth noting that the two Governors with the shortest terms of office were Wormser and Camdessus, both of whom were dismissed by governments of the right rather than the left.
the BdI’s Governor (who cannot be removed by the government), and with its widely acknowledged position as the most efficient and competent centre for economic analysis in Italy.\textsuperscript{16} Although formally many monetary policy decisions were taken in the Interministerial Committee for Credit and Savings (CICR),\textsuperscript{17} they could be taken only on the basis of proposals made by the BdI, and there is no evidence of the BdI’s proposals ever being refused (Guarino, 1988).

Analogously, even though until 1993 the discount rate was formally decided by the Minister of the Treasury, this decision had to follow the proposal of the Governor and no conflicts between the Treasury and the Bank on this issue have been reported.\textsuperscript{18}

Table 5

<table>
<thead>
<tr>
<th>Qualitative determinants of the informal independence of the BdF</th>
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<tbody>
<tr>
<td>Accepted division of responsibilities</td>
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<tr>
<td>Political weakness of government</td>
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<tr>
<td>Technical expertise of central bank</td>
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<tr>
<td>Degree of consensus</td>
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<tr>
<td>Anti-inflationary pre-commitment</td>
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<td>mechanisms of accountability</td>
</tr>
<tr>
<td>Governor’s independence and inflation-aversion</td>
</tr>
</tbody>
</table>

Summary index

| 7 | 10 | 10 | 12 | 16 | 18 |

Notes to Table 5 (by row):
3. Technical expertise of BdF (relative to Treasury) increases with move to monetary targets 1977 and increases further with successful financial liberalisation of early/mid-1980s.
4. Increased consensus after 1983 abandonment of reflation and with later move to ‘franc fort’ policy.
6. Weak accountability on standard criteria throughout.
7. Change towards more inflation averse governor (de la Génie) in 1979, more inflation averse governors from 1988 (de Larosière) and 1993 (Trichet).

\textsuperscript{16} On Cukierman’s (1992, Chapter 19) questionnaire-based index of CBI, which is designed to discover divergences between actual and legal independence, Italy scores better at 0.76 than either France at 0.65 or the United Kingdom at 0.6.

\textsuperscript{17} This committee, created in 1947, had the power to set administrative controls on banks and reserve requirements. The authority over reserve requirements was given to the BdI in 1993.

\textsuperscript{18} An example of the role of the BdI is provided by the steep rise in the discount rate from 10.5% at the end of 1979 to 19% in March 1981.
political left. During the Bretton Woods fixed exchange rate period, with the Italian economy growing rapidly, macroeconomic policy was supportive but restrained. When a bout of wage pressure raised the possibility of devaluation in 1964, the threat was faced down and seen off by a tightening of monetary policy under Governor Guido Carli.

In the first half of the 1970s, with the end of the Bretton Woods system, the explosion of labour disputes and the oil shock, Italy experienced strong inflationary pressures and a sharp increase in government deficits. Given the absence of an organised market for Treasury securities on which the government could directly finance its deficit, the BdI assumed the responsibility to provide low-cost financing to the Treasury. In 1973 the inflation rate rose but the BdI was not able to reduce the monetary financing of the deficit, so it introduced administrative controls on financial markets (a portfolio constraint obliging commercial banks to buy long-term bonds and a ceiling on the growth of banks’ lending). Thus in the first half of the 1970s, the BdI’s officials seem to have been willing to sacrifice price stability in order to support economic growth.

In 1975 the new Governor Baffi, who was to stay in office until 1979, announced a radical shift in monetary policy, in an attempt to return to the objective of price stability. The new strategy was to keep supporting the financial needs of the Treasury but, at the same time, to create conditions for the emergence of an efficient market for government securities that would allow the Treasury to obtain finance directly in the market without intervention by the BdI. Under this strategy, the BdI accepted the task of acting as the residual primary buyer of unsold public debt, which it could resell (but at a capital loss) in the secondary market. At the same time an important reform of public debt auctions was enacted and in 1976 short-term Treasury bonds were offered for the first time directly to the non-banking public. In the following years a thick market for government securities developed.

