

Do Central Banking Institutions Matter?

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Abstract

DoCBIstitutionsMatter.pdf, section 8.5 of *Monetary Theory and Policy*, 2nd ed., MIT Press, 2003.¹This material was eliminated from the third edition of *Monetary Theory and Policy*. See References2e.pdf for the bibliographic information on the literature cited in this document.

Both the academic literature on discretionary policy and the policy discussions surrounding the design of new policy-making institutions for the European Union and the emerging nations of Eastern Europe have generated increased interest in the role institutional structures play in affecting both policy and macroeconomic outcomes. While Olson (1996) argues strongly that policies and institutions are critical in accounting for cross-country differences in real economic growth, the focus in the monetary literature has been predominantly on the implications of alternative institutional structures for the conduct of monetary policy and for inflation.

By far the greatest attention has been focused on the relationship between the political independence of central banks and the resulting average inflation rates in different countries. If political pressures lie behind the bias toward economic expansion that the Barro-Gordon model shows leads to an inflationary bias, then central banks that are less subject to political influences should be able to deliver consistently lower inflation.

This proposition has been intensively investigated. Beginning with Bade and Parkin (1984), various authors have constructed measures of central bank independence and have examined the relationship across countries between independence and average inflation or measures of real economic performance.² Much of this literature is surveyed by Cukierman (1992) and Eijffinger and de Haan (1996). The general conclusion is that central bank independence among the industrial economies is negatively correlated with average inflation; greater independence is associated with lower average inflation. Using a measure of independence that was constructed by Cukierman, Webb, and Neyapti (1992) based on the legal charters of central banks and which they call LVAU, figure 1 shows the relationship between independence and average inflation during 1973–1979 and 1980–1993 for a sample of 20 OECD countries.³ This same

²See Alesina (1988), Grill, Masciandaro, and Tabellini (1991), and Eijffinger and Schaling (1993).

³The countries included in the sample are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Japan, Luxembourg, Norway, the Netherlands, New

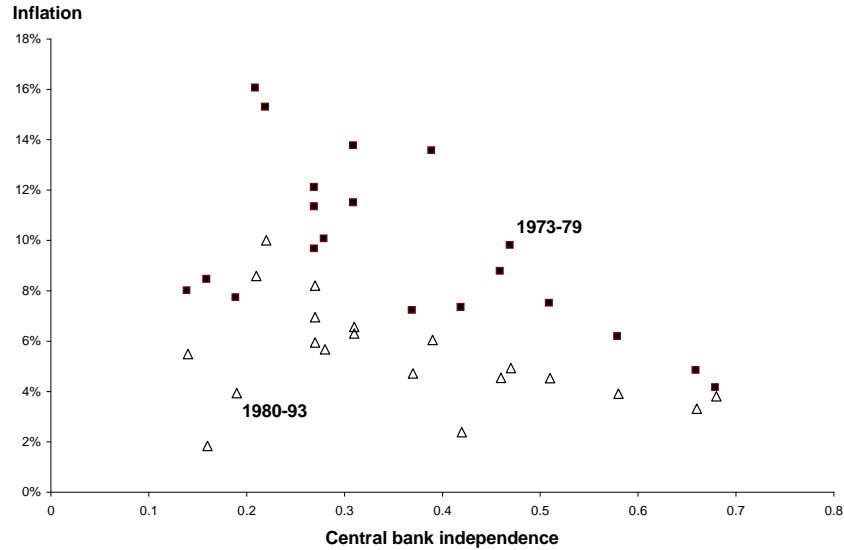


Figure 1: Average Inflation versus Central Bank Independence

information is summarized in table 8.1 showing simple regressions of average inflation on central bank independence.

Table 8.1
Central Bank Independence and Inflation

	Const.	<i>LVAU</i>	R^2
1973-1979	0.140 ^a	-0.122 ^a	0.35
1980-1993	0.073 ^a	-0.054 ^b	0.18

^a Significant at the 1% level.

^b Significant at the 5% level

In addition to being statistically significant, the estimated effect of central bank independence on inflation is of an economically significant magnitude as well. For example, the 1973–1979 regression predicts that changing the degree of independence from that of the Bank of England (with a value of *LVAU* equal to 0.31, as measured prior to recent changes in the relationship between the Bank of England and the Treasury) to that of the Bundesbank (an *LVAU* of 0.66)

Zealand, Spain, Sweden, Switzerland, the United Kingdom, and the United States. The index of central bank independence employed is that due to Cukierman, Webb, and Neyapti (1992) and reported in table 19.4 of Cukierman (1992).

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would be associated with a reduction of 4 percentage points in average annual inflation.

One difficulty in interpreting this empirical literature in terms of the time-inconsistency literature arises because the link between central bank independence, as measured by the various indices, and the inflation bias under discretion is ambiguous. Delegating monetary policy to an independent central bank that has the same objective function as the government would not reduce the time-consistent inflation rate.² However, independence is often interpreted in terms of the weight placed on inflation objectives; thus, independence may imply greater conservativeness in the sense used by Rogoff (1985b). Such an interpretation is consistent with greater independence being negatively correlated with average inflation (see ??), but under this interpretation, greater independence should also be associated with less activist stabilization policies and, as a result, higher output variance. The relationship between the volatility of real output and other measures of real economic activity has been examined by Alesina and Summers (1993), Cukierman, Kalaitzidakis, Summers, and Webb (1993), Eijffinger and Schaling (1993), and Pollard (1993). These authors find no relationship between central bank independence and real economic volatility. This finding is inconsistent with the notion that independence is associated with a greater weight on inflation objectives. However, the finding has been interpreted to mean that granting greater central bank independence is a free lunch; average inflation is reduced, with no cost in terms of greater output instability. Note that this interpretation requires that the empirical correlations be given a causal interpretation, but the empirical findings are also consistent with the implication from the contracting approach that there need be no inherent trade-off between reducing the inflation bias and achieving optimal stabilization.

Debelle and Fischer (1994), Froyen and Waud (1995), Walsh (1995d), and A. Fischer (1996) report that greater central bank independence is associated with greater short-run costs of disinflations. If causality runs from central bank independence to greater nominal rigidities that raise the sacrifice ratio associated with disinflations, then moves by high-inflation countries to grant their central banks more independence may not lower the costs of reducing inflation. Causality could, however, run the other way. Disinflations will tend to be costly when the effects of surprise inflation on output are large. This occurs when the parameter a in our basic model is large. But a large value for a also implies that the inflation bias under discretion will be large, so countries with large a 's (and high sacrifice ratios) may be more likely to have established independent central banks to avoid the inflation bias.

In support of the hypothesis that central bank independence can affect the slope of the short-run Phillips curve (i.e., the value of a), Walsh (1995d) shows that an increased focus on inflation objectives by the central bank can raise the degree of nominal-wage rigidity by leading to less nominal-wage indexation. Hutchison and Walsh (1998) do find that the short-run Phillips curve in New

²Herrendorf and Neumann (forthcoming) argue that a politically independent central bank is less likely to care about the government's reelection chances and is therefore less likely to use monetary policy in an attempt to create surprise inflation.

Zealand has become flatter (i.e., a has increased) since the 1989 reform of the Reserve Bank of New Zealand.

The appropriate interpretation of the empirical evidence on independence and inflation will also depend on the meaning of independence and the benefits independence confers. Suppose independence enhances the central bank's reputation in a way that reduces the inflation bias.³ This reduction in the inflation bias lowers the optimal degree of conservativeness, since the stabilization costs of a conservative now become relatively larger. So independence may shift the relationship between average inflation and output variability, influencing the cross-country evidence on central bank independence and inflation. Or, if independence and conservatism are interpreted to be associated with a lower target for inflation, rather than a greater weight on inflation objectives, increased independence will lower average inflation but will not lead to an increase in the variability of output (Svensson 1997b).

An alternative interpretation is that the inflation bias arises from political pressures, perhaps related to electoral considerations, and that central bank independence reduces this bias by reducing direct political pressures on the central bank. That is, it is the greater autonomy associated with independence, and not a change in preferences, that accounts for the lower average inflation. By limiting the underlying source of the bias toward expansion, independence would act to reduce average inflation but would still allow the central bank to respond to economic disturbances. Independence need not imply a rise in output volatility. Waller and Walsh (1996) parameterize independence in terms of the political partisanship in the appointment process for the central banker and in the length of the term of office. They show that greater independence—a smaller role for partisan politics in the appointment process or a longer term of office—can reduce output volatility as well as average inflation.⁴

The type of independence might also matter. Debelle and Fischer (1994) draw a distinction between *instrument independence* and *goal independence*. The former refers to the ability of a central bank to set its policy instruments without interference in the pursuit of its policy goals. The latter refers to the ability of the central bank to set policy goals. The Federal Reserve, for example, has both instrument and goal independence, while the Reserve Bank of New Zealand has instrument independence, but the goals of policy are set by the Reserve Bank Act of 1989, which specifies price stability as the sole objective of monetary policy. Prior to May 6, 1997, the Bank of England had neither instrument nor goal independence.⁵ Debelle and Fischer report some (weak) empirical evidence that the presence of a formal goal of price stability (that is, a lack of goal independence) and instrument independence are related

³Herrendorf and Lockwood (forthcoming).

⁴Alesina and Gatti (1995) make a similar point by considering a two-party model in which the central banker is chosen jointly by the two political parties prior to an election. They show that electorally induced political business cycles are reduced.

⁵The Bank of England was granted instrument independence by the Labour government elected on May 3, 1997. Some other recent central bank reforms are discussed in Walsh (1995b).

to low-inflation outcomes. Other aspects of the political linkages between the central bank and the government, such as appointment procedures, do not seem to matter.

The critical issue is the extent to which these correlations between inflation and measures of independence represent causal relationships. Will increasing the political insulation of a country's central bank result in lower average inflation without producing any detrimental effects on real economic performance? Posen (1993, 1995) has argued strongly that average inflation and the degree of central bank independence are jointly determined by the strength of political constituencies opposed to inflation; in the absence of these constituencies, simply increasing a central bank's independence will not cause inflation to be lower. Cargill (1995a, 1995b) has also questioned the causal significance of the statistical correlations between measures of central bank independence based on descriptions of the legal structure of the bank. In particular, Cargill emphasizes the case of Japan, where low inflation coexisted with a very dependent central bank. McKinnon and Ohno (1997) argue that U.S. pressure on Japan over trade disputes accounts for deflationary pressures in Japan and explains Japan's low inflation despite a politically dependent central bank. In this case, the political pressures on a dependent central bank supported a low-inflation policy, in contrast to the general presumption that political pressures are always in favor of inflationary policies.

One problem with regressions of the form reported in table 8.1 is that they fail to correct for country-specific factors that may affect inflation and may also be correlated with the measure of central bank independence. If countries with independent central banks differ systematically from countries with dependent central banks in ways that are associated with lower inflation, the regressions in table 8.1 will attribute the low inflation to central bank independence. One approach to correcting for potential bias is to include other determinants of inflation in the empirical analysis. Campillo and Miron (1997) have shown that central bank independence has no explanatory power for cross-country variation in average inflation once other potential determinants of inflation are included in the analysis. They argue instead that the degree of openness is an important factor in explaining inflation, a result consistent with Romer (1993) and Jonsson (1995). Campillo and Miron also find a significant effect of the debt-to-GDP ratio in accounting for cross-country inflation variation, higher values of this ratio being associated with higher average inflation. Using a different approach, Johnson and Siklos (1994) find little relationship between the measured responses of short-term interest rates (the policy instrument) to political influences and measures of independence based on central banking laws.⁶

While the more recent empirical work has cast doubt on the causal role played by central bank independence in determining inflation, the earlier find-

⁶The discussion here applies only to developed economies. There is no statistical relationship between measures of central bank independence and average inflation among the developing economies. Cukierman (1992) has argued for the use of a measure of central bank governor turnover as a proxy for independence. Among the developing economies, high turnover is associated with high inflation.

ings have played an important role in shaping central banking reforms around the world as countries attempt to design institutional structures that will support desirable policy outcomes. However, a complete understanding of the relationship between average inflation and central bank independence, even if the correlation is not causal, will require a better understanding of the factors that have historically led to variations in central bank independence across countries. What determines central bank independence? If independence has been employed as a means of reducing the inflation bias that might arise from political pressures on the central bank, then those countries facing the greatest bias would have had the most incentive to establish independent central banks. De Haan and van't Hag (1995) develop some implications of the hypothesis that the delegation of monetary policy to an independent central bank has been used as a commitment device and test these using data from OECD economies. Eijffinger and de Haan (1996) show how central bank independence, interpreted in terms of the degree of conservativeness, is related to factors such as the natural rate of unemployment (assumed to be related to the incentive for expansions) that are suggested by the basic Rogoff model.