

**Varieties of Central Bank-Executive Relationships:
International Evidence***

Pierre L. Siklos
Department of Economics
and
Viessman Research Centre
Wilfrid Laurier University
Waterloo, ON
CANADA
N2L 3C5

*Prepared for the 2004 Seminar on *Current Developments in Monetary and Financial Law*, International Monetary Fund, Washington, D.C., June 3, 2004.

1. Introduction

In many countries, central banking was essentially borne out of the need for government to finance the surge of expenditures that accompanied wars (Siklos 2002, chapter 1). However, once armed conflict subsided, governments increasingly began to view the monetary authority as a lender of last resort thus providing some form of financial stability. Nevertheless, the temptation for governments to exploit the monopoly position of central banks in the issue of currency has all too frequently led to excessive inflation, often with disastrous economic and social consequences. The abuse of the central bank by government in order to solve a fiscal problem has been especially notable in developing countries (e.g., see Fry, Goodhart, and Almeida 1996). Economists have long known the potential for conflict arising from the tendency of governments to rely on monetary policy to bailout an excessively loose fiscal policy. Hence, the mantra of price stability that dominates current policy discussions simply represents the revival of an old idea. What is perhaps different today is that governments appear to understand the necessity of promising some form of price stability while central banks in many countries now have the tools to ensure that stable inflation is maintained.

Currently, price stability as an explicit objective for monetary policy is popular (e.g., Mahadeva and Sterne 2000, Bernanke et. al. 1999), as is the notion that the central bank ought to be autonomous *within* government though not *from* government. Yet, it is not generally recognized that the current state of affairs is the culmination perhaps of a long process through which governments experimented with various strategies to deal with the all-important question of how to define the relationship between the central bank and the executive (Siklos 2002). The present paper outlines the varieties of existing

central bank – government structures. The next section provides a broad characterization of existing models. Section 3 explains the role of laws versus custom and the limitations of each in helping us understand central bank behavior and performance. Next, I summarize some of the key considerations that have gone into attempts to measure the degree of central bank autonomy and the limitations of such measures. The paper concludes with a summary and some policy implications are also drawn.

2. Guiding Principles in Central-Government Relations

A common element of modern central banking is that such institutions are lenders of last resort, banker for the government, and operate in a fiat money system where the issue of money is monopolized by government. Beyond that, there are wide variations in both the nature of the relationship between the government and the central bank, as well as in the range of responsibilities for the conduct of monetary policy, autonomy from the Treasury, and requirements to supervise the banking system and ensuring financial system stability.

As this paper is intended to provide some insights into the varieties of relationships between the government and the central bank, and the role that autonomy within government plays in influencing the overall performance of the central bank, the present section provides a broad outline of the main links that exist today. To help fix ideas, Table 1 summarizes five key elements that govern the statutory relationship between the Executive and the central bank.¹ The objection here is not to provide an exhaustive list of the scope of the relationship between the central bank and the executive. Rather, it is hoped that by identifying some of the key elements we can isolate some aspects of central

¹ Each of the column headings are to be treated as largely independent of each other, at least in principle. Any connection across features of central bank-Executive relations are highlighted below.

bank institutional structure that can be related to overall economic performance. Examples are also given of countries that can be thought of as satisfying each of the criteria shown in the Table.

Generally, two administrative layers govern the operations of most central banks. A supervisory board, referred to here simply as the Board, at a minimum serves to provide some distance between the Executive and the central bank either by facilitating the appointments process or by ensuring that the head of the central bank, the Governor or the President (hereafter called the CEO), operates within the limits of his or her mandate and does not violate codes of good conduct (i.e., competence). Beyond that, the effective degree of authority of such a Board can vary considerably across countries. Table 1 gives only a taste of the range of the authority such a Board can command in central banks around the world. In particular, the Board may simply reflect the need to guarantee regional representation, often in a federative form of government. To illustrate, the Board of the Bank of Canada is responsible for recommending the appointment of the Governor to the Minister of Finance (see Bank of Canada Act available at www.bank-banque-canada.ca/pdf/act_loi_boc_bdc.pdf). Nevertheless, there is sufficient flexibility in the statutes to make it unclear to what extent the final authority in the matter of appointments rests with the Executive as opposed to the Board.² Similarly, since Canada is a federation there is, in principle, regional representation even though the statutes do not mandate this (see Siklos 1997). Beyond the appointment of the senior officer of the central bank, the Board has almost no authority. Contrast this with the case of New Zealand where, due to

² A case in point is the process by which the current Governor, David Dodge, was appointed. Allegations in the press were made, though not proven, that the Finance Minister at the time, Paul Martin, insisted that his candidate be selected over the then Senior Deputy-Governor, Malcolm Knight. Whether the allegations are correct or not matters less than the appearance of a weak and subservient Board and this can undermine its authority and effectiveness.

the specific nature of the contract between the central bank and the Executive³, the Board may be called upon to evaluate whether the CEO of the central bank is in breach of the mandate of the central bank. Indeed, under somewhat controversial circumstances, the Board has been called upon once before to settle a dispute about the performance of the RBNZ's Governor (See Siklos 1997). Whether or not there is regional representation on the Senior Board of the central bank, there is also some variety in the appointments procedures of such Board. Generally, the Executive retains the authority to appoint senior central bank officials. However, in several countries, the appointment may require ratification by the legislature. Viewed in isolation, there seem to be no net benefits in adopting one system over another. In most developing or emerging markets senior appointments at the central bank are made by the Executive.

More important is the degree of legislative oversight over the central bank's operations and performance (see below). A controversial question is whether membership by a government official, almost always as an ex-officio member, is beneficial. According to the findings of Fry, Goodhart and Almeida (1996), the presence of a government official on the central bank's Board is a relatively more common feature of the relationship between the central bank and the Executive in developing countries. Initially, such membership was believed to contribute to the harmony between fiscal and monetary authorities. More recently, in line with the increased emphasis on the autonomy of the central bank, board involvement by a government official is believed to represent a constraint on the free flow of discussion among the decision-makers within the central bank (International Monetary Fund 2000). Moreover, as transparency and accountability

³ The contract is referred to as the Policy Targets Agreement and is renegotiated from time to time, most notably following every election. See www.rbnz.govt.nz/monpol/pta/index.html.

have gained currency as necessary ingredients in delivering good monetary policy, the lines of communication between the central bank and the executive are preferably handled at a more arms length level.

The Board's authority is somewhat related to the decision-making structure concerning the implementation of monetary policy. Four types of structures are typically found. Many central banks invest final authority with the CEO over matters dealing with monetary policy. Consequently, these central banks are referred to as single decision-making institutions. A major concern with such a system is that an assessment of the central bank's position and influence may become too closely tied to the personality of the CEO (and perhaps that of the counterpart in the Executive, usually the Finance Minister). This may raise the likelihood of conflict between the government and the central bank (see Siklos 2004). Until recently, the tendency in many developing nations has been to vest authority for carrying out monetary policy with the CEO. Increasingly, however, a committee structure is replacing the single decision-making model. As shown in Table 2, based on data collected in 2004, decision-making in a majority of central banks around the world is conducted in a committee structure. The preference for the committee structure is especially notable in the European continent.

A variant of the single decision-making structure retains the CEO's authority. However, the central bank's CEO is assisted by a group of experts that provides advice about the appropriate stance of monetary policy (e.g., as in Canada's Governing Council; see www.bankofcanada.ca/en/manage.htm). The requirement to seek advice is not in the statutes but the head of the central bank nevertheless resorts to a quasi-formal mechanism to obtain support he or she is legally responsible for implementing. In developing

countries, one typically encounters either the single decision-making model or the Committee model but where the CEO is often *primus inter pares*.

The next two types of decision-making structures formally invest a committee with the ultimate responsibility to carry out the implementation of monetary policy. Such a structure is becoming increasingly common as the public, markets, and even governments demand that central banks, often in exchange for considerable autonomy in carrying out monetary policy, make decisions based on a variety of views. Thereafter, statutes might differ according to the degree of openness with which those deliberations are carried out and publicly announced. In some countries there is limited information provided concerning the position taken by committee members or their voting preferences (e.g., as in the European Central Bank). In other countries, votes are announced and positions of committee members are made public (e.g., as in the United Kingdom), the degree of disagreement is usually expressed relying on finely chosen language. It is important to recognize that, in the case of the ECB, it is the sole central bank for a collection of sovereign countries. Hence, “regional” influences will be important in the decision-making process used to carry out monetary policy decisions, not unlike federations where the center is relatively weak.

The make-up of the decision-making structure can be influenced by the overall structure of government. Hence, in unitary states there is no formal recognition of a role for the regions of a country in the statutes. In weak federations, that is, where the power of the central government is large relative to that of the regions or provinces, there may be some formal recognition of regional concerns, perhaps for historical reasons. However, even if regional concerns receive a hearing central bank decision-making is

highly centralized. The US's Federal Reserve comes to mind.⁴ In other countries relatively few mechanisms exist for regional concerns to have a decisive influence on the conduct of monetary policy (e.g., as in Australia or Mexico).⁵ In stronger federations, namely where the relative power of the provinces or regions is significant, there may exist more formal means of providing a role for the regions. The German Bundesbank, prior to the start of European Monetary Union, is one such example. There the German regions, or Länder, were given a formal role in the decision-making structure of the central bank, though it was rarely decisive (e.g., See Lohmann (1994)). In other countries, sub-national states can directly or indirectly thwart the national government's ability to interact with the central bank (e.g., as in Argentina).

Next, the legislation governing some central banks is organic, that is, its authority is explicitly defined in a country's Constitution. In many other countries, central banking legislation is an act of Parliament with amendments or revisions easy or difficult. In the case of easy changes, the act usually requires a simple majority to implement amendments to the act (e.g., as in many Parliamentary democracies such as Canada or New Zealand). Elsewhere, passage of amendments is more difficult either because more than 50% + 1 vote is required for passage, the Executive's power is restricted by the Constitution in such matters (e.g., the US), or the regions have a powerful legislative voice, or automatic recourse to the judiciary that may limit the Executive's ability to shepherd new legislation (e.g., as in Germany). In other countries, no matter whether

⁴ Since there was, historically, a strong emphasis on preventing excessive centralization in all national institutions the structure of the Fed originally reflected this view. Although some aspects of the decentralized structure of the Fed remain to this day, monetary policy has been conducted from the center in the wake of the Great Depression. See, for example, Meltzer (2003).

⁵ Details of the governance of the Reserve Bank of Australia may be found at scaleplus.law.gov.au/html/pasteact/0/310/top.htm.

legislation defining the authority of the central bank is organic or not, it may nevertheless be relatively straightforward for governments to change the Constitution either because the judiciary is weak or there is no effective tradition that hinders governmental interference in defining the role of the central bank in national affairs (e.g., in Latin America or Africa). As seen in Table 2 the reliance on organic law to define the constitutional position of the central bank is primarily a feature of central and South America. Perhaps this result can be partly explained by that region's historically poor inflation record. Indeed, King (2004, p. 7-8) suggests that: "Countries ... which have not experienced hyperinflation may be more willing to adopt monetary arrangements that are less entrenched in constitutional form ...".

The foregoing considerations suggest that the political structure might also influence, even if only indirectly, the make-up of central bank legislation. The relative autonomy of the central bank may be influenced by whether the political system is a two-party system with a bi-cameral legislature (e.g., the US) resulting in appointments being made by the Executive but supervision of central bank performance rests with the legislature. Multi-party systems with proportional or mixed representation can conceivably weaken the authority of the central bank if amendments can be easily implemented. More likely, such changes will be difficult to introduce if the legislation governing the central bank has special status requiring a large majority that can be difficult to generate if coalitions are unstable or difficult to build. Finally, in Westminster style Parliamentary democracies (e.g., as in the UK), the majority party will usually find it relatively easy to implement its preferred central bank structure in principle. In practice, the only exception to this rule is when the government has a minority position in Parliament.

All of the above implies that the prime motivation for reforming central bank legislation should stem from government action. While democratic accountability suggests that the government should have final say about any change in the law, sound practice in defining central bank-executive relations, which includes procedures to minimize conflict over policy questions (see Siklos 2004), should provide for extensive consultations. This too contributes to fostering harmony between the monetary and fiscal authorities. It should be clear from the above that several political forces can shape the overall structure of the relationship between the Executive and the central bank. The foregoing also suggests that a variety of central bank structures can accommodate the delivery of good standards in the implementation of monetary policy. I now turn to the role of explicit versus more subtle aspects of institution building at the central bank.

3. Institutions for Stable Prices: The Role of Laws and Custom

The most obvious development since the 1990s has been the tremendous convergence in inflation rates across the world, as shown in Figure 1. The disinflation of the 1990s was especially impressive in regions outside the industrial world. A second feature of note has been the narrowing of the objectives of many central banks. Returning to Table 2, the first four columns summarize the objectives of central banks around the world. Price stability as the sole objective of monetary policy clearly dominates overall, a reflection of the change of attitudes about the costs of inflation. As noted previously, comparisons with the 1980s (e.g., see Cukierman 1992) suggest the change is a dramatic one. Note, however, that a possibly new trend is emerging, namely the growing reliance on financial stability as a complementary, if not separate, objective of monetary policy. This is not the place to discuss the appropriateness of this development. Needless to say,

however, this new trend is favored by some and criticized by others (e.g., see Goodhart 2004, Laidler 2004) in part because price stability, if attained, should be conducive to financial stability and need not be treated as a separate objective of monetary policy. The foregoing discussion suggests that the design and performance of monetary policy plays a central role in delivering good economic performance. Indeed, establishing the pre-conditions for good conduct in monetary policy is now often seen as the litmus test for recognition and trust in international financial circles. There remains, however, considerable diversity in the interpretation of the term “stability”. It is also notable that whenever the objective of the central bank consists of either inflation or an exchange rate objective, the responsibility for setting such an objective is overwhelmingly either a joint one or the sole responsibility of the government. In contrast, the establishment of a money growth target tends to originate with the central bank. The decline in the popularity of monetary targeting is partly explained by the failure of such a policy to provide clear indications about future inflation and economic growth intentions or expectations of the central bank (e.g., See Bernanke and Mishkin 1992). As a result, a money targeting policy fails the test of transparency. Also important is the notion that money targeting fails the test of accountability since the central bank typically sets the standards and interprets whether the target has been met.⁶ Finally, it is notable that, in several countries, but especially in the non-industrial world, there is a tendency to view monetary policy as a device that can increase the chances of delivering better aggregate economic performance. An examination of central bank objectives reveals the tendency to water down the price stability objective with potentially conflicting objectives

⁶ This led to the phenomenon known as “base drift” whereby the basis on which future money growth targets were established tended to reflect a “bygones are bygones” attitude about targets missed in the past.

involving support of a government's economic policy typically intended to mean that the role of the central bank is to assist in stimulating the economy. As we shall see, assuming that monetary policy is about delivering a particular inflation rate, the connection between economic growth and inflation is not easily discernible in a cross-section of countries.

Despite some positive developments in the delineation of responsibilities over monetary policy between the Executive and the central bank during the 1990s (e.g., see Mahadeva and Sterne 2000, Siklos 2002), it is important to underscore the fact that statutory changes in central banking are infrequent and tend to respond rather than lead developments in the real economy. In particular, statutes providing a clear division of responsibilities between the central bank and the Executive cannot provide a desirable outcome unless there is harmony between fiscal and monetary policies.⁷ Indeed, as we shall see in the following section, it remains debatable to what extent central bank independence “buys” lower inflation or better economic performance.

Beyond the need to set clear rules for the central bank to follow, there is the powerful role played by what I shall call “custom”. This is a short hand term that summarizes the role played by the presence of a free market, a developed financial system, the presence of stable and respected institutions that are conducive to the maintenance of economic stability. Clearly, the length of time a central bank has been in existence can play a role as such institutions must undergo a learning process and possibly face a series of crises that test its ability to provide stability or a road map back to stability in the aftermath of poor inflation and/or economic performance. The rule of law is clearly another important

⁷ A point frequently made by former central bankers themselves. See, for example, Crow (2002), and Blinder (1999).

consideration that helps underscore the ability of the central bank to successfully carry out its tasks with a minimum of interference from the Executive. Empirically, it is extremely difficult to summarize all these rather qualitative features that may influence the relationship between the central bank and the Executive. Nevertheless, many economists and political scientists have relied in recent years on the GASTIL index of economic and political freedom.⁸ In the empirical work that follows, the index ranges in value from 0, indicating perfect or an ideal amount of economic freedom, to 6, indicating a complete absence of economic and political freedom. In addition, there is a relatively large literature that views corruption as having a significant influence on the development and performance of governmental institutions, in particular because corruption affects the functioning of the political system and the likelihood that the rule of law will prevail (e.g., See Persson and Tabellini 2002, Drazen 2000).⁹ The Fraser Institute has also devised an index of economic freedom (see Gwartney and Lawson 1998) which combines purely economic variables such as the size of government, the freedom for capital to move outside the country, among other indicators of economic freedom.¹⁰

Why might such indicators be relevant in understanding the role of laws and custom in creating conditions for the development of institutions that can deliver a form of stable prices? As noted above, there is a residual belief implicit in the statutory objectives of many central banks outside the industrial world to the effect that the monetary policy can

⁸ Explanations about the index, and the methodology used in its construction, can be found at www.freedomhouse.org. The actual index values used in the empirical work that follows were obtained from Paldam (2002), and updated from the original data source.

⁹ The index of corruption is taken from Paldam (2001). A *higher* value for the index is interpreted to mean a *less* corrupt society.

¹⁰ The Fraser Institute's index of economic freedom combines purely economic variables such as the size of government, the freedom for capital to move outside the country, among other indicators of economic freedom. The data may be obtained from <http://www.freetheworld.com/download.html>. As the results presented here did not improve with the usage of this index, the data were not used in the econometric results to follow.

be a tool for to facilitate, if not generate, economic growth via inflationary finance or lax fiscal policies. The degree of corruption also contributes to the likelihood that these types of policies will be adopted. Notwithstanding the hazards involved in estimating a relationship between inflation and economic growth, the fact is that, in a cross-section of a large number of countries, it is difficult to find any statistically significant relationship between these two variables even if one controls for regional differences. Some illustrative results are presented in Table 3. Indeed, even if the cross-section of countries is split into two groups, one with average inflation rates in the 1990s of greater than 30%, the rest with average inflation rates below that figure, there is still no statistically significant link between these two variables. It ought to be emphasized again that there are several other factors that may explain average economic growth in the 1990s. After all, some of the regressions can scarcely explain more than a quarter of the variation in economic growth over the previous decade. Yet, the results do suggest that if economic growth is not explained by inflation, economic freedom is consistently and significantly a positive influence on economic growth, as reflected in the positive coefficient on the GASTIL variable. Similarly, a more corrupt society is reflected in poorer economic performance, as evidenced by the positive coefficient, while measures of central bank independence appear to have no statistically discernible influence on inflation¹¹ (see also below). If economic freedom is maintained or enhanced via low and stable inflation rates then the obvious question is whether inflation performance can best be guaranteed via the granting of autonomy to the central bank. If the answer is in the affirmative then the design of the central bank and its relationship to the executive is a vitally important issue.

¹¹ The same result is obtained for economic growth (not shown). The results do not change if the indicator of central bank independence is replaced with the measure of independence developed by Mahadeva and Sterne (2000) or their measure of the importance of financial stability in central bank objectives.

However, in designing any such institution, policy makers should not lose sight of the fact that the structure and the policies of the central bank need to command public support. In addition, monetary policy, regardless of the institutional structure under which it operates, must operate in harmony with fiscal policy lest the possibility of conflict be raised significantly (e.g., see Siklos 2004).

4. The Design of Central Bank Legislation and the Measurement of Central Bank Independence: What Have We Learned?

In the wake of World War II monetary policy was clearly being emasculated by fiscal policy. With much of the developed world operating under the quasi-fixed exchange rate system negotiated at Bretton Woods, there was little the monetary authorities could do in the way of practicing autonomous monetary policy (e.g., see Bordo and Eichengreen 1993).

By the early 1970s, two developments would change the fortunes of the central bank. One was the collapse of Bretton Woods that led to the unfettering of exchange rates, especially in the industrial world. The resulting stagflation led policy makers to conclude that inflationary policies were inconsistent with economic growth. Hence, the search began for institutional mechanisms that would prevent the temptation by governments to use the central bank to obtain the fiscal policy they desired.

Around the same time, European policy makers were groping with ways to enhance their economic and political integration. Since outright political integration or federation was not thought to be politically feasible in the short-run the most palatable option was some form of monetary integration (e.g., see Marshall 1999). The resulting efforts culminated in the Maastricht Treaty that set out a road map to eventual monetary union

and the introduction of the common currency, the euro, in 2002. Since the aspirations inherent in the Maastricht Treaty involved a novel form of economic integration between sovereign states, an autonomous central bank with wide discretion over the implementation of monetary policy, including the decision about how to interpret the mandate to maintain price stability, considerable autonomy was deemed essential.

By the mid 1980s, economists looking back at the record of inflation over the previous decades sought to explain why there were considerable divergences over time (e.g., see Siklos 1999). Economists had been interpreting central bank behavior through the device of the reaction function, a mathematical representation of how the central bank changes the instrument of monetary policy, namely an interest rate, to a series of nominal variables such as inflation, and real variables, such as the unemployment rate.¹² Unfortunately, the reaction function approach proved to be a disappointment since, among other drawbacks, it soon became clear that inflation and unemployment are not independent of central bank actions. Hence, the very variables a central bank is supposed to react to are themselves partly determined by how the central bank sets monetary policy. Attempts to quantify central bank behavior fizzled. Instead, many years later, renewed interest in central bank behavior manifested itself in a more qualitative form.

Defining central bank independence as an index ranging between 0 and 1, Cukierman (1992) reports a negative correlation with average inflation indicating that more independent central banks generate better monetary policy performance. Several authors would later report a similar correlation based on variants of Cukierman's index (e.g.,

¹² Reuber (1964) is credited with introducing this type of analysis of central bank behavior. Dissatisfaction of a technical nature led economists to largely abandon this approach. Important developments in econometrics, as well as changes in the manner in which monetary policy is conducted, produced a revival of the reaction function approach that is in full-swing today in the form of the so-called Taylor rule (Taylor 1993).

Burdekin and Willett 1991). Some would also claim a positive correlation between economic growth and central bank independence (e.g., Alesina and Summers 1993) though subsequent work would quickly and convincingly dispel the robustness of such a correlation (e.g., Forder 2000). The index attempts to quantify the statutory relationship between the central bank and the government via the quantification of several key elements in the legislation of the central bank. While space constraints prevent a full discussion here (see Cukierman 1992, Table 19.1) suffice it to say that the index summarizes the impact of the objectives and responsibilities of the central bank, the degree to which it is able to resist instruction from the government, and limitations on the amount and type of lending to the government.

The finding of a significant relationship between inflation and central bank independence had a profound impact on both the economics profession and policy makers more generally. Indeed, some began to wonder whether a simple declaration of independence from the government would represent a “free lunch”, that is, a relatively costless way of generating a needed disinflation. Unfortunately, problems with the qualitative approach began to surface in short order. Here we mention only the ones most germane to the issues covered in this paper. First, the benefits of central bank independence did not carry over when a group of less developed countries was considered. Put differently, an index for central bank independence in emerging or developing countries required several modifications to capture special characteristics of the economic systems of such countries (e.g., See Siklos 1995, Cukierman, Miller, and Neyapti 2002). Next, since Cukierman’s index is an average of a large number of disparate characteristics of central bank legislation some began to wonder whether some

components of the index were more important than others (e.g., Banaian, Burdekin, and Willett 1995). It was found, for example, that merely codifying the objectives of monetary policy represented a “principal component” of central bank independence.¹³ Other authors also began to question whether statutory independence translates into the effective independence. After all, several countries that possessed legislation requiring some form of monetary or price stability were not terribly successful in producing low or stable inflation. By the mid 1990s, some authors wondered whether the central bank’s role in preserving financial system stability and in supervising the banking system, neither characteristic directly considered in the typical central bank independence index, interact with the goals of independence (e.g., see Goodhart and Shoenmaker 1995). For example, the desire to maintain financial system stability might lead an otherwise independent central bank to try for a time to prevent dealing with unsound banking practices. The moral hazard problem inherent in the lender of last resort function might conflict with the goal of financial system stability and possibly inflation. Figure 2 summarizes the difficulties with the index for central bank independence. If we average the overall scores across various regions of the world we find relatively smaller differences in the degree of statutory independence than the record of inflation throughout the 1990s might otherwise suggest. Yet, the convergence in inflation over the past decade, also apparent in Figure 1, may just as well be the reaction to the granting of greater autonomy to central banks around the world. The most striking difference

¹³ This type of consideration also led authors such as Debelle and Fisher (1994) to draw a distinction between goal independence (i.e., the freedom to choose the effective objective of the central bank) and instrument independence (i.e., the freedom to use whatever means are at the central bank’s disposal to achieve some objective such as an inflation target).

between the industrial countries and the remaining regions is apparent in the degree of corruption, as shown in Figure 2.

Despite the aforementioned drawbacks, the international momentum to grant autonomy to the central bank gathered pace during the 1990s (e.g., see Mahadeva and Sterne 2000). Greater latitude to conduct monetary policy independent of instructions from the Executive led to the recognition that, with greater responsibility, there is a need for accountability. Moreover, greater accountability creates expectations of more transparency. Therefore, with the battle to grant independence to central banks seemingly won, policy makers turned their attention to giving more precision to the objectives of monetary policy. In particular, if price stability is indeed a desirable objective, then the central bank ought to be accountable for a numerical inflation target range as well as develop policies to explain their actions to the public (e.g., see Siklos 2002).

The foregoing brief outline of the measurement of central bank independence leads us to draw a few conclusions about the design of central bank legislation applicable to almost any country. The academic literature clearly reveals that there is an important evolutionary aspect in the relationship between the central bank and the Executive. Second, the history of central banking during the 20th century also reveals that conflict and, more importantly procedures to resolve conflicts between the central bank and government, are crucial to guaranteeing the appropriate amount of central bank autonomy. Finally, achieving harmony between fiscal and monetary policy is a necessary condition to achieve stable inflation and an environment conducive to economic growth.

5. Conclusions

The foregoing overview of the relationship between the central bank and the executive reveals that the recent focus on granting a great deal of autonomy to the monetary authority is a far too narrow one. Domestic political considerations as well as the relationship between domestic and international financial institutions (e.g., the IMF) also loom large. In addition, it is also important to recognize the role played by laws and custom. To the extent that some of these characteristics may be country-specific, this suggests that there is no “one size fits all” design for the central bank-executive relationship. Instead, policies ought to be designed to enhance the reputation of the domestic currency and the country’s reputation for financial stability. The evidence presented here suggests that there exists a variety of ways to achieve these objectives.

Table 1 Principal Elements in Defining the Executive-Central Bank Relationship

Type of Representation and Authority of Central Bank Board	Decision-making structure at the Central Bank	Type of Government	Place of the Central Bank in Government	Political Structure
Competence, Appointment and Supervision EX: Japan	Single EX: Reserve Bank of New Zealand, Thailand	Unitary EX: Reserve Bank of New Zealand, Korea	Organic EX: Mexico	Two-party system EX: US
Regional, Appointment and Supervision EX: Germany (pre-ECB)	Single with semi-formal assistance from committee EX: Bank of Canada, Bolivia	Federation (weak) EX: US Fed, Malaysia, Mexico	Legislative (difficult) EX: US Fed, Japan	Multi-party system (mixed) EX: Australia
Competence, Conduct only EX: ECB, most African and Latin American countries	Committee (closed) EX: US Fed, Mexico, Hungary	Federation (strong) EX: Canada, Argentina	Legislative (easy) EX: Bank of England, African countries	Multi-party system ('Wesminster' style) EX: United Kingdom
Mix competence and regional representation, conduct only EX: Canada	Committee (open) EX: Bank of England			Multi-party system (proportional representation) EX: New Zealand

Notes: *EX* refers to a country that approximately fulfills the definition appropriate for each cell. A weak federation is one where the power of the regions is small relative to that of the center and vice-versa for the case of a strong federation. The interpretation is not restricted to matters of monetary policy alone. An organic law implies that the country's Constitution explicitly defines the role and place of the central bank in governmental institutions. Difficult refers to the legislative hurdles in passing amendments to central banking legislation. Each column is to be treated independently of the other. It is, therefore, in principle possible to mix and match items in each column with items in the other columns.

Sources: Individual Central banks and author's interpretation.

Region [# countries]	Objective Type				Autonomous ?		Decision Making		Law
	Price Stability	Mult + Fin Stability (FS)	Mult + No FS	P stab + FS	Y	N	S	C	Organic
Africa [17]	3	6	4	4	4	10	8	9	2
Central & South America [26]	12	1	9	4	16	3	8	15	8
Orient [9]	3	2	0	4	5	1	4	5	0
Europe [42]	36	0	4	2	28	8	4	35	2
North America & Australia [4]	4	1	2		3	1	3	1	0

Notes: Objective type refers to the main legislative goal of the central bank: price stability (this need not imply an explicit inflation target); Mult + Fin Stability means that the central bank fulfills several goals (e.g., price stability, economic growth, monetary stability) as well as financial stability as a separate objective; Multi + No FS is the same as the preceding column except no financial stability objective is required; Pstab + FS refers to central banks with a price stability and a separate financial stability objective. Y=yes, N=No; S=single decision market; C=committee structure. The definition of committee structure as outlined in the legislation. Informal committee type structures are excluded from the calculations. Column totals need not add up to the total number of countries surveyed if the legislation was insufficiently clear to classify a country's position in the classifications considered.

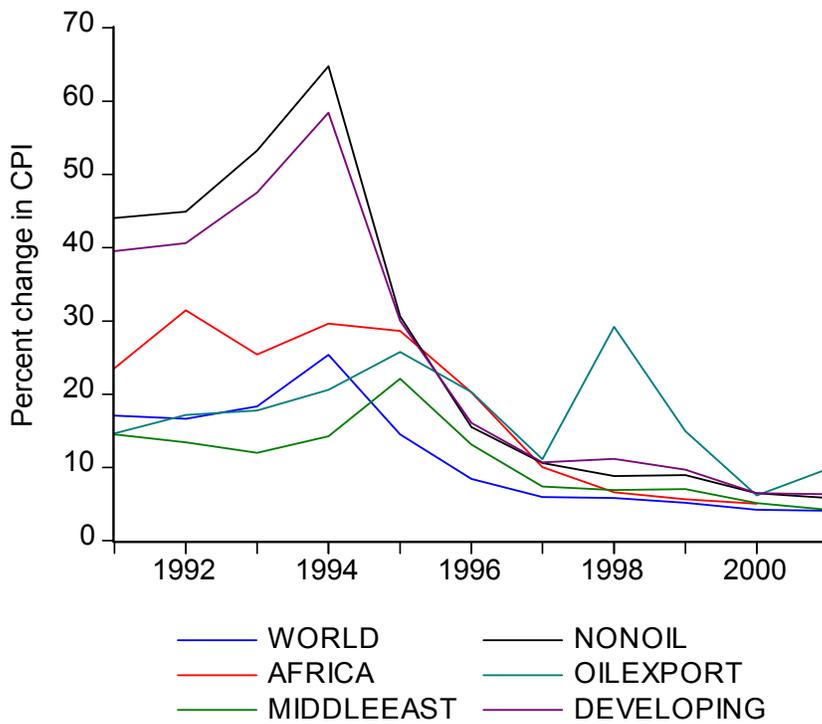
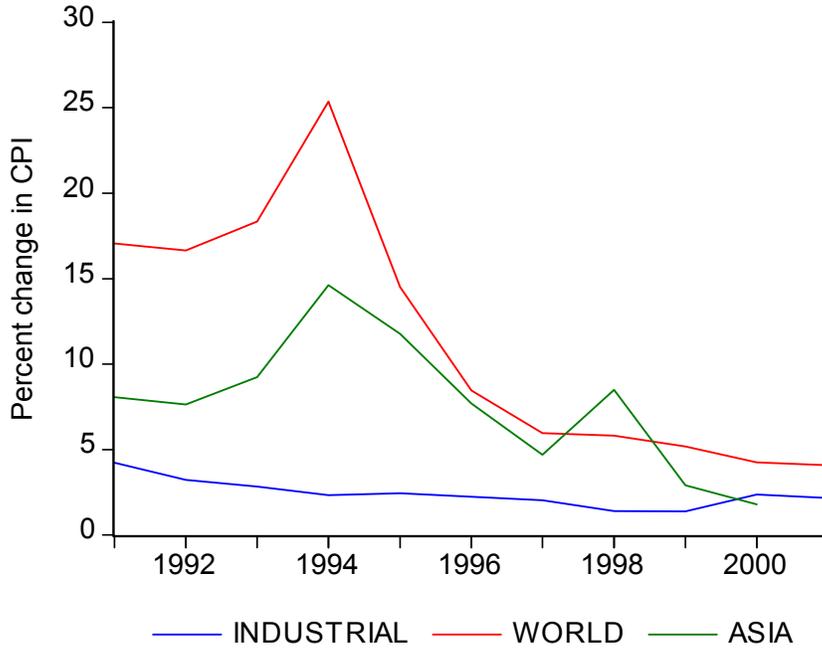
Sources: Annex 2 to this paper available at www.wlu.ca/~wwsbe/faculty/psiklos/home.htm under research.

Table 3 Economic Freedom, Inflation and Economic Growth in a Cross-Section of Countries: 1990s

Independent Variables	Dependent Variable: real GDP growth (% per annum)				Dependent Variable: CPI inflation rate (%)
	89 countries	89 countries	Countries with $\pi > 30\%$ only	Countries with $\pi > 30\%$ (74 countries)	70 countries
Constant	2.20 (.52)*	-0.76 (1.81)	2.13 (.47)*	2.12 (.54)*	-119.38 (184.66)
Inflation ⁴	-0.001 (.001)	-0.0002 (.001)	-0.0003 (.002)	-0.0003 (.002)	0.54 (11.61)
Gastil Index	.35 (.16)*	0.39 (.21)*	.51 (.15)*	.37 (.19)*	69.98 (23.47)*
Corruption		0.34 (.19)*			10.39 (20.52)
CBI ⁵					-84.67 (215.39)
Regional dummies:					
Africa		1.08 (1.19)		-.53 (1.07)	-174.91 (132.44)
Latin America		2.72 (1.17)*		1.26 (.90)	268.53 (120.57)*
Asia ¹		3.23 (1.13)*		2.04 (1.02)*	-143.10 (123.01)
Emerging European transition economies ²		-1.09 (1.14)		-1.22 (.91)	168.41 (121.36)
Other ³		1.61 (1.04)		.55 (.87)	-72.57 (114.87)
Summary Statistics					
R ²	.06	.34	.13	.28	.35
F(p)	2.26(.08)	435.3 (.00)	5.49(.01)	3.72(.002)	3.64 (.00)

Notes: * indicates statistical significance, at least at the 5% level. R² is the coefficient of determination, F is the test for the joint significance of the independent variables with the *p* value in parenthesis. Annex 1 provides more details about the countries that make-up the regional dummy variables. Estimation is via least squares.¹ Referred to as “Orient” in Annex 1; ² Referred to as “Old Communist” in Annex 1; ³ Referred to as “Others” in Annex 1. The remaining countries are the industrialized nations. See Annex. ⁴ replaced by real GDP growth in the inflation equation; ⁵ Index of central bank independence. Each column is a separate estimate since the size of the pooled sample is affected by data availability. Data are averages for the 1990-1999 sample.

Figure 1 Inflation in Selected Regions of the World: Convergence in the 1990s



Source: IFS, International Monetary Fund.

Figure 2a Central Bank Independence in Various Regions of the World

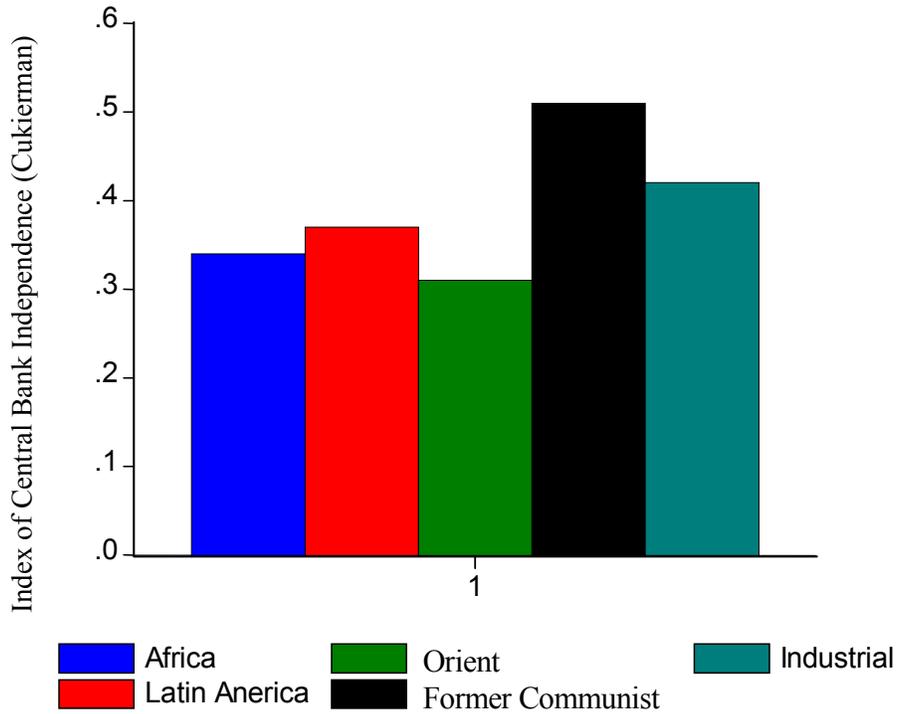
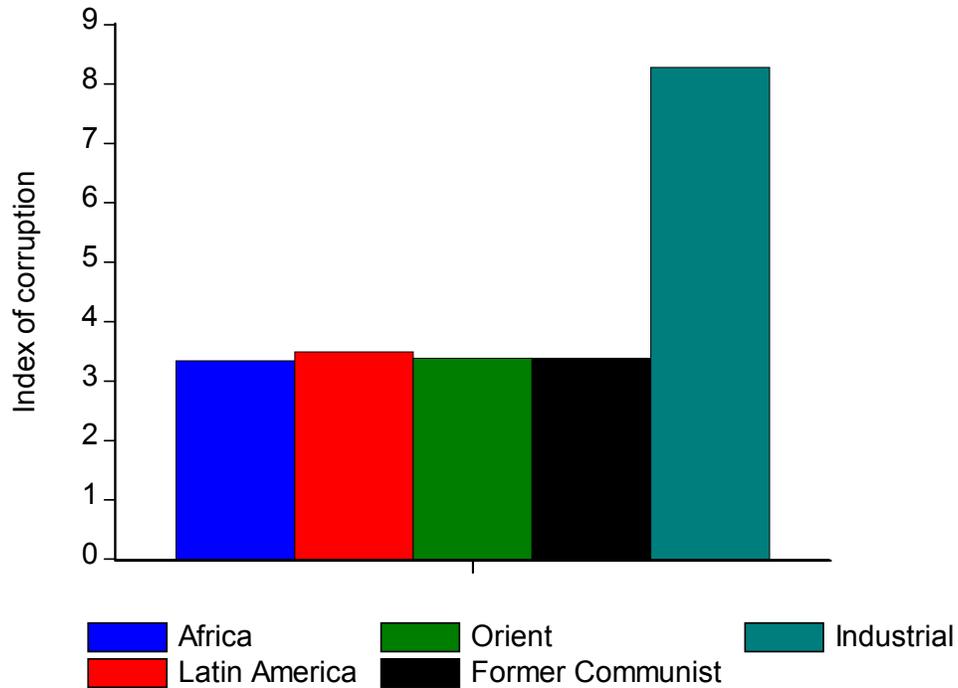


Figure 2b Corruption in Various Regions of the World



Sources: See Annex 1 for data sources for Figure 2a. For definition of regions in Figures 4a and 4b see Annex 1. Data for corruption is from Paldam (2001).

References:

Alesina, A., and L. Summers (1993), "central Bank Independence and Macroeconomic Performance: Some Comparative Evidence", *Journal of Money, Credit and Banking*, 25 (May): 151-62.

Banaian, K., R. Burdekin, and T. Willett (1998), "Reconsidering the Principal Components of Central Bank Independence: The More the Merrier?" *Public Choice* 97 (October): 1-12.

Bernanke, B., and F. Mishkin (1992), "Central Bank Behavior and the Strategy of Monetary Policy: Observations from Six Industrial Countries", in O.J. Blanchard and S. Fischer (Eds.), *Macroeconomics Annual 1992* (Cambridge, Mass.: The MIT Press), pp. 183-227.

Bernanke, B., Laubach, T., F. Mishkin, and A. Posen (1999), *Inflation Targeting: Lessons from the International Experience* (Princeton, N.J.: Princeton University Press).

Blinder, A. (1999), *Central Banking in Theory and Practice* (Cambridge, Mass.: The MIT Press).

Bordo, M., and B. Eichengreen, Eds. (1993), *A Retrospective on the Bretton Woods System* (Chicago, Ill.: University of Chicago Press).

Crow, J. (2002), *Making Money: An Insider's Perspective in Finance, Politics, and Canada's Central Bank* (London: John Wiley & Sons).

Cukierman, A. (1992), *Central Bank Strategy, Credibility, and Independence: Theory and Evidence* (Cambridge, Mass.: The MIT Press).

Cukierman, A., G.P. Miller, and B. Neyapti (2002), "Central Bank Reform, Liberalization and Inflation in Transition Economies – An International Perspective", *Journal of Monetary Economics*, 49: 237-64.

Debelle, G., and S. Fischer (1994), "How Independent Should a Central Bank Be?", in J. Fuhrer Ed.), *Goals, Guidelines and Constraints Facing Monetary Policy* (Boston: Federal Reserve Bank of Boston).

Drazen, A. (2000), *Political Economy* (Princeton: Princeton University Press).

Forder, J. (2000), "Central Bank Independence and Credibility: Is There a Shred of Evidence?", *International Finance* 3(1): 167-85.

Fry, M., Goodhart, C.A.E., and A. Almeida (1996), *Central Banking in Developing Countries: Objective, Activities, and Independence* (London: Routledge).

Goodhart, C.A.E., and D. Shoenmaker (1995), "Institutional Separation Between Supervisory and Monetary Agencies", in C.A.E. Goodhart, *The Central Bank and the Financial System* (Cambridge, Mass.: The MIT Press), pp. 333-413.

Gwartney, Jim and Robert Lawson. *Economic Freedom of the World: 1998/1999*, Interim Report. Vancouver: The Fraser Institute, 1998. Data retrieved from <http://www.freetheworld.com>

Goodhart, C.A.E. (2004), "Some New Directions for Financial Stability", Per Jacobsson Lecture, Bank for International Settlements.

International Monetary Fund (2000), "Supporting Documents to the Codes of Good Practices on Transparency in Monetary and Financial Policies", available at www.imf.org.

King, M. (2004), "Institutions for Monetary Policy", NBER Working Papers 10400, April.

Laidler, D.E.W. (2004), "Sticking to Its Knitting: Why the Bank of Canada Shall Focus on Inflation Control, Not Financial Stability", Commentary 196, C.D. Howe Institute, February.

Lohmann, S. (1994), "Designing a Central Bank in a Federal System: The Deutsche Bundesbank, 1957-1992", in P.L. Siklos (Ed.), *Varieties of Monetary reforms: Lessons and experiences on the Road to Monetary Union* (Boston: Kluwer Academic Press), pp. 247-78.

Mahadeva, L., and G. Sterne (2000), Eds., *Monetary Policy Frameworks in a Global Context* (London: Routledge).

Manning, N., and A. Tully (2003), "Central/Local Relationships Within the Public Administration of Afghanistan, and the Consequences for Service Delivery: Early Findings from Heart and Faryab", World Bank, January 23.

Manning, N., and A. Tully (2002), "Background Notes on Intergovernmental Relations in Afghanistan", World Bank, September 16.

Marshall, M. (1999), *The Bank: The Birth of Europe's Central Bank and the Rebirth of Europe's Power* (London: Random House).

Meltzer, A.H. (2003), *A History of the Federal Reserve* (Chicago: University of Chicago Press).

Paldam, M. (2001), "Corruption and Religion: Adding to the Economic Model", *Kyklos*, 54 (Fasc 2/3): 383-414.

Paldam, M. (2002), "The Big Pattern of Corruption: Economics, Culture and the Seesaw Dynamics", *European Journal of Political Economy* 18(2): 215-40.

Persson, T., and G. Tabellini (2000), *Political Economics Explaining Economic Policy* (Cambridge, Mass: The MIT Press).

Reuber, G. (1964), "The Objectives of Canadian Monetary Policy, 1949-61: Empirical Trade-Offs and the Reaction Function of the Monetary Authorities", *Journal of Political Economy* 52 (April): 109-32.

Siklos, P.L. (1995), "Establishing Central Bank Independence: Recent Experiences in Developing Countries", *Journal of International Trade and Economic Development*, 4 (November): 351-84.

Siklos, P.L. (1997), "Charting a Future for the Bank of Canada: Inflation Targets and the Balance Between Autonomy and Accountability", in D.E.W. Laidler (Ed.), *Where do we Go from Here: Inflation Targets in Canada's Monetary Policy* (Toronto: C.D. Howe Institute), pp. 101-84.

Siklos, P.L. (1999), "Inflation Target Design, Changing Inflation Performance and Persistence in Industrial Countries", *Review of the Federal Reserve Bank of St. Louis*, 81 (March/April): 47-58.

Siklos, P.L. (2002), *The Changing Face of Central Banking: Evolutionary Trends Since World War II* (Cambridge: Cambridge University Press).

Siklos, P.L. (2004), "Frameworks for the Resolution of Government-Central Bank Conflicts: Issues and Answers", in Current Developments in Monetary and Financial Law, vol. 3 (Washington, D.C.: International Monetary Fund), chapter 21.

Taylor, J. (1993), "Discretion Versus Policy Rules in Practice", *Carnegie_Rochester Conference Series on Public Policy*, 45 (December): 195-214.

Annex 1 Data Sources and Details

All data used in Table 3 are from the International Monetary Fund's International Financial Statistics (IFS) CD-ROM. Other data sources are provided in the text. The definitions for "industrial", "world", "asia", "Africa", "middle east", "nonoil", "oil exporting", and "developing", used in Figure 1 also follow the IFS definition. The regions referred to in Figures 4a and 4b are provided below. The index of central bank independence is from Cukierman (1992), Cukierman, Webb, and Neyapti (2002), and Siklos (2002a). When Cukierman's index is used the data are for the 1980-89 period as more up to date data are not available. When the Cukierman, Miller, and Neyapti (2002) data are used the data are for the 1990s, as are the index values from Siklos (2002a).

Regional Definitions:

AFRICA= *Botswana, Namibia*, South Africa, Malawi*, Zimbabwe, Zambia, Mozambique*, Senegal*, Ghana, Uganda, Kenya, Tanzania, Nigeria, Cameroon**.

LA (Latin America)= *Chile, Costa Rica, Peru, Uruguay, Brazil, El Salvador*, Mexico, Guatemala*, Nicaragua, Argentina, Colombia*, Venezuela, Bolivia, Ecuador*, Paraguay*, Honduras*

O (Orient)= *Singapore, Hong Kong*, Japan**, Malaysia, Korea (South), Philippines, China*, Thailand, Vietnam*, Indonesia*.

OC (Old Communist)= *Slovenia*, Estonia*, Hungary*, Czech Republic*, Poland*, Lithuania*, Slovak Republic*, Latvia*, Belarus*, Romania*, Bulgaria*, Croatia*, Armenia*, Kazakhstan*, Kyrgyz Republic**.

Other= *Israel, Portugal**, Spain**, Tunisia*, Greece, Mauritius*, Jordan*, Mongolia*, Morocco, Jamaica*, Turkey, Egypt, India, Bangladesh*, Pakistan*.

Industrial= *Denmark**, Finland**, New Zealand**, Sweden**, Canada**, Iceland, Netherlands**, Norway**, Switzerland**, Luxemburg, Australia**, United Kingdom**, Germany**, Ireland**, Austria**, USA**, France**, Belgium**, Italy***.

Legend: ** means CBI is from Siklos (2002a); * means that no CBI data available; *country* means that CBI data are from Cukierman (1992); *country** means that CBI data are from Cukierman, Miller, and Neyapti (2002).