Around the end of the 1970s and the beginning of the 1980s, there were important changes in the institutional framework of monetary policy. In 1979 Italy joined the EMS and therefore the maintenance of a fixed parity became an important constraint for monetary policy, particularly from 1981 (when the EMS generally became a more serious commitment). In 1981 the so-called ‘divorce’ between the BdI (now led by Governor Ciampi) and the Treasury took place, whereby the BdI was freed from the obligation to buy unsold public debt at the Treasury auctions. These two changes allowed the BdI to regain its (informal) independence from the government.

The ‘divorce’ was perceived in Italy as a major structural break with respect to the past. However, the relevance of this decision, which was freely agreed between the BdI and the Treasury, did not lie only in its operational content.

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19 See Epstein and Schor (1989) for the attitude towards the BdI of the Italian communist party, which saw it as a neutral bulwark against the predations of the Christian Democrats. See also Fratianni and Spinelli (1997).

20 In a famous passage of the 1973 Annual Report (reported also in Tabellini, 1988) Governor Carli declared that a refusal to buy government bonds would have been in effect an act of rebellion.
In fact, even though in the previous years the Bank was obliged to buy unsold government securities in the primary market, it could always resell them in the secondary market, thereby sterilising the effects on the monetary base. The risk that the Bank would be forced to monetise the debt was effective only when fiscal shocks were very large or when interest rates increased significantly, in which case the capital losses for the BdI would become unacceptably large.

As emphasised by Salvemini (1983) and Tabellini (1988), the divorce was important mainly because it determined a clear division of responsibilities between the Treasury and the Bank. ‘Politically’, the high interest rates of those years would now be perceived as a consequence of the budget policies of the fiscal authorities and any apparent link between government deficits and monetary growth would be eliminated.

It is worth noting that, in spite of the divorce, the BdI continued to support the financing needs of the Treasury until the end of 1983. However, the change in regime was signalled by an important episode in the last quarter of 1982 when the Treasury, having refused to increase the maximum rate on government securities and having exhausted its overdraft facility, was unable to finance its expenditures. In this case the BdI allowed the crisis to break, and the government was able to obtain an extraordinary 1-year advance from the CB only through an explicit act of parliament.

Even though the divorce made clear the separation between the BdI’s responsibilities and those of the Treasury, the weakness and instability of the demand for Treasury securities and therefore the impact that the choices of the Treasury had on interest rates forced the BdI to intervene for a large part of the 1980s. At the end of the decade, however, some important reforms contributed to the completion of the process of separation between the BdI and the Treasury. Between 1988 and 1989 the Treasury eliminated floor prices at Treasury bill auctions. This caused a second structural break, after that of 1981, strengthening CBI significantly in terms of the accepted division of responsibilities. In May 1988 a screen-based secondary market for government securities was launched. The money market and the settlement process were improved by the introduction of a computerised settlement system, the introduction of a screen-based market for interbank deposits and the reform of the compulsory reserve regime. All these reforms, together with the lengthening of the maturity of Treasury securities, eliminated the instability of the market for government securities that had been forcing the Bank continuously to intervene. At the same time the government’s commitment to its exchange rate target within the EMS became harder, and the lira moved to the narrow band in January 1990.21

The next structural break occurred in 1993 when the BdI passed from informal or de facto independence to formal independence under the tenure of Governor Fazio (who succeeded Ciampi in 1992). The BdI was given the powers

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21 Insofar as adherence to a fixed exchange rate within the EMS was likely to be a criterion for admission to EMU, the increase in informal independence here can be seen as reflecting the anticipation of EMU in the future.

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to set the discount rate and to vary reserve requirements, and the overdraft account of the Treasury with the CB was eliminated.

The above discussion suggests that the informal independence of the BdI in terms of its ability to pursue price stability rose significantly during the 1980s and early 1990s. This is also indicated by the qualitative determinants as presented in Table 6. While the individual entries differ significantly from those for the BdF, the general trend is also a rise in informal CBI, from a higher starting point of 11 in the early 1970s through 12 in the late 1970s to 16 from 1981 and 18 from 1988.

The United Kingdom

The United Kingdom’s experience is different again. Nationalisation in 1946 had had relatively little effect on the BoE, partly because it had already lost the power to set interest rates and partly because the government continued to take decisions in consultation with the BoE. The BoE retained some institutional autonomy, its own culture distinct from that of the Treasury and civil service, and some limited influence (Chancellors of the Exchequer would not have liked it to be known that they had rejected the advice of the Bank).

This section draws mainly on Cobham (2002) for discussion of monetary policy and Stephens (1996) for wider material.
The early 1970s boom in the world economy and the ending of the Bretton Woods international framework were accompanied by a highly inflationary boom in the United Kingdom, fuelled to some extent by a (partly unintended) monetary relaxation. In this period monetary policy was largely accommodating, and governments attempted to control inflation through incomes policies. In the mid-1970s a period of recurring exchange rate crises led to the adoption of broad money targets and a rise in the importance of monetary policy that increased the autonomy of the BoE, because the latter had greater technical expertise in the monetary policy area than the Treasury. Bank officials and Treasury officials alike were in this period moving away from traditional Keynesian views (in which the importance of money was limited) to put more emphasis both on the role of broad money and on the importance of price stability.

From 1979, however, the new Conservative government had more differentiated views on both of these issues, and regarded itself as having a better understanding of monetary matters than what it regarded as the old-fashioned Keynesians of the Bank. Power over monetary policy shifted firmly to the Treasury, which tried to build up its own expertise in this area relative to that of the BoE and made ample use of its formal powers to set interest rates and give directions to the BoE. Monetary targets were initially taken much more seriously than in the previous period. However, the government itself was strongly inflation-averse as well as interventionist, so that the hardness of the anti-inflationary pre-commitment did little to strengthen the BoE while its subordination did not lead to any slippage in the fight against inflation. The BoE resisted the challenge to its technical expertise, and contributed to the 1980–1981 decision not to adopt monetary base control. It also sought to strengthen its position in other areas, e.g. by brokering the 1983 agreement between the government and the London Stock Exchange, which led to the Big Bang reforms of 1986. The new Governor appointed by the Thatcher government in 1983, Robin Leigh-Pemberton, initially sought to avoid conflict with the Treasury on the grounds that any trial of strength could provoke Lawson into ‘a more formal assertion of Treasury control’, which would entail a further weakening of the Bank’s position (Stephens, 1996, p. 83).

Monetary policy was operated with slightly more discretion after 1982 as the government responded (with a lag) to the serious overvaluation of sterling that had developed in 1979–1981; more significance was attached to the exchange rate and monetary targets were downgraded and eventually abandoned. But, just as the adoption of hard targets had not, in the circumstances of 1979, strengthened the BoE, the abandonment of explicit targets (with which the BoE had often felt uncomfortable) did not weaken it. Moreover, Lawson’s policy of shadowing the Deutsche mark from March 1987 to March 1988 ended in open public disagreement between him and the Prime Minister and the abandonment of the policy, while the boom of the late 1980s allowed inflation to return briefly to double figures. Thus the government’s position was weakened by these perceived failures of monetary policy, and under Prime Minister Major (from November 1990) there was some rebalancing of the relationship between
Treasury and Bank. At the same time both the public consensus and opinion in the main opposition party (Labour) moved further away from the idea that unemployment could be reduced in the long term at the cost of higher inflation. In addition, the Governor of the BoE became firmer in his own views during his second term of office, partly as the result of his experience on the Delors Committee on monetary union where he had found himself at odds with the Prime Minister (Stephens, 1996, p. 112).

The United Kingdom had entered the ERM in what turned out to be the last months of the Thatcher term. In the event the period of ERM membership ended after less than two years in a sterling crisis with a drastic loss of credibility not for the BoE but for the government, which was seen to have decided the policy. In fact the BoE’s position was strengthened by the exit from the ERM in 1992 and the ‘new monetary policy framework’ was designed to allow the government to benefit from the less damaged credibility of the BoE (Cobham, 2002). The new framework embodied (together with inflation targets) a sharper institutional separation than had existed before between Treasury and Bank, and gave the Bank a more clearly delineated role as adviser to the government on monetary policy (with its advice made public). It thus gave the BoE a degree of influence and autonomy that it worked successfully to increase, by building up its monetary expertise (notably its inflation forecasting capacity) and using the mechanisms of accountability (e.g. the Inflation Report and the Governor’s statements in the Minutes of the Monthly Monetary Meetings) to establish its technical reputation. However, although this new framework was widely accepted as a sensible improvement on what had gone before, the change in the BoE’s status was informal and reversible, and the policy disagreements between government and BoE from the summer of 1995 to the demise of the Conservative government in 1997 can be interpreted as a deliberate and largely successful attempt by a shrewd and determined Chancellor to reverse it (Cobham, 2002).

Table 7 distinguishes between a larger number of subperiods than those for the other countries, but many of the changes are offsetting. It shows the BoE’s informal independence fluctuating around a relatively low level in the 1970s and 1980s, but rising sharply with the new framework in 1993 and then with the assignment of interest rate control to the BoE in 1997.

V  TRENDS IN INFORMAL INDEPENDENCE AND OUTCOMES FOR INFLATION UP TO THE CHANGES IN FORMAL INDEPENDENCE

For France and Italy, the broad patterns of inflation, as shown in Figures 1 and 2, are clear: in both countries there were substantial declines in inflation in the early and middle 1980s, followed by a slower and sometimes interrupted further decline in the early 1990s. For the United Kingdom, on the other hand, Figure 3 shows that, while there was a similar sharp decline in the early 1980s, this was followed by a significant rise in the late 1980s, a more than compensating fall in the early 1990s and then a limited rise. Increases in informal independence between one subperiod and the next as identified in the previous section are
indicated on the figures by solid lines, and decreases by dashed lines. How far can the patterns in inflation be explained by reference to these trends in informal independence?

For France we have argued that the informal independence of the BdF rose slightly in the late 1970s from its level in the mid-1970s, but did not change in the early 1980s. Inflation rose over this period with the second oil price shock to a peak of 14%, a level almost as high as that in the aftermath of the first oil price shock, before falling back in 1982 and 1983 to the level experienced for much of the 1970s. The major change in government policy between June 1982 and March 1983 then led to a faster and deeper deceleration of inflation between 1984 and 1986, which brought inflation back to and below the level of the late 1960s. This reduction coincided with a small increase in the BdF’s informal independence (see Figure 1 and Table 5), but it is clear that the driving force was not the rise in informal independence per se but government policy, in the form of the abandonment of the attempt at single-country expansion in favour of a stronger commitment to the EMS and the introduction of structural reforms of various kinds. France then experienced a small rise in inflation at the end of the 1980s and a slow further fall in the early 1990s. We have identified a larger rise in the BdF’s informal independence from 1987; this may have helped to ensure that

Table 7
Qualitative determinants of the informal independence of the BoE

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Notes to Table 7 (by row):
1. Thatcher government takes control of monetary policy from 1979; BoE gets greater influence 1993 after exit from ERM; BoE becomes instrument independent in 1997.
3. Technical expertise of BoE built up under monetary targeting from 1977 and further under inflation targeting from 1993.
4. Scope and importance of monetary policy contested in 1970s and most of 1980s, but less so from late 1980s (aftermath of boom, wider acceptance of no long-run trade-off) and less so again from 1993 (acceptance of inflation targeting).
7. Governor Leigh-Pemberton more independent in second term from 1988, followed by more independent and more inflation-averse Governor George from 1993.
the late 1980s rise in inflation was small, and may have had a larger causative role in the squeezing out of inflation in the 1990s. However, it seems likely that the influence of the BdF’s rising informal independence was felt indirectly through the impact of the BdF’s views on general public opinion and hence on government attitudes, rather than through the BdF’s direct influence over policy decisions. In any case the rise in the BdF’s informal independence was not uncontested by the political authorities, as is clear from the events of June–July 1993, when the political authorities were the driving force behind the interest rate reductions that preceded the EMS crisis (Mélitz, 1994).

In the Italian case we have identified a significant rise in the informal independence of the BdI between the 1970s and the 1980s, mainly associated with improvements in the market for government securities, which reduced the pressure on the BdI to lend to the government and with the adoption of specific intermediate targets for monetary policy in the form of ERM membership. Inflation was reduced very sharply between the second oil-price shock peak in 1980 and 1986, and this reduction is consistent with this increase in informal independence (see Figure 2 and Table 6). In the second half of 1987 the demand for long-term bonds declined, the average maturity of newly issued government debt fell sharply, and inflation rose in 1988 and 1989. At the same time there was an ‘excess credibility’ conflict between the commitment to a fixed exchange rate within the EMS and the control of inflation.23 The rise in inflation cannot therefore be attributed to a weakening of the BdI’s informal independence. However, it pushed the BdI to accelerate the earlier reforms of the market for government debt, as discussed in the previous section, and these reforms further strengthened its informal independence. The ERM crisis of 1992 finally

23 See Passacantando (1996) for the Italian situation and Giavazzi and Spaventa (1990) for more general analysis of the excess credibility case.
persuaded the political authorities to grasp the nettle of fiscal reform more firmly, and this (together with the end of the conflict with exchange rate policy) helped the BdI to tighten monetary policy so as to contribute to a further decline in inflation in 1992–1993. Thus the rise in the BdI's informal independence played a part, but by no means the only part, in the movement of inflation in these years.

For the United Kingdom we have argued that the BoE’s informal independence declined in the early 1980s and then rose by more in the 1990s, but this independence was under threat in the run-up to the 1997 election. In this
case the reduction in independence coincided with a steep fall in inflation from a peak after the second oil price shock, which had been notably lower than that after the first (see Figure 3); as noted above the government itself should be regarded as having been particularly determined in this period to pursue price stability, so that the fall in the BoE’s independence was not binding. Inflation then oscillated within a relatively narrow range in the mid-1980s before its resurgence in the late 1980s. This resurgence, which went much further than that in the other two countries, occurred while the BoE’s informal independence was much lower than that of the BdF or BdI. It was associated not with a further decline in the BoE’s independence, but with a change in the government’s intermediate targets and broader objectives, and/or with policy mistakes (Cobham, 2002, Chapter 4). However, the deeper fall in inflation from 1990 is broadly consistent (allowing, perhaps, for a lag over the years of the Lawson boom) with the recovery in the BoE’s informal independence, before and particularly after the new monetary framework of late 1992. The rise in inflation in the mid-1990s is consistent with the threat to the BoE’s informal independence at that time.

Overall, it seems clear that the trends identified in the informal independence of the three CBs help to explain the movements in inflation, but they are far from the only factors. In France, it was government decisions, above all, that determined the trend in inflation, and the rising informal independence of the BdF was also largely the result of government policy. In Italy, the reforms to government finance and the government debt market, themselves partly the result of pressure from and measures taken by the BdI, were important factors that allowed the BdI to exert a stronger disinflationary influence, and autonomous decisions by governments played a smaller role. In the United Kingdom, the trends in inflation through the 1980s were dominated by government decisions of different kinds, and it was only in the 1990s that the BoE had sufficient informal independence to begin to press for disinflationary policies; even then, its informal independence was not enough to prevent a determined Chancellor from undertaking a small but significant pre-election reflation.

We can also offer some tentative quantitative evidence on the role played by informal CBI in explaining the inflationary performance of France, Italy and the United Kingdom in the 25 years preceding the creation of the EMU. In Figure 4 we have plotted the rate of inflation against our informal CBI index (lagged 1 year). The scatter indicates quite clearly that in our three countries periods of high inflation were also periods of low informal CBI, which suggests the existence of an inverse relationship between inflation and our informal CBI index.

In Figures 5 and 6 we have repeated the same exercise, using instead the formal CBI indices of Grilli et al. (1991) and Cukierman (1992). Again, if we interpolate a line among the data points, we can detect a downward sloping line that seems to suggest a negative correlation between formal CBI and the rate of inflation. A more careful reading of the graphs, however, tells us that the story is more complex, because in both cases the data appear to be concentrated in two groups: a group of data that refer to the periods between 1973 and 1993, where
changes in the rate of inflation are associated with inexistent or very small changes in the formal CBI indices, and a group of data that refer to the period after 1993, when significant steps towards formal CBI were undertaken in all three countries, and, at the same time, the rate of inflation remained quite low. If we drop these last data from the graphs, the inverse relationship between inflation and CBI becomes very hard to detect, raising serious doubts that the increase in formal CBI, captured by both these indices, is capable of explaining the inflationary performance of our three countries.
The ability of informal CBI to explain better than formal CBI the behaviour of inflation in France, Italy and the United Kingdom can also be verified by some econometric analysis. We estimate a simple dynamic equation:

\[ p_{it} = \alpha_0 + \alpha_1 p_{it-1} + \alpha_2 cbi_{it} + \eta_i + u_{it} \]  

(1)

where \( p_{it} \) is the rate of inflation in country \( i \) at time \( t \), \( cbi_{it} \) is an index of CBI in country \( i \) at time \( t \), and \( \eta_i \) is a permanent but country specific effect introduced to control for unobserved country heterogeneity.

The dynamic panel is first estimated by OLS, pooling all countries together (and without the fixed effect \( \eta_i \)), and is then estimated using the Arellano-Bond GMM estimator, which allows us to take into account the panel dimension of the data. This estimator optimally exploits all the linear moment restrictions that follow from the assumption of no serial correlation in the error terms, and provides consistent estimates in panels that contain individual effects, lagged dependent variables and no strictly exogenous variables. This last aspect is particularly important especially when we use our informal CBI index, which cannot be treated as a strictly exogenous variable. Informal CBI, in fact, might itself be affected by past inflation. In our estimate we treat \( cbi_{it} \) as predeterminate (i.e. we assume that \( E(cbi_{is}u_{it}) \neq 0 \) for \( s > t \) and \( E(cbi_{is}u_{it}) = 0 \) for \( s \leq t \)) and we use lagged values of the dependent variable as instruments.

In Table 8 we report the OLS estimates for the whole sample 1973–1998. The results of the regressions show, for our three countries, the existence of a negative relationship between the rate of inflation and our informal CBI index. This relationship, however, is harder to detect if we use, as an explanatory variable, the two formal CBI indices, i.e. the GMT and Cukierman indices. All

\[ \text{Figure 6. Inflation on lagged GMT index.} \]

\[ \text{\cite{24} For the properties of this estimator see Arellano and Bond (1991).} \]
the coefficients of the CBI indices have the correct negative sign, but the GMT index is totally insignificant, while the Cukierman index has a higher $t$-statistic but does not reach the 10% significance level.

In Table 9 we report dynamic panel estimates of equation (1), using the GMM Arellano-Bond estimator. In the first three columns of the table the
estimates are made under the assumption that the error term is homoskedastic, while in the other three columns we allow for heteroskedasticity and we report the results obtained, using the Arellano-Bond one-step robust estimator.

As we can see from both the homoskedastic estimation in column (1) and the one corrected for heteroskedasticity in column (4), the informal CBI index is highly significant and has a negative sign, indicating, as expected, that an increase in informal CBI gave a significant contribution to the decrease in the rate of inflation in all the three countries. When we use the two indices of formal CBI, however, the results are not so clear-cut. In the last two columns of Table 9 the GMT and the Cukierman indices are also significant, but in the homoskedastic case the GMT index is not significant, while the Cukierman index is significant only at the 10% level. Although we cannot exclude the possibility that the formal CBI indices also have some explanatory power with respect to inflation, informal CBI seems to account better than the other two indices for the inflationary experience of our three countries.

Because an estimator that uses lags as instruments would lose its consistency if in fact errors were serially correlated, we also report tests of the validity of the instrumental variables, i.e. tests of lack of serial correlation. We consider therefore the results of tests of first- and second-order serial correlation and the results of the Sargan test of over-identifying restrictions. The latter is reported only for the homoskedastic case because it is only in this case that the Sargan test has an asymptotic $\chi^2$ distribution. As we can see from Table 2 the Sargan test from the homoskedastic estimations reported in columns (1)–(3) cannot reject the hypothesis that the over-identifying restrictions are valid. In both the homoskedastic and the robust cases the null of no first-order autocorrelation in the differenced residuals is rejected, but this is not a problem because $u_{it}$ and $v_{it}$ are first differences of serially uncorrelated errors and therefore $E(u_{it}u_{i,t-1})$ need not be zero. More importantly, we cannot reject, in all our equations, the null hypothesis of no second-order serial correlation, which is crucial because the consistency of the Arellano-Bond estimator hinges heavily upon the assumption $E(u_{it}u_{i,t-2}) = 0$.

In Tables 10 and 11 we repeat the same estimations for the period 1973–1993, excluding the period in which we observe the greater changes in formal CBI in all the three countries. The OLS estimates, reported in Table 10, confirm the results of Table 8: our informal CBI index remains significant, while the other two indices are totally insignificant. The GMM Arellano-Bond estimates, instead, when performed on a shorter sample, although they pass second-order serial correlation tests and the Sargan test of over-identifying restrictions (which, however, applies only to the homoskedastic case), give very different results from the ones obtained in Table 9. Our informal CBI index remains highly significant in both the homoskedastic and the robust cases, while the formal CBI indices lose a large part of their explanatory power. The GMT index is never significant, while the Cukierman index is significant only in the case corrected for heteroskedasticity. The dynamic panel estimations reported in Table 11, therefore, are consistent with the considerations we made at the beginning of this
section, based on the simple observation of the scatter diagrams: while the negative relationship between inflation and informal CBI is quite strong and independent of the estimation period, the negative relationship between inflation and formal CBI seems largely due to the big changes that occurred from 1993.
on. For the 20 years before 1993, the very small changes in formal independence cannot account for the significant drop in inflation that occurred in these three countries.

VI Conclusions

We have argued in this study that CBI needs to be understood more broadly than in the usual formal interpretation. Three principal conclusions can be drawn from the analysis of the paper. First, it is possible to identify at least broad trends in the informal independence of CBs whose formal independence is limited. The degree of informal independence has varied widely over time in our three countries, and we have provided tentative quantitative evidence of the relation between inflation and informal independence.

Second, while it is clear that the degree of informal independence is affected by a range of different factors, those that seem to have been most important in the three cases examined here are the degree to which it is generally accepted that monetary policy is the separate responsibility of the CB; the existence of a formal anti-inflationary pre-commitment in the form of an intermediate target for monetary policy; the degree of social consensus about the objectives and instruments of macroeconomic policy; and the (relative) technical expertise of the CB. Of these factors, the last is clearly one that the CB itself can influence, and some of the behaviour of CBs – for example, the development of their forecasting capacity by CBs involved in inflation targeting – can obviously be interpreted in this light. The importance of the second, on the other hand, explains why CBI was not a prominent issue during the Bretton Woods period (when governments had exchange rate targets) despite the subordination of CBs to governments at that time.

Third, the growing informal independence of the French and particularly Italian CBs is essential to explaining the decline in inflation in those countries in the 1980s and 1990s. However, the degree of informal independence is not the only factor that affects macroeconomic outcomes, as is illustrated by the coincidence of the reductions in both BoE independence and UK inflation in the early 1980s, and by the importance of government rather than CB decisions in the French case.

Acknowledgements

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Appendix A: The Cukierman Index of Formal CBI

This appendix sets out the reasons for the differences between our calculations and those of Cukierman (1992) (which cover 1972–1979 and 1980–1989), as
given in Appendix A to his chapter 19, and comments where relevant on our calculations for the later periods.

The following points refer to the rows of Table 1:

1. In the BdF before 1993 and in the BdI throughout the term is unspecified, i.e. there is no minimum (or maximum). Cukierman scores the BdF and the BdI in the 1970s and 1980s as 0 (i.e. in his allocation a term of office <4 years), but we have scored them in this period as 1.0 (equivalent to term ≥ 8 years), because the Governors cannot be removed at will by the government so that the term is in effect a life term (GMT denote the BdF and BdI Governors as both having a term of more than 5 years).

2. The BdF Governor is appointed by a presidential decree in the council of ministers. The BdI Governor is appointed by the Consiglio Superiore of the BdI, in which a representative of the Treasury Minister has the right to participate, and the appointment must then be approved by the government.

4. Cukierman scores 0.5 for France (i.e. CEO not allowed to hold any other office in government unless authorised by executive branch), but we know of no justification for this.

5. In the Italian case the discount rate was set before 1993 by the Treasury Minister on the recommendation of the Bank of Italy; after 1993 it was set by the CB alone. Cukierman has a value NA (no account) for this entry, but we consider 0.67 (i.e. ‘CB participates in formulation of monetary policy together with government’) to be more accurate. In the United Kingdom, the BoE has full operational but no goal independence. We have awarded 0.83 as being equidistant between Cukierman’s 0.67 and his 1.0 (‘CB alone has authority to formulate monetary policy’).

6. Cukierman gives NA for Italy, but 0.4 (i.e. ‘Legislative branch has final authority on policy issues’) is more appropriate because Parliament can pass a law to force the BdI to lend to the government (as it did in 1982).

8. Cukierman has 0.2 (i.e. ‘CB charter does not contain any objectives for CB’) for Italy and for the United Kingdom, but 0 (‘some goals appear in the charter, but price stability is not one of them’) seems more appropriate as we can find no objective of any kind in the BdI’s or the BoE’s Charter.

9. BoE advances to the UK government (under the Ways and Means facility) are allowed under the UK Protocol to the Maastricht Treaty but assumed to be limited by the United Kingdom’s practice of full funding of the government deficit, so that over the financial year as a whole they should be zero. We interpret this as Cukierman’s 0.67 [i.e. ‘advances permitted but subject to limits in terms of absolute cash amounts or to other types of relatively strict limits (e.g. up to 15% of government revenues)’].

10. For France Cukierman gives 0 (i.e. ‘No legal limits . . .’), but 0.33 (i.e. securitised lending ‘subject to relatively accommodative limits . . .’) seems more correct. In Italy before the ‘divorce’ of 1981 the CB was obliged by a regulation of the CICR to act as the residual buyer of Treasury bonds (at a minimum price). Thus securitised lending was not prohibited, not subject to
limits and not subject to negotiation, which implies a value of 0 for the period before 1981, as for the period between 1981 and 1993. This suggests, however, that the index is flawed, because the change that occurred in 1981 was a significant one.

11 Cukierman has 0.33 (i.e. ‘law leaves the decision about the terms of CB lending to government to negotiations between CB and executive branch’) for Italy in the 1970s as well as the 1980s, but 0 (‘executive branch alone decides the terms of CB lending to government and imposes them on CB’) seems more appropriate for the period of the ‘marriage’.

12 Cukierman has NA for Italy. The BdI can lend to Italian private sector and public sector banks, but this is short term and lender-of-last-resort refinancing only, so that 1 (i.e. ‘Only central government can borrow from CB’) seems correct.

14 Cukierman has NA for France but 0 (i.e. ‘No legal upper bounds on the maturity of CB loans) seems more appropriate.

15 Cukierman has NA for France, 0.25 (i.e. ‘No explicit legal provisions regarding the interest rate on CB loans’) for Italy and 0.75 (‘Interest rate on CB loans to government cannot be lower than a certain floor’) for the United Kingdom, but we consider 0.25 to be correct for France in the earlier period and the United Kingdom throughout, and 0.5 (‘Interest rate on CB loans cannot exceed a certain ceiling’) for Italy in both periods before 1993.

APPENDIX B: THE GMT INDICES OF FORMAL CBI

This appendix sets out the reasons for the differences between our calculations and those of GMT (1991) (which appear to refer to the period 1980–1989), and comments where relevant on our calculations for the later periods.

The following points refer to the columns of Table 2:

2 See the note to row 1 of Table 1 in Appendix A.

5 For the UK post-1997 the Treasury has a representative on the Monetary Policy Committee, but the representative is strictly non-voting; we have rated this as 1/2 rather than 1 (no mandatory government representative on Board).

6 For the UK post-1997 the BoE has operational but not goal independence, so we have rated this as 1/2 rather than 1 (no government approval of monetary policy needed).

7 For the UK post-1997 the BoE is required to pursue price stability, but in the specific form of an inflation target set by the government; hence, we have rated this as 1/2 rather than 1 (statutory requirement that CB pursues monetary stability).

The following points refer to the columns of Table 3:

6 GMT give the United Kingdom an asterisk, but before 1997 the discount rate was set by the government and not by the BoE.
GMF give France two asterisks (banking supervision not entrusted to CB), but the Governor of the BdF is the chairman of the Commission Bancaire.

REFERENCES


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