Central Banking in the Philippines: Then, Now and the Future

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Philippine Institute for Development Studies
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

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This paper was prepared for the Perspective Paper Symposium Series and presented on 22 August 2002 as part of the Institute's celebration of its 25th anniversary.

The author thanks his colleagues at the Institute, and Cyd Tuaño-Amador and Diwa Guinigundo of the Bangko Sentral ng Pilipinas for their insightful comments on the first draft of this paper. He also thanks Juanita E. Tolentino and Jose Maria B. Ruiz for their excellent research assistance.

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PERSPECTIVE PAPER SERIES NO. 5

PHILIPPINE INSTITUTE FOR DEVELOPMENT STUDIES
Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

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ISBN 971-564-068-0
RP 12-03-500

Table of Contents

List of Tables, Figures, Boxes and Appendices

Tables

Figures

Boxes

Appendices

Foreword

The Philippine Institute for Development Studies (PIDS) celebrated its silver founding anniversary in 2002. In this connection, various activities were held to highlight the contribution and significance of policy research in governance as well as to commemorate more than two decades of providing competent research.

One of these activities is the Perspective Paper Symposium Series where the PIDS research fellows presented a perspective of the development and evolution of issues and concerns over the past 25 years in their respective fields of specialization such as infrastructure, banking and finance, science and technology, human resources development and labor markets, competition policy, poverty analysis and housing development. The 11 papers covered most of the themes in the PIDS research agenda and presented reviews of specific policy issues from where policy debates can proceed with greater focus.

Such outputs, however, are best disseminated in book formats so as to widen the reach of the excellent observations, analyses and recommen-dations put forward by the Institute's inhouse pool of researchers. Thus, the Institute presents 11 commendable titles under the *Perspective Paper Series* as its contribution to Philippine policy research.

It is with confident expectation that this *Series* will provide the essential answers to the concerns and gaps in various policy issues which the Institute has been trying to address in the last 25 years.

The country's central bank has a profound impact on the lives of all residents of the country. This paper attempts to put some policy issues on central banking in the country in certain perspectives so that policy debates on these issues can proceed with greater focus. More specifically, it examines central banking in the Philippines from three perspectives—past, present, and future.

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Abstract

The country's central bank has a profound impact on the lives of all residents of the country. This paper attempts to put some policy issues on central banking in the country in certain perspectives so that policy debates on these issues can proceed with greater focus. More specifically, it examines central banking in the Philippines from three perspectives, past, present, and future. First, it takes a fresh look at central banking in the Philippines in the last 25 years. This period, which covers five administrations and six central bank governors, is the most turbulent one in the history of central banking in the Philippines. Second, the paper examines the way the Bangko Sentral ng Pilipinas (BSP) currently conducts monetary policy, highlighting the BSP's shift to inflation targeting as its monetary policy framework and the issues it must confront to attain success. Third, it discusses the future of central banking in the Philippines, taking into account three major trends that are currently sweeping the world, namely, the separation of bank supervision function from monetary policy function of central banks, increasing regional economic and financial integration, and the revolution in the payments system brought about by rapid changes in information and communications technology. These factors can lead to changes in the fundamental character of the country's central bank in the future.

The museum curator anxiously welcomed a group of high school students who were about to tour the newly opened museum. While the students were lining up at the museum's front door, a man in his crisp *barong tagalog* alighted from his black van, closely followed by his bespectacled secretary. The museum curator quickly greeted him with great reverence. Then he turned to the students and told them that the old man who just arrived was the country's wealthiest antique collector and owned the museum, which used to be the central bank's building. One of the students asked the curator, "What happened to our central bank?" The curator quickly answered, "It was closed three years ago, and the government sold the central bank's building last year." Another student asked, "What will happen to our economy now that we do not have a central bank?" The curator looked at the student straight in the eye and with great confidence responded, "Nothing. Our country no longer needs a central bank." After pausing for a few seconds, he went on to say, "Before we formally start the tour, let me inform you that there are two large exhibit rooms that are usually crowded. One room showcases several remains of dinosaurs, and the other exhibits the Philippine peso bills and coins."

The year was 2027.

1
Introduction

The central bank touches the lives of all residents in the country. First, the central bank takes care of the country's payment system. Every day, billions of transactions are made using peso bills or coins, printed or minted by the central bank. The central bank also facilitates the transfer of high-valued goods and services among economic agents by providing the necessary infrastructure for alternative modes of payment, such as checks and electronic transfer. Somewhere in the remotest part of the country, a bank has just been opened, giving local folks access to formal financial services for the first time in their lives. Elsewhere in the country, a bank has just been closed, leaving many depositors wondering what to do with the bills falling due in a couple of days. Central bank policy has something to do with the opening and closure of these banks.

Business enterprises are not only busy producing and marketing their products. They also exert extra effort to look for the best lending rate a bank can offer them. They know very well that a few percentage points added to the interest rate can have large implications on the profitability, if not viability, of their enterprises. Likewise, depositors are looking for safe and sound banks that can give them the most attractive deposit rate. Although interest rates are freely determined in the market, still they are very much influenced by monetary policy.

It is not unusual to hear people complain of rising prices of commodities. For example, the PhP1,000 that they allot for monthly groceries today can buy fewer items compared to last year. This shows that monetary policy has a profound impact on the country's inflation rate.

In Diwalwal, Monkayo, Compostela Valley, smallscale miners are busy mining gold, which eventually ends up in the central bank's vault—of course, in exchange for cash—and forms part of the country's international reserves. The central bank is the country's keeper of official international reserves, which can be used to pay for imports of goods and services and foreign debts.

The discussions above merely highlight the two major functions that have been performed by the central bank ever since central banking was introduced in the country in 1948, namely, 1) monetary policy and 2) bank supervision functions. These are the same functions performed by central banks in many countries. Although these have remained the core functions of the country's central bank, how they are performed has changed considerably over the last 25 years due to certain economic forces. The frequency with which the country was subjected to economic crises over this period has fundamentally changed the attitudes of policymakers, business sector, households and nongovernment organizations toward the conduct of monetary and banking policies. This is evident in the public demand for greater transparency and accountability from the central bank. Gone are the days when people looked up to the central bank as the temple of secrets.[1] After all, they will ultimately suffer the consequences of any errors committed by the central bank. And this they already did several times in the past.

Another major force for change is the liberalization of financial markets and banking system, which provides financial institutions with more opportunities for financial innovations. The rapid development and deepening of a variety of financial markets and instruments as well as the greater diversification of financial institutions have challenged the central bank to rethink its monetary policy and bank supervision framework.

Still another major force for change is the globalization of financial intermediation and the need to manage new types of risks arising from such development. Indeed, the opportunities and risk arising from the globalization of financial intermediation have been clearly illustrated in the Philippines as well as in other emerging markets before and after the East Asian financial crisis.

Although central banking in the Philippines has already undergone a profound change in the last 25 years, more changes are expected to occur in the coming years as these forces for change intensify or emerge on the local and international scene.

This paper aims to put some policy issues on central banking in the country in certain perspectives so that policy debates on these issues can proceed with greater focus. More specifically, it examines central banking in the Philippines from three perspectives—past, present, and future. First, it takes a fresh look at central banking in the Philippines in the last 25 years. This period, which covers five administrations and six central bank governors, was the most turbulent one in the history of central banking in the Philippines. In fact, it led to the demise of the original central bank established in 1948 and

[1] With apologies to Greider (1987).

subsequently to the creation of a new one in 1993. Second, the paper examines how the Bangko Sentral ng Pilipinas (BSP) currently conducts monetary policy. It highlights the BSP's shift to inflation targeting as its monetary policy framework and the issues it must confront to achieve success. The BSP's conduct of banking policy under the purview of the recently enacted General Banking Law and other regulations issued by the BSP will not be discussed in this paper since another perspective paper will extensively deal with it.[2] Third, it discusses the future of central banking in the Philippines, taking into account three major trends that are currently sweeping around the world, namely, the separation of bank supervision function from monetary policy function of central banks, increasing regional economic and financial integration and the revolution in the payments system brought about by rapid changes in information and communications technology. These will certainly change the fundamental character of the country's central bank in the future, if ever it will still exist. This is the main motivation for creating the nostalgic story told above.

These three perspectives will be discussed in the succeeding three sections. The last section summarizes the major points discussed in this paper.

[2] See Milo (2002). Admittedly, one of the motivations for overhauling the Central Bank Act and the General Banking Law was to strengthen bank supervision in the face of rapid financial and institutional innovations.

2
Central Banking: The Last 25 Years

This section begins with a discussion on the changes in the legal and institutional framework of the country's central bank. Then it discusses in detail the circumstances that led to the changes in the legal and institutional framework of the central bank. The last part in this section examines a few indicators of the performance of the central bank in the last 25 years.

Legal and institutional framework

The legal and institutional framework that guides central bank actions has considerably changed since 1948 (Table 1). In view of the underdevelopment of the economy in the aftermath of the World War II, it was deemed proper to have a development-oriented central bank. Thus, aside from the policy objectives of maintaining monetary stability and preserving the international value of the peso into other freely convertible currencies, the Central Bank of the Philippines (CBP), which was established by virtue of Republic Act (RA) No. 265, was also mandated to promote "a rising level of production, employment, and real income."[3] The CBP was not an independent institution, as could be gleaned from the dominance of representatives of key government offices in the Monetary Board who served at the pleasure of the appointing authority. All, except the governor, were part-time members of the board. Selective credit control was the main policy tool used.

In November 1972, barely two months after the declaration of martial law and roughly 23 years after the passage of the original central bank act, then President Marcos issued Presidential Decree (PD) No. 72, amending RA 265. The fact that 56 provisions out of the original 142 provisions were affected by this amendment suggests that it was indeed time to do a massive overhaul of the CBP in view of the structural changes in the economy, in general, and the financial system, in particular, that occurred in the preceding 10 years. This in a way can

[3] This is obviously different from the objective of stabilizing real output, income, and employment.

Table 1. The Philippine Central Bank

	The 1948 CB (June)	The 1972 CB (November)	The 1993 BSP (June)
I. Broad Policy Objectives	1. To maintain monetary stability 2. To preserve international value of the peso into other freely convertible currencies. 3. To promote rising level of production, employment, and real income.	1. Primarily to maintain internal and external monetary stability in the Philippines, and to preserve the international value of the peso and the convertibility of the peso into other freely convertible currencies. 2. To foster monetary credit and exchange conditions conducive to a balanced and sustainable growth of the economy.	Primarily to maintain price stability conducive to a balanced and sustainable growth of the economy
II. Traditional Functions	1. Sole responsibility of currency issues. 2. Holds and manages the reserves of the banking system.3. Discharges banking services for the governments and for the commercial banks.4. Manages the country's international reserves	Basically the same as above	Basically the same as above
III. Organizational Structure	Seven members: 1—Governor (appointed by the President for a term of 6 years) 1—Secretary of Finance (presides the meeting of the Monetary Board) 1—DBP Governor 1—PNB President 3—Private sector representatives (appointed)	Seven members: 1—Governor (appointed by the President to a term of six years; acts as chairman of the Monetary Board.) 1—Ministry of Finance 1—NEDA1—BOI 3—Private sector representatives (appointed by the President to a term of six years)	Seven members: 1—Governor (appointed by the President for a term of 6 years; Chairman of the Monetary Board.) 1—member of the Cabinet to be designated by the President. 5—full-time, appointed by the President for a term of 6 years. Note: *No member of the Monetary Board may be re-appointed more than once.*

Table 1. (cont'd.)

	The 1948 CB (June)	The 1972 CB (November)	The 1993 BSP (June)
IV. Scope of Control	The Monetary Board controls not only commercial banks but also all banking institutions, with the exception of insurance companies. It has both supervisory and policy powers.	The Central Bank has been given a wider scope of authority to oversee not only the monetary and banking system but also the entire financial and credit system.	The BSP is tasked to provide policy directions in the areas of money, banking, and credit. It has supervision over the operations of finance companies, quasi-banks and institutions performing similar functions.
V. Policy Tools	1. Quantitative Controls: (a) Open market operations (b) Rediscount rate changes (c) Varying reserve ratios 2. Selective Controls: Have deliberate allocative effect (a) Differential rediscount rates for special projects of government to promote development (b)Differential deposit rates and reserve ratio among banks. (c) Creation of specialized banks through which credit to key sectors can be channeled.	Basically the same as above	Has quantitative controls. It is prohibited from engaging itself in development banking or financing.

be considered as the country's second central bank. The stabilization role of the CBP was given prominence over its developmental role. It was recognized that economic growth was not the sole responsibility of the CBP but also that of other government agencies.[4] The CBP's supervisory function was broadened to include not only the monetary and banking system but also the entire financial credit system. A new section was added authorizing the Monetary Board to appoint a conservator who would take charge of the assets, liabilities, and the management of a bank that is in a state of insolvency and illiquidity to protect the interest of depositors and creditors.

Still, government officials dominated the Monetary Board. However, the Development Bank of the Philippines governor and Philippine National Bank president were replaced by the National Economic Development Authority (NEDA) director-general and the Board of Investments (BOI) chairperson as members of the Monetary Board to avoid conflict of interest between the regulator and regulated ones. To further strengthen the monetary and fiscal policy coordination, the budget minister was made a member of the Monetary Board. The Board was to meet regularly once every two weeks. The secretary of finance or the governor of the CBP could call a board meeting.

Despite these changes, the CBP continued to use selective credit control as its main policy tool. Several credit programs had access to the CBP's rediscounting window at highly concessionary rates. The CBP was also involved in administering special credit programs, some of which were funded by foreign donor agencies. Toward the second half of the 1980s, some of these programs were discontinued while others were transferred to government-owned banks.

In June 1993, or roughly 21 years after substantially amending the original charter of the CBP, Republic Act No. 7653, otherwise known as the New Central Bank Act, was passed creating a new central bank, called Bangko Sentral ng Pilipinas (BSP) and transforming the old Central Bank into the Central Bank Board of Liquidators (CB-BoL).[5] The BSP is completely different from the old CBP in that it is conceived as a truly independent central bank. It is said that a central bank must at all times maintain monetary policy credibility to enhance the effectiveness of its monetary policy instruments. An independent central bank is key to a credible monetary policy.

RA 7653 provides a clear and highly focused "primary" objective of the BSP, which is "to maintain price stability conducive to a balanced and sustainable growth of the economy."[6] On May 24, 1993, during an interpellation at the Senate, Senator Ernesto Maceda queried Senator

[4] This was the time when the National Economic and Development Authority (NEDA) was established. Since then, NEDA has been taking the lead in formulating the country's medium-term development plans.

[5] Senator Alberto Romulo filed the original bill at the Senate.

[6] Section 3 of RA 7653. The concept of "price stability" will be discussed in detail in the next section.

Raul Roco, then chairman of the Committee on Banks, Currency and Financial Institutions and principal author of the bill creating the BSP, on the issue of making price stability the primary objective of the BSP. Senator Roco said:

> As I understood from economists, bankers, and even the Freedom from Debt Coalition, all of them were unanimous in stating that this should be the primary objective of the monetary policy of the Bangko Sentral. That is the reason for the wordings here, Mr. President.

He emphasized to his colleagues in the Senate that making price stability the primary objective of the BSP was one of the few portions of the bill that got unanimous endorsement from resource persons who were invited to give their opinions on the said bill during public hearings. Indeed, putting price stability as the primary objective of monetary policy can help the BSP in avoiding the "time-inconsistency" problem.[7]

The Act incorporates the core elements of an independent central bank for the country. First, it has created an independent Monetary Board composed of seven members with a fixed term of six years each, except the lone representative of the government, who serves at the pleasure of the President.[8] The members of the Monetary Board obtain their political legitimacy by being appointed by the President, who is elected by the people. Once appointed, the six members of the Monetary Board cannot be removed from office without due cause.[9] Error in conducting monetary policy is not included among the criteria for disqualifying or dismissing the incumbent governor or any of the members of the board. Second, unlike other government-owned and controlled corporations, the BSP enjoys budgetary independence. Corollary to this is that the BSP started with a clean balance sheet.[10] Third, the BSP is prohibited from engaging in development banking or financing—a favorite program among

[7] This idea originally came from Kydland and Prescott (1977). Waller (1995) describes it thus: "The typical version of this explanation assumes that society wants monetary authority to follow a low inflation policy, which it promises to do. Once private agents commit themselves to nominal wage contracts based on a low expected inflation rate, however, monetary authority is assumed to have an incentive to create "surprise" inflation and inflate away the real value of the contracted nominal wage. As a result, firms hire more labor and produce more output. But because private agents are aware of this incentive, they do not believe that the central bank will carry through with its promise to maintain inflation at al low level. Hence, workers set their nominal wages high enough so that the extra inflation created by the central bank leaves real wages at their desired levels. Consequently, no additional output or employment is created but society suffers from an inflation bias." Cukierman (1992) alternatively calls the time-inconsistency problem as the "prisoner's dilemma" of monetary policy.

[8] Section 6 of RA 7653

[9] In the past, although the Central Bank governor and the three members from the private sector had fixed terms, they served at the pleasure of the President.

[10] This is discussed in greater detail below.

politicians, so that it can focus on purely central banking functions.[11] Fourth, the BSP's provisional advances to the national government have been shortened to three months, renewable for another three months, provided the total does not exceed 20 percent of the average annual income of the government for the last three preceding fiscal years.[12] This will prevent the national government from pressuring the BSP to extend to it longer-term loans with unlimited amounts, which potentially can undermine the latter's stabilization function.

A fifth element is the reporting system prescribed by the Act, which is intended to enhance the BSP's transparency and accountability to the public.[13] In fact, the section on reporting system was one of the provisions in the bill that was extensively debated by the senators, notably Roco, Maceda, Johnny Osmeña, Joey Lina, Francisco Tatad, and Leticia Shahani. During the interpellation (3 June 1993), Senator Roco emphasized to his colleagues that the BSP's independence must be balanced by accountability and responsibility.[14] With respect to the annual report of the proposed BSP, Senator Shahani stated thus:

> Yes, Mr. President, it is the same report. But instead of couching it in very technical terms, I think the intent of this amendment is to make it understandable and to put it in layman's language.

Although the BSP is mandated to provide policy directions in the areas of money, banking, and credit, the Act emphasizes the BSP's regulation and supervision over banks and quasi-banking institutions by phasing out its regulatory powers over the operations of finance corporations and other institutions performing similar functions, and transferring the same to the Securities and Exchange Commission. Likewise, the Act mandates that the BSP's fiscal agency functions be transferred to the Department of Finance. Both measures are aimed at sharpening the BSP's focus on central banking functions.[15]

Formal or *de jure* independence of a central bank is one thing, and actual or *de facto* independence is another thing. As described above, the existing legal framework accords formal independence to the BSP, but whether it is actually independent remains to be seen.[16] There is no doubt that competence of each member of the Monetary Board and the BSP's technical staff is an important ingredient to the realization

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[11] Section 128 of RA 7653

[12] Section 89 of RA 7653

[13] Sections 39, 40, and 63 of RA 7653

[14] As Blinder (1996) puts it: "To me, public accountability is a moral corollary of central bank independence. In a democratic society, the central bank's freedom to act implies an obligation to explain itself to the public. Thus independence and accountability are symbiotic, not conflicting. Accountability legitimizes independence within a democratic political structure."

[15] See Section 4 of this paper for a related discussion.

[16] One issue here is the tax on BSP's instruments used for its open market operations that somehow weakens its instrument independence. The proposed amendment to the Act tries to address this issue.

of BSP's independence. It is for this reason that the New Central Bank Act exempts BSP senior staff from the Salary Standardization Law so that it can attract and retain highly qualified and competent members of the board and staff.[17] Still, it is worth emphasizing that central bank independence is as much a matter of practice than as a legal status, and the people will have a heyday monitoring it in the years to come. As Cukierman (1992) points out, "the difficulty in characterizing and measuring CB independence is that it is determined by a multitude of legal, institutional, cultural, and personal factors, many of which are difficult to quantify and some of which are unobservable to the general public."

In sum, central banking in the Philippines has morphed from a development- to a market-oriented one over the years. The first legal and institutional framework put emphasis on the developmental role of the central bank alongside its twin roles of conducting monetary policy and supervision of financial institutions. The second legal and institutional framework put more emphasis on the stabilization role of the central bank and de-emphasized its developmental role. The current legal and institutional framework accords independence to the central bank and altogether eliminates its developmental role so that it can focus on monetary policy and bank supervision functions. Credit should go to the legislators for crafting a good legal framework for the country's central bank for the twenty-first century.

Central Bank failure and independence

Since the publication of the Kydland-Prescott paper on the "time-inconsistency" problem, there emerged a growing number of economists and practitioners who believed that the degree of independence of the central bank from the executive branch of government had something to do with the country's inflation rate and budget deficit.[18] This was also the consensus of local economists and practitioners as early as the first half of the 1980s. Reflective of such consensus are Lamberte's (1985) comments:

> So, to help bring down inflation, fiscal discipline must be instilled. Or at the minimum, the Central Bank should not be called upon to finance budget deficits. But this is a tall order in a setting wherein the Central Bank is not entirely independent from the fiscal sector. Perhaps, it is high time to have a Central Bank completely independent from the fiscal sector. On one hand, the fiscal sector will be forced to be extra careful in managing its budget deficits. On the other hand, the Central Bank can pursue its task of stabilizing the economy more effectively."

[17] This is one sore point in the law because it creates two classes of employees at the BSP.

[18] See Bade and Parkin (1980), Banaian et al. (1983), Cukierman (1992), among others.

Such recommendation cannot be taken seriously unless a severe crisis hits a country and shakes the foundation of the institution that is targeted for reform. Indeed, many of the countries in the region accelerated their central banking reform programs, which included, among others, the granting of independence to their central banks, only after being severely affected by the East Asian financial crisis. In the case of the Philippines, the economic and political upheaval came early and led to the downfall of the Marcos regime in 1986. Understandably, the new government that took over searched for a new economic framework that would avoid committing similar mistakes made in the past. Immediately after the new government was installed in February 1986, PIDS assembled around 80 social scientists to craft the report entitled "Economic Recovery and Long-Run Economic Growth: Agenda for Reforms" (May 1986), which was presented to and adopted by the Aquino Administration as its economic framework.[19] The Report articulated the following recommendations vis-à-vis central banking:

> The independence of the Monetary Board of the Central Bank, which is the monetary authority of the country, from the executive branch of the government must be instituted. An independent Central Bank will be better able to supervise and regulate financial institutions, and therefore also assure them independence from the intrusion of political and other interest groups.
>
> The Monetary Board should be composed of the following: the Central Bank Governor (as chairman), a government representative, and five (5) members from the private sector, not more than two of whom should be connected with the financial system. This composition is designed to prevent the government or any individual group to dominate. A government representative is included in the Monetary Board to permit the coordination of short-run economic management with long-term goals. The staggered appointment of members of the Monetary Board with terms exceeding that of the President's is a necessary condition for its independence."[20]

This recommendation eventually found its way into the 1986 Philippine Constitution, which was overwhelmingly approved by the Constitutional Commission and later by the public through a referendum. Specifically, Section 20 states that:

> Congress shall establish an independent central monetary authority, the members of whose governing board must be natural-born Filipino citizens, of known probity, integrity, and patriotism, the majority of whom shall come from the private sector. They shall also be subject to such other qualifications and disabilities as may

[19] The team included President Gloria Macapagal-Arroyo, who was then a faculty member of Ateneo de Manila University.

[20] As can be observed from the discussions above, these recommendations were substantially reflected in the New Central Bank Act.

> be prescribed by law. The authority shall provide policy direction in the areas of money, banking, and credit. It shall have supervision over the operations of banks and exercise such regulatory powers as may be provided by law over the operations of finance companies and other institutions performing similar functions.

Based on the above constitutional provision, the then newly elected legislators filed two bills in Congress. The House version sought to substantially amend the existing CBP charter while the Senate version, which was eventually carried out by both houses, proposed an entirely new charter for the central bank. In contrast with the speed with which then President Marcos effected substantial amendments to the original CBP charter in 1972, the legislative mill took about five years to grind the two bills. Two closely related issues were hotly debated. One had to do with the loss-making accounts accumulated by the CBP since the 1980s. If such accounts were retained in the newly created central bank, then the passage of the law would amount to nothing because the BSP would still not be able to conduct an independent monetary policy, given the magnitude of such losses and the role played by the Department of Finance (DOF) in dealing with such losses. The other issue was how to prevent the new central bank from accumulating similar loss-making accounts in the future.

The literature normally discusses banking failures, not central banking failure. This is because the central bank is usually the sole institution in a country authorized to print money and earn revenue, or "seigniorage," in the process. Under normal circumstances, therefore, a central bank keeps earning money that can add to government's revenues. What if it continually makes losses? Some economists, like Robinson and Stella (1988), believe that the central bank can continually incur losses and persistently run a negative net worth, and yet can continue to operate without having to seek assistance from the government. Fry (1988), however, disagreed with their view and went on to demonstrate that a central bank can reach a situation in which survival is no longer possible in a steady state. He characterized a central bank reaching this situation as insolvent; that is, it "can continue to service its liabilities only through *accelerating* inflation." The CBP seemed to have reached this stage in the 1980s, as succeeding discussions will show.

The CBP was quite unique among Asian countries, having incurred losses for several years in the 1980s and early 1990s. The cumulative losses from 1983 to 1990 amounted to PