The Changing Face of Central Banking

Evolutionary Trends Since World War II

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INTRODUCTION

As the twenty-first century begins, central banking would appear to be at a crossroads. From lender of last resort, to active participant in stabilizing economic fluctuations, and now as the guardian of price stability, much is expected from the monetary authority. Indeed, where once fiscal policy was considered the main instrument of economic policy, the ascendancy of monetary policy became especially noticeable by the late 1980s in much of the industrialized world with profound implications for the role of the central bank. Yet, as this is written, financial innovations seemingly threaten once again the position of central banks as the dominant force responsible for ensuring financial stability and in influencing economic outcomes.[1]

There is an important sense in which, over the past several decades, central banking has been at the mercy of whim or fashion. "At a time when the price level is rising and employment is relatively full, price stability takes precedence over full employment as a policy objective. At a time when prices are stable and unemployment is rising, on the other hand, employment becomes the prime objective. A better measure of central bank conservatism might be the length of time it takes for him to accept a change in conditions and adjust his thinking accordingly" (Whittlesey 1970: p. 225).

The above quote highlights the fact that the practice of central banking involves a considerable amount of learning and adaptation to a

[1] Since the present study is not about the future of central banking I shall, for the most part, avoid the question of whether central banks are indeed even necessary. See, however, Chapter 2, Friedman (1999) and Goodhart (1999).

changing environment, a theme now gaining wider acceptance, both in terms of formal models (as in Sargent 1999) as well as in historical descriptions of central bank policies throughout this century (see Howitt 2000; Siklos 1999a). Yet, an understanding of such developments requires more evidence than has heretofore been brought to bear on the issues.

This study examines, using both qualitative and quantitative evidence, the evolution of central banks and their policies since the end of World War II. The degree to which central banks have tended to be cast as separate, if not at times autonomous, institutions from the rest of government has changed considerably over the past fifty years. This separation has been the cause of considerable tension, particularly when the preferences of elected officials seem to conflict with those who manage monetary policy. Among the questions considered in this study is how seriously one ought to take institutional elements in central bank–government relations as the crucial ingredient in gaining an appreciation for the evolution of the monetary authority's influence vis-à-vis government. The conclusions, as we shall see, are very much in the mold of the proposition that institutions matter and that it is of inherent interest to explore how central banks have evolved the way they have over the past fifty years or so.

Nevertheless, central bank behavior cannot simply be about what banks are legislated to do. No statutory relationship can define either day-to-day central banking operations, nor can it ultimately dictate the influence of the personalities who set the direction of monetary policy. Therefore, politics and the preferences of the central bank may intrude on the institution's evolution and performance. Louis Rasminsky, a former governor of the Bank of Canada, put it best in his Per Jacobsson Lecture (1966: p. 116): "The formal status of the central bank varies a great deal from country to country. In any case this is a field in which the real situation is not likely to be revealed by the terms of the statute. Much depends on history and tradition and a fair amount even on the personalities involved."

Despite the appeal of institutional economics there are some limitations to the approach as will become apparent. We simply do not yet know enough about why certain central banking and monetary policy frameworks work better in some countries than in others. In part for this reason the present study resorts at times to the case method approach to illustrate the significance of institutional or economic factors which are relevant to an understanding of central bank behavior. We have, however, learned a great deal over the decades about key aspects of

monetary policy implementation and central bank–government relations that work and these do highlight the central role of the institutional structure in place.

This study is also prompted by the need for more comparative evidence on the activities of central banks and their place in government. While economists have, very recently, embarked on such a task, the available comparative evidence is relatively thin. Moreover, a significant portion of recent research tends to be cast in terms of an approach introduced by economists in the 1990s to characterize the conduct of monetary policy, primarily in the United States. Perhaps more importantly, there has been a gulf between various strands of literature dealing with central banks. Some view central bank operations solely through the lens of statutory and other legal aspects of central bank behavior. Other literature presumes complete freedom of action by the monetary authority to set interest rates and the question then becomes what weight the central bankers place on controlling inflation versus some real objective such as output growth or unemployment. Finally, an altogether separate literature interprets central bank behavior as being significantly affected by political forces.

Discussions of the myriad of pressures on monetary policy in one place is not available and this study hopes to at least make a start at looking at the relative importance and influence of each across countries and over time. Existing theories in each strand of the literature are now fairly well developed and, though some modest points about the relevance of existing theories will be made, the study is mainly about building and sifting through the available evidence about what central banks have done, and why, over the last half century.

INFLATION THEN AND NOW

A few words are in order about the choice of the post-World War II era for analysis. First, as will be seen in the next chapter, the economic environment and mission governing almost all central banks being studied here altered substantially following the decade of the 1940s. It is fair to say that while central banks have always been viewed as lenders of last resort, their role in stabilization policy was far more passive in the pre-World War II era than thereafter. Moreover, cataclysmic events such as wars and revolutions were relatively more prevalent prior to the 1950s. Finally, the behavior of inflation is sufficiently different in the years before World War II which suggests that other forces were at play rather

than the ones that are the prime concern of this study. To illustrate, Figure 1.1 plots inflation in Germany and the United Kingdom since the middle of the nineteenth century. In the case of Germany the plot omits the years of hyperinflation, another feature of the pre-1950s history of inflation (also see Siklos 2000a). Two important distinguishing features of the pre-World War II era include the more-or-less regular appearance of periods of deflation, and the relatively greater volatility of inflation. While there are no doubt several proximate causes for these distinctive characteristics in the inflation process, the Gold Standard and the Great Depression clearly come to mind as the main explanations for this outcome. In contrast, as we shall see, the post-World War II era is dominated by persistently positive inflation rates and changes in policy regimes that shall be the focus of the discussion in the remainder of this study. To illustrate, Figure 1.1c shows inflation in New Zealand since 1930. There is a consistent upward trend in inflation until the middle 1980s when major reforms, not just ones affecting the position of the central bank, produced a sharp decline in inflation that has been maintained ever since (see Chapters 2 and 7).

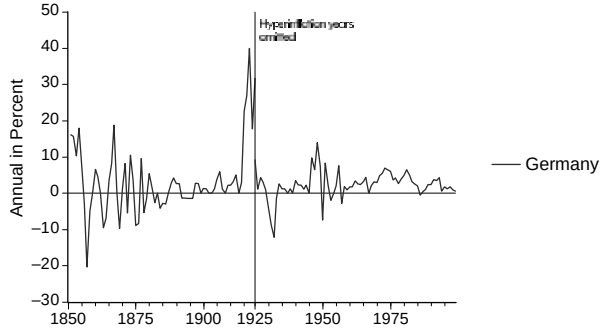
There are additional reasons to treat the years since the 1940s somewhat differently from the monetary policy experience of preceding decades. Consider a simple description of the relationship between the amount of slack in economic activity, referred to as the output gap (see Chapter 2)[2] and inflation. The resulting trade-off, usually referred to as the Phillips curve, can be written in simplified form as

$$\pi_t = \pi_t^e + a\tilde{y}_t + e_t \tag{1.1}$$

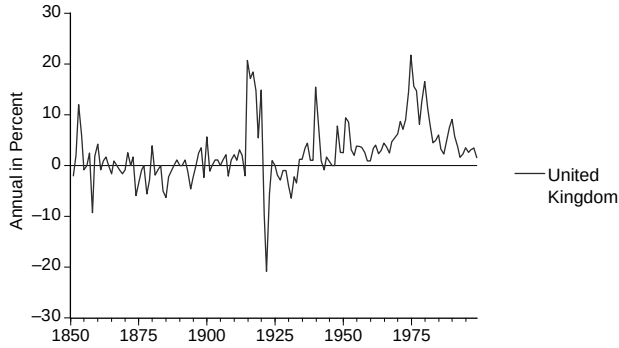
where π is the actual inflation rate at time t, π^e are inflation expectations also at time t (though possibly conditioned on information available only up to time $t-1$), $\tilde{y}$ is the output gap and e_t are random "shocks" to inflation. The latter can be thought of as having a zero mean and a constant variance. The coefficient a is positive suggestive of the notion that inflation is lower when there is excess capacity in the economy ($\tilde{y} < 0$) than when the economy produces more than its potential (that is, $\tilde{y} > 0$). Versions of Equation 1.1 are part and parcel of most standard macroeconomic models. There is, of course, continuing controversy over the existence of the Phillips curve trade-off, whether linearity is an appropriate characterization, as well as the extent to which the trade-off is "exploitable" by governments and central banks. We shall return to some

[2] The output gap is simply the (percent) spread between actual and some measure of potential aggregate output.

(a) Germany



(b) UK



(c) New Zealand

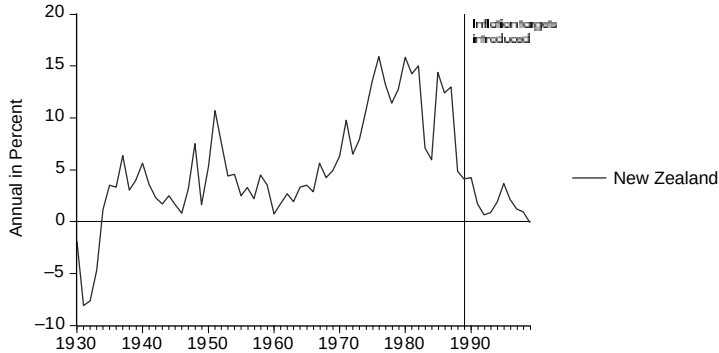


Figure 1.1 Inflation in Germany, the United Kingdom, and New Zealand over the Last Century (*Sources*: Mitchell (1992), updated from sources described in Chapter 2, and at http://www.wlu.ca/~wwwsbe/faculty/psiklos/centralbanks.htm.)

of these questions throughout this study.[3] Nevertheless, what is germane for the moment is the role played by central banks and the policy regime in place. One reason is that, as we shall see, some policies or institutions are better able to anchor expectations than others. This has the effect of minimizing deviations between π_t and π_t^e with implications for the behavior of $\tilde{y}_t$, other things being equal. Indeed, it is apparent from the foregoing discussion that, since policies aimed at influencing inflation and the output gap also lead to more variability in both variables,[4] delivering the best possible monetary policy should aim at minimizing variability in both. Recognition of this idea has led to the formulation of a "new" policy trade-off, namely one between inflation and output variability.[5] Nevertheless, these developments also suggest the necessity of a fairly good understanding of what drives expectations, the ability to model economic relationships that recognize forward looking behavior, as well as identifying economic shocks, among other requirements.

Figure 1.2a makes clear that, in terms of the "new" trade-off, the performance of monetary policy was, for the most part, substantially different after World War II than in earlier decades, at least if we take the U.S. experience as representative. Figure 1.2b makes the same point but via comparisons across policy regimes, again for U.S. data. Hence, we find that inflation and output volatility are considerably smaller during the period of pegged exchange rates, known as the Bretton Woods era, and still better under inflation targeting. The respective roles played by central banks and institutions during these regimes will also figure prominently in the present study.

The remainder of this chapter gives a taste of what is to follow as well as briefly highlighting the need to bring together the separate elements of the literature on central banks.

GOVERNING STRUCTURES

In most industrialized countries, the legislation governing central banks has the same status as that of any other government body. Hence, the structure of government, electoral, and partisan activity, as well as inter-

[3] A recent, and highly readable, view of the current state of key aspects of the debate may be found in, for example, Akerlof, Dickens, and Perry (2000).

[4] Recognition of some facets of the debate owes a considerable debt to, for example, Friedman's Nobel Lecture (1977).

[5] Taylor's (1993) work probably originated this line of debate. Also see, however, the 1996 and 1999 Symposia held by the Federal Reserve Bank of Kansas City (most notably Fischer 1996, and Taylor 1996), Svensson (2001), Taylor (2000), and Walsh (2000a) for highly readable accounts of the principles behind the "new" trade-off.

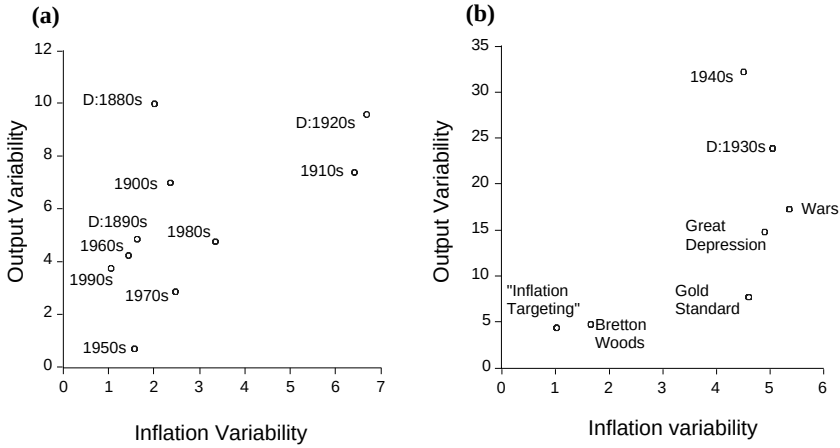


Figure 1.2 Inflation and Output Variability: The U.S. Historical Experience (*Note*: The plots show the variance of real GDP and CPI inflation by decade (part a), and by regime (part b), based on annual data. The Great Slump is the 1928–32 period; wars are 1914–18, 1939–45, and 1950–53; Bretton Woods is 1959–72; the Gold Standard is 1873–1919; "inflation targeting" is 1987–2000. *Sources*: See Figure 1.1.)

national considerations, in large part via the choice of exchange rate regimes, will contribute to explaining central bank performance. In other words, legislation covering the central bank is not typically organic in that it is not protected by some constitutional provision and can, therefore, be amended with relative ease. Hence, a central bank is usually a creature of the central government, to whom it ordinarily pays seigniorage profits, even under a federative structure although the latter can, as we shall also see, have the potential to indirectly influence central bank behavior. In part for this reason the question of appointments and the manner in which central banks govern themselves are potentially important questions though only the former has, until recently, attracted considerable academic interest. While this development is understandable, it will be argued here that such focus on appointments procedures is partly misplaced. First, central bank personalities tend to matter more in times of crises rather than as a rule. Second, central banks, in recognition of changing objectives of governments and society, and due to a growing desire for accountability and openness on the part of public institutions, have formally or informally changed how monetary policy decisions are made and communicated to the public. Issues of governance have thus become paramount, an aspect downplayed in the current literature. Why is governance important? As Williamson (2000:

p. 599) points out ". . . governance is an effort to craft *order*, thereby to mitigate *conflict* and realize *neutral* gains. So conceived, a governance structure obviously reshapes incentives" (italics in original). The foregoing quote clearly suggests that the changing face of central banks since World War II will be marked by such considerations.

Complicating matters is that, if the central bank is not mandated to supervise banks or the financial sector more generally, a separate piece of legislation will govern that authority as well as the degree of coordination between the central bank and the supervisory authority. Table 1.1 provides some general information about central bank governing structures in the countries to be examined in this study.

There are three aspects worth highlighting about governing structures as they exist today. First, central banks are overwhelmingly state-owned. This is not a new development but its roots can largely be traced to the aftermath of the Great Depression and the early post-1940s view that significant government intervention in the economy is warranted. Second, the typical term of office for a central bank governor tends to correspond or exceed the term of office of the political authorities. Nevertheless, terms of office for central bank governors or presidents vary widely, from four years to indefinite terms of office. In this respect, central bank observers have long argued about the desirability of having terms of office long enough to overcome the potential for political or partisan business cycles. Yet, there are also widely held beliefs about the significance of political economy influences on economic activity based on a large body of empirical evidence. The two views come into conflict in part because of difficulties in measuring the impact of political influences on central bank policies because of the role of the term of office in determining the degree of autonomy of the central bank, as well as other factors to be considered throughout this study (see also, Waller and Walsh 1996).

Finally, a more recent development has been the shift away from giving central banks responsibility for supervision of the banking system. Here too the evolution of policies reflects the tension between the need to avoid potential conflicts of interest between the central bank and the banks it supervises versus the need to ensure financial stability. Indeed, it is the growing importance of financial stability as a separate objective of monetary policy that, as we shall see, raises a potentially important drawback with recent reaction, function-based approaches to modeling central bank behavior.

Chapters 2 and 3 use the information in Table 1.1 and explore its implications in greater detail. A final comment is in order. The early

Table 1.1. Principal Ingredients of Governing Structures of Central Banks

Country	Ownership[1]	Profits[5]	Governor/President Term of Office[9]	Banking Supervision?[7]
Australia	State[2] (1948)	Finance Minister	7 years (R)	No (1998)
Austria	Public-Private (1965)	State according to formula	5 years (R)	No (see ECB)
Belgium	State-Others[3] (1948)	State in excess of 3%	5 years (R)	No (see ECB)
Canada	State[4] (1938)	State according to formula	7 years (R)	No (1992)
Denmark	State (1936)	Fixed amount to Finance Minister	Indefinite[6]	No
Finland	State (1933)	State according to formula	7 years[8] (R)	No (see ECB)
France	State (1945)	State according to formula	6 years[8] (R)	Combined
Germany	State[4] (1957)	State according to formula	5–8 years (R)	No (see ECB)
Ireland	State (1942)	Central bank with provisions for distribution	7 years (R)	Yes
Italy	State–Public Co. (1948)	Shareholders	Indefinite	Yes
Japan	State[3] (1942)	State according to formula	5 years (R)	Combined
Netherlands	State (1948)	State	7 years (R)	Yes
New Zealand	State (1936)	State subject to central bank budget	5 years (R)	Yes
Norway	State (1949)	State according to formula	6 years[8] (R)	No (1985)
Portugal	State (1931)	State according to formula	5 years (R)	Yes
Spain	State (1946)	Minister of Finance	6 years[8] (NR)	Yes
Sweden	State (1934)	Parliament with provision for central bank share	6 years[8] (R)	Yes
Switzerland	Public-Private	Shareholders	6 years (R)	No
UK	State (1946)	Treasury	5 years (R)	No (1998)
US	Banks	Shareholders	4 years (R)	Combined
ECB	National Central Banks (1999)	Allocation to member CB according to formula	8 years (NR)	No (1999)

[1] In parenthesis the approximate year central banks were nationalized or became state owned.
[2] Commonwealth owned.
[3] Bearer shares or "nongovernmental persons."
[4] Federal government.
[5] In the case of eleven EMU members (Austria, Belgium (Luxembourg), Finland, France, Germany, Ireland, Italy, Netherlands, Portugal, Spain) distribution information is prior to ECB formulation. Formula refers to allocation for expenses or reserve funds.
[6] Subject to maximum age (for example, seventy-five years).
[7] Refers to supervision of the banking and financial system. Central banks ordinarily retain authority over the payments system. Combined signifies a sharing of responsibility with either the finance ministry or other supervisory agencies. Even in the case where the central bank does not formally supervise the banking system there exist vehicles or arrangements that may directly or indirectly involve central bank actions.
[8] Most recent legislation has clarified term of office. Previously, that is, prior to the Maastricht Treaty, term of office was interpreted as indefinite.
[9] R = renewable; NR = nonrenewable.

Sources: Aufricht (1967), Capie, Fischer, Goodhart, and Schnadt (1994), Eijffinger and de Haan (1996), Goodhart and Shoenmaker (1995), Grilli, Masciandaro, and Tabellini (1991), and various publications from national central banks. See www.wlu.ca/~wwwsbe/faculty/psiklos/centralbanks.htm.

history of central banks, and of central banking, involved the establishment of monopoly note issuing authority and lender of last resort functions. Indeed, as shown in Table 1.2, central banks were institutions created to finance wars, manage the public debt, or consolidate note issuing authority, ostensibly to restore confidence and stability in the monetary system. More cynically, they also served the interests of governments via the seigniorage revenues they generated. By the early decades of the twentieth century, the lender of last resort function took on greater importance. The history of central banking since World War II is principally about the establishment and evolution of autonomy and the manner in which monetary policy is conducted. That is the primary interest of the present study. There are several excellent references to the early development of central banking (for example, Eichengreen 1992a; Goodhart 1988, 1995).

CONFLICTS AND CONFLICT RESOLUTION

The potential for conflict between central banks and governments suggests that disagreements about objectives, policies, or both, can emerge with far-reaching consequences. Again, statutory arrangements, politics, and personalities all play a role in the likelihood of such conflicts surfacing. However, economic activity will undoubtedly be the proximate cause for any conflicts since it is to be expected that, particularly at times when the economy is under stress, the preferences of the central bank and the government may deviate most from each other. Nevertheless, once conflict develops, the other factors mentioned above may prove to be decisive in the outcome. Many authors (for example, Capie, Fischer, Goodhart, and Schnadt 1994; Cukierman 1992; and Eijffinger and de Haan 1996 represent a partial list) have pointed out the importance of conflict between the monetary and political authorities. However, it appears that these authors have treated the role of conflicts, and the procedures invoked to resolve them, as no more important than the many other characteristics that define government–central bank relationships. Details about how one can proxy conflicts and conflict resolution processes are discussed in the next chapter. Historical examples from several countries in our study, most notably Canada, New Zealand, Germany, the United Kingdom, and the United States, suggest that while conflicts are comparatively rare events, they can have a lasting impact on the extent of political pressures applied on central banks.

Table 1.2. The Origins of Central Banks

Year	Country	Name	Motivation
1668	Sweden	Bank of the Estates of the Realm. Forerunner of the Riksbank	Finance war
1694	UK	Bank of England	Finance war
1782	Spain	Forerunner of Bank of Spain	Finance war
1800	France	Banque de France	Manage public debt, generate seignorage
1811	Finland	Bank of Finland	Monetary sovereignty
1814	Netherlands	Nederlandsche Bank	Promote economic growth
1816	Austria	Austrian National Bank	Manage public debt as a result of war finance
1816	Norway	Bank of Norway	Economic crisis in Denmark prompts monetary reform
1818	Denmark	Denmark Nationalbank	Restore stability in aftermath of war finance
1846	Portugal	Banco de Portugal	Restore credibility to previous monetary regime
1850	Belgium	Belgian National Bank	Reform prompted by banking crises
1876	Germany	Reichsbank. Forerunner of Bundesbank	Consolidation of previous note issuing authorities following unification
1882	Japan	Bank of Japan	Part of modernization of Meiji regime
1893	Italy	Banca d'Italia	Consolidation of previous note issuing authorities following unification
1907	Switzerland	Swiss National Bank	Elimination of note issuing competition
1911	Australia	Commonwealth Bank of Australia. Forerunner of Reserve Bank of Australia	Creation of a single note issuing authority
1913	USA	Federal Reserve System	Creation of lender of last resort and other banking related functions
1934	Canada	Bank of Canada	Lender of last resort
1934	New Zealand	Reserve Bank of New Zealand	Lender of last resort
1942	Ireland	Bank of Ireland	Lender of last resort
1999	European Union	European Central Bank	Foster monetary and political union in Europe

Sources: Capie, Fischer, Goodhart, and Schnadt (1994) and individual country central banks. See www.wlu.ca/~wwwsbe/faculty/psiklos/centralbanks.htm.

It is also important to recognize that, even if conflict resolution procedures are clearly laid out, another proximate source of crisis in central bank–government relations is the presence or absence of clear objectives for monetary policy. Therefore, putting into place a well-articulated monetary policy strategy is also of crucial importance. The latter, as we shall see in Chapter 7 especially, is perhaps the single most important development of the 1980s and 1990s in central banking circles.

OBJECTIVES AND RESPONSIBILITIES IN MONETARY POLICY: FROM EXPERIMENTATION AND AUTONOMY TO ACCOUNTABILITY AND DISCLOSURE

In the immediate aftermath of the wave of nationalization or state domination of central banks that took place around the end of World War II, central banks were, for the most part, viewed simply as subservient to governments. What was less clear were the expectations for monetary policy in fulfilling society's wish for steady economic growth and the maintenance of the purchasing power of money. Indeed, monetary policy was deemed capable of carrying out multiple objectives simultaneously and there were few concerns expressed about the limitations of monetary policy. Indeed, there was little indication that policy makers understood that the ending of the Gold Standard necessitated that more careful thought ought to be given to specifying and outlining the proper objectives of monetary policy. This is partly reflected in the following critics of monetary policy going back at least to the 1930s. "For the internal economy of Great Britain, it is equally necessary that British monetary policy should have a *definite objective*. But as far as is publicly known, there is none . . ." (Cassel 1932: p. 12). Another critic would state: "Public opinion must demand in future that the government of the day should have a defined and constructive monetary policy, and have the courage to state it" (Behrens 1932: p. 7). Later events in the history of central banking would prove that governments, and economies more generally, would pay a dear price for ignoring such recommendations.

In an era where there was considerably more emphasis placed on the role of fiscal policy, monetary policy was viewed as passively supplying the ingredients required to guarantee aggregate economic well-being. This was in large part due to the breakdown of the Gold Standard, the failure of international coordination among central banks, as well as the response of governments to the global slump triggered by the Great Depression of the 1930s. Nevertheless, with fiscal activism came inflation.

Moreover, the adoption of quasi-fixed exchange rates in the aftermath of the Bretton Woods Conference meant that domestic monetary policy was subordinated to the monetary policies of the United States and, to a lesser extent, of Germany, at least in the continental European context. This reflected the insistence on the part of monetary policy makers that international policy coordination, despite its rather checkered past, was the "only" solution. "We recognize, of course, that monetary objectives . . . can only be fully attained by broad international action" (Bennett 1932).[6] It would take a few decades, and considerable experimentation to recognize that "good" monetary policy begins with a domestic solution but one that would eventually be "exported" internationally.

To be sure, there were other forces affecting the role and responsibilities of some central banks. For example, Germany and Austria, both victims of hyperinflation in the 1920s, sought to enshrine notions of price stability long before they became fashionable elsewhere.

The exchange rate as a nominal anchor of monetary policy also served a useful purpose so long as economic activity was strong and inflation was relatively low (for example, see Bordo 1993). However, when Bretton Woods ended, the different reactions of central banks and governments worldwide to the oil price shocks of the 1970s led to cross-country divergences in monetary policies as countries were, in principle, freer to choose their own inflation rates in a floating exchange rate environment. But along with inflation rates that were drifting higher came more sluggish economic growth and the chorus of discontent about the kind of economic performance delivered by the existing package of monetary and fiscal policies grew louder. This led to considerable experimentation in the area of monetary policy, as governments and central banks sought more flexible means to deliver their economies from economic stagnation and inflation. It is not that central banks somehow became less resistant to the siren calls for inflationary finance on the part of governments who continued to believe such policies would stimulate output. Quite the contrary, for some of the best-known and vocal opponents of inflation headed the major central banks at the time. Instead, as we shall see, the era of experimentation captured the mood of the times as central banks grappled with the search for a reliable anchor for monetary policy. Nevertheless, weaknesses in the institutional structure of many central banks, and perhaps of some central bankers, became increasingly apparent.

[6] The quote is from the Canadian prime minister at the time, but is representative of the tone and goal of the Imperial Economic Conference held in Ottawa in 1932.

Whether newer forms of exchange rate pegging, or targets in money supply growth, were adopted did not matter so much as the search for a credible anchor for monetary policy. Increasingly, however, fiscal policies began to make the often murky objectives of monetary policy in most industrial countries incompatible with stable inflation rates or exchange rates. In any event, the era of experimentation did not produce satisfactory economic outcomes.

To be sure, pressure for change was much stronger in some countries than in others, but the late 1980s saw the beginning of a movement in the industrial world to change the direction of monetary policy first and, belatedly, of fiscal policy. Indeed, among those who question various arguments put forward in favor of increasing central bank autonomy – these tend to center around questions of democratic accountability – it is not sufficiently recognized that institutional reforms in the area of monetary policy have generally preceded reforms aimed at improving fiscal balances and government debt.[7] We return to these issues at the end of Chapter 2.

There was a fairly broad consensus among industrialized countries after World War II to place central banks under state ownership and, for a time at least, to anchor domestic monetary policy to the United States (or, to a lesser extent, Germany). By the 1990s there was, similarly, widespread agreement about the need to ensure some form of price stability. However, the institutional mechanisms by which an era of stable prices was to be achieved differed considerably across the industrialized world. In some countries (for example, New Zealand), price stability was chosen as the sole objective of monetary policy. Other countries also chose to focus on price stability (for example, Canada, Australia) but without changing the statutory mandate of the central bank. Still other central banks obtained no formal mechanisms to guarantee price stability but instead chose to rely on past reputation for inflation performance and autonomy (for example, as in the United States). Finally, a few countries simply placed renewed emphasis on the goal of price stability that was already part of their statutory objective (for example, Germany), while others chose to express the goal of price stability as one that ought to be achieved so long as it did not prejudice the overall objectives of government economic policies (for example, the European Central Bank, the United Kingdom). Figures 1.3 and 1.4 and Table 1.3, illustrate some of the complexities regarding the links between central bank's status and

[7] But perhaps no reforms aimed at reducing the regulatory burden in the economy.

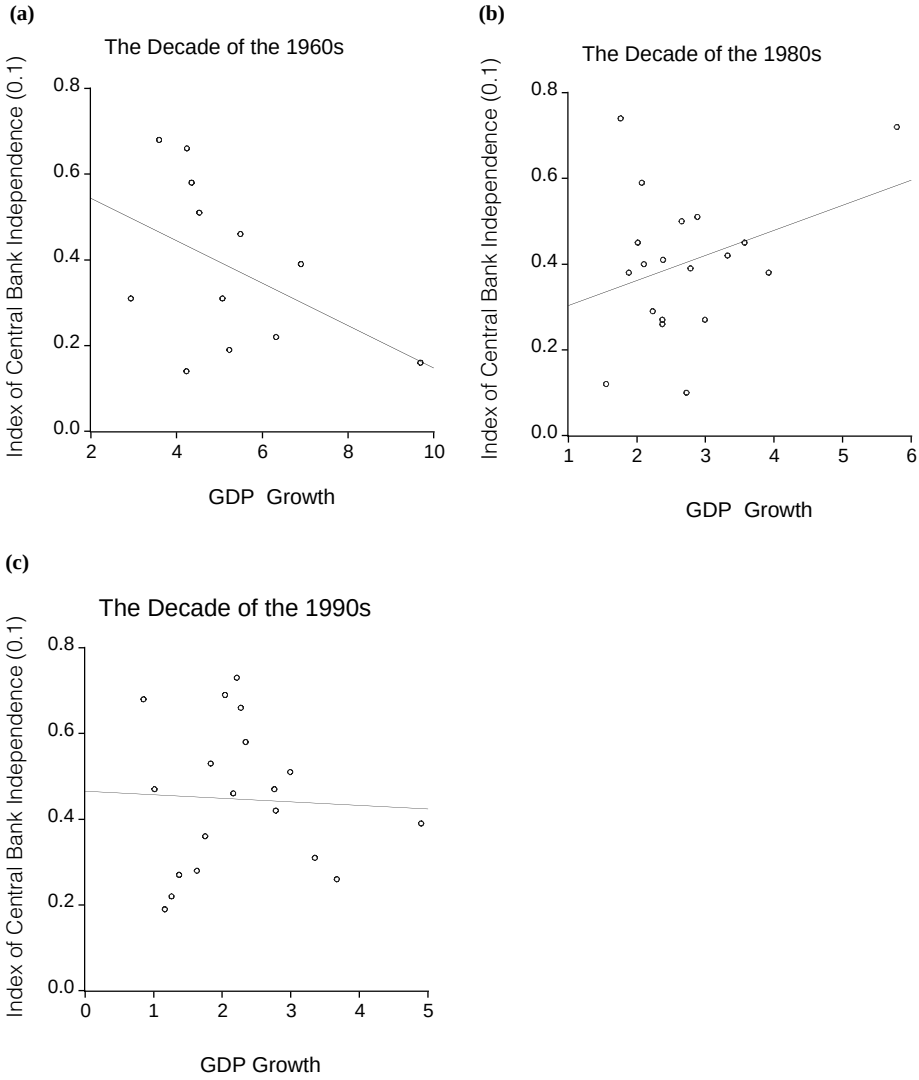


Figure 1.3 Economic Growth and Central Bank Independence, 1960–1999 (*Note*: Index of central bank independence devised by Cukierman (1992) is used for part (a) of the figure. For parts (b) and (c) adjusted and updated indexes were used. GDP growth is average GDP growth rate for the decades in question. See chapter 2 and www.wlu.ca/~wwwsbe/faculty/psiklos/centralbanks.htm for more details.)

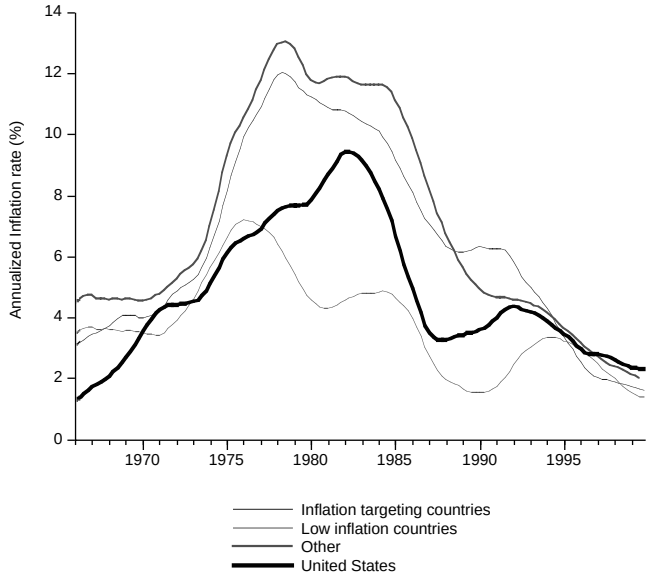


Figure 1.4 Inflation Performance in Selected Country Groups, 1969–1999 (*Note*: Inflation is measured as a twenty-quarter (five-year) moving average of annual inflation based on quarterly data for the CPI. *Inflation targeting* countries are: Australia, Canada, Finland, New Zealand, Sweden, and the United Kingdom. *Low inflation* countries are: Netherlands, Austria, Switzerland, and Germany. *Other countries* are: Norway, France, Belgium, Denmark, Ireland, Italy, Portugal, Spain, and Japan.)

economic performance. Figure 1.3a shows the connection between a statutory measure of central bank independence – details are provided in Chapter 2 – and Gross Domestic Product (GDP) growth in the 1960s. Figures 1.3b and c show the same relationship for the 1980s and 1990s. The 1960s reveal that economic growth was slightly better on average when central banks were less autonomous. Of course, as we shall see, this relationship does not control for the fact that those same economies were operating under the Bretton Woods regime. By the 1980s, the correlation is reversed, and the relationship essentially disappears by the 1990s. Not only do these results contradict some of the earlier evidence (for example, see Alesina and Summers 1993), they also reveal that any connection between real economic activity and the statutory position of a central bank within government is far from being robust. This despite the fact that output growth over the four decades considered is highly persistent. This means that countries with relatively higher growth rates

Table 1.3. Unemployment Rate and Output Gap Performance in Twenty Countries

	Decade							
	Unemployment (%)				Deviation from "Natural" Rate			
Country	**1960s**	**1970s**	**1980s**	**1990s**	**1960s**	**1970s**	**1980s**	**1990s**
Australia	1.59	3.95	7.64	8.90	0.17	–0.14	0.14	–0.18
Austria	2.83	1.95	4.28	6.51	–0.31	0.27	–0.41	0.37
Belgium	3.48	6.37	15.66	13.33	–0.23	0.45	–0.30	0.09
Canada	5.03	6.71	9.37	9.58	0.42	–0.61	0.48	–0.29
Denmark	1.08	4.17	8.96	9.44	–0.69	0.36	0.01	–0.24
Finland	2.13	3.61	4.93	12.99	n/a	–0.20	0.50	–0.33
France	0.84	3.89	9.09	11.20	n/a	–0.19	0.19	.0001
Germany	0.96	2.86	7.92	9.05	–0.26	0.35	–0.48	0.39
Ireland	6.14	7.92	15.23	12.68	0.05	0.46	0.27	–0.39
Italy	5.14	6.36	10.24	11.43	–0.61	0.01	0.49	0.12
Japan	1.29	1.69	2.51	3.05	–0.08	0.24	–0.60	0.44
Netherlands	0.86	3.49	10.59	5.45	n/a	–0.49	–0.09	0.25
New Zealand	0.18	0.65	5.12	7.97	n/a	n/a	0.51	–0.40
Norway	1.12	0.95	2.58	4.96	–0.28	0.26	0.77	–0.28
Portugal	n/a	N/a	7.23	5.26	n/a	–0.49	–0.10	0.28
Spain	n/a.	4.20	17.51	19.79	n/a	0.03	–0.05	0.02
Sweden	1.47	2.05	2.48	6.12	n/a	0.17	0.09	–0.16
Switzerland	0.02	0.22	0.58	3.46	n/a	–0.16	0.06	0.10
United Kingdom	1.91	3.42	9.24	7.43	0.27	–0.47	0.10	0.10
United States	4.78	6.21	7.28	5.72	0.03	–0.04	0.02	–0.01

Data are averages of quarterly data over the decade in question. Data for Austria (1964.Q1), Denmark (1968.Q1) and Norway (1961.Q1), Portugal, Netherlands (1977.Q1), New Zealand (1982.Q2) begin in the year, quarter indicated in parenthesis. Data for the output gap for Austria, Belgium, Finland, France, Italy, Norway, Portugal, Spain, Sweden (1998.Q4), Ireland (1998.Q3), United Kingdom, Japan, New Zealand, Switzerland (1999.Q3), Netherlands (1999.Q1) end in the year, quarter shown. Otherwise data begin in 1960.Q1 and end 1999.Q4. Output gap is actual less potential output with latter estimated via an H-P filter with a smoothing parameter of 3200. More information about the data can be found at www.wlu.ca/~wwwsbe/faculty/psiklos/centralbanks.htm.

in the 1960s also tended to outperform others in the 1970s through the 1990s.[8]

In contrast, there appears to be a more robust relationship between unemployment rates and central bank independence with the more autonomous central banks over each decade associated with, on average, lower unemployment rates. As seen in Table 1.3, average unemployment

[8] The correlation is weakest between GDP growth in the 1960s and 1990s.

rates have tended to rise in almost every country considered through the 1980s. By the 1990s, however, we begin seeing unemployment rates falling in a few countries. Despite the apparently clear relationship between unemployment and central bank independence, included among the countries with lower average unemployment rates during the 1990s are countries that virtually span the spectrum of autonomy central banks enjoy vis-à-vis their government. Part of the difficulty in interpreting these data is that unemployment rates in the table are not expressed relative to some natural, or nonaccelerating inflation rate. But this cannot be the whole story as there is considerable uncertainty about the evolution of benchmark unemployment rates (for the United States see Symposium 1997).

The evidence based on the output gap, the currently most fashionable expression of real economic influences on central bank behavior, tells a less striking tale. Here too there are a number of data-related difficulties to consider. First, of course, there is the thorny issue of how to estimate such gaps. While this study avoids getting into the controversy, the relevant measurement issues are highlighted. Most countries appear to have experienced boom and bust cycles over the four decades since 1960. However, there is no obvious pattern that emerges by country bloc (for example, Europe versus North America, Anglo-Saxon versus other countries). However, it is interesting to note that virtually all countries that formally targeted inflation through most of the 1990s,[9] including the United States, have managed both lower inflation and relatively better output performance during that same decade. Whether the strategy of inflation targeting deserves the lion's share of the credit remains to be seen, as we shall see, but it does appear to be an ingredient in the outcome.

Finally, Figure 1.4 plots a five-year moving average of inflation for three groups of countries and the United States. Inflation is, after all, the fulcrum of monetary policy. The inflation targeting countries adopted quantitative inflation objectives during the 1990s. A second group of countries, consisting of Germany, Austria, Switzerland, and the Netherlands, have a long-standing policy of requiring the central bank to deliver price stability. The United States, by contrast, has historically provided the U.S. Federal Reserve with de facto autonomy and has built up a reputation of delivering moderate inflation. The remaining group of countries are difficult to describe as a block but they tend to include countries where formal autonomy between the central bank and the gov-

[9] Namely, Australia, Canada, Finland, New Zealand, and Sweden.

ernment is not deemed essential, or desirable, or where the central bank has never accumulated a reputation for low or stable inflation. The striking result of the figure is that, for over two decades, namely the 1970s and 1980s, and into the 1990s, inflation rates between these countries diverged substantially. During the 1960s, the Bretton Woods exchange rate standard kept inflation rates fairly close together. Finally, by the mid-1990s, inflation rates showed a remarkable convergence. Disentangling the role of institutions, politics, and policies in the following chapters will, hopefully, add to our understanding of the role each of these factors play in explaining inflation and central bank performance.

Clearly then, delivering good monetary policy via statutory means need not be necessary nor sufficient. Credibility, reputation, and interdependence of economic shocks among industrial countries were also factors in the brew that produced a consensus in favor of adopting price stability objectives. We explore these questions in Chapters 4 through 7. One notable phenomenon of the 1980s and 1990s is the formulation of an explicit goal for inflation, eventually adopted in one form or another in sixteen of the twenty countries examined in this study. Given the attention paid to inflation targets in both academic and policy circles, and their apparent popularity, Chapter 7 places emphasis on their role in the changing face of central banking over the last half century.

Implementing a coherent strategy for monetary policy may still not be enough if the elements of the strategy are not sufficiently well communicated or understood, and if responsibility for the outcomes of monetary policy actions are not clearly delineated. Accordingly, transparency and accountability have become the new watchwords for how good monetary policy outcomes ought to be delivered. But, as is sometimes the case, these questions are often addressed outside the historical context. Could central banks have been more transparent before the 1990s? Is accountability a feature of central bank–government relations that emerged because of recent economic circumstances industrial economies have found themselves in, or did the question show up in previous decades as well? As we shall see, before transparency was possible it was necessary to reach some consensus over what constitutes a successful monetary policy strategy. As for accountability, bringing into sharper focus the limits to monetary policy required experimentation and experience with monetary policy regimes that failed to make these clear to policy makers and the public alike.

Yet, there is a sense in which the literature in this connection exaggerates the appropriate onus that ought to be placed on the central bank

to "perform" well as far as society is concerned. The point, it cannot be emphasized enough, is that accountability must, to be effective, come with a clear understanding of the role of the central bank vis-à-vis the government. Similarly, openness is occasionally viewed as desirable only if the central bank is an "open book." However, as will be seen, there are a variety of reasons why this condition is not to be literally sought after. The difficulty stems largely from inadequate definitions and opaque measurement of the useful characteristics of accountability and openness in the current literature.

Nevertheless, even if these drawbacks are overcome, there remains the perception of a "cultural" aspect to the issues. Thus, for example, the continuing debate over the performance of the fledgling European Central Bank (ECB) suggests possibly an Anglo-Saxon versus a continental European divide. There are those who feel that dissent, or the absence of consensus, is detrimental to good conduct in the delivery of monetary policy while others are strongly in favor of openness. Hence, for example, when the ECB resisted interest rate reductions in early 2001, at a time when the U.S. Fed rapidly cut interest rates, there were public complaints about a poor communications strategy and opacity in public pronouncement on the state of thinking at the ECB, especially in the Anglo-Saxon press. By contrast, the European press was somewhat less critical pointing out that the relatively greater transparency of the U.S. Fed actually led to more criticism of its policies and not to a better understanding of the uncertainties in the conduct of monetary policy.[10]

However, a great deal of the difficulty with such questions involves institutional design and the structure of government–central bank relations, as we shall see and, in this connection, the ECB provides examples of both good and bad elements in the design of a successful monetary policy strategy. Indeed, there are also international forces at work that are creating a greater "convergence" of sorts in views about accountability and transparency. For example, the Financial Stability Forum, established in 1999, includes nine of the twenty countries considered in this study.[11] Among the many questions being considered by this group include a set of rules aimed at ensuring inflation control objectives as well as rules to prevent lax budgetary policies. More importantly, the

[10] It is, of course, dangerous to generalize on the basis of a small sample of views but see, for example, Barber (2001) and Cohen (2001).

[11] They are the G7, Australia, and the Netherlands. The Forum also includes Hong Kong and Singapore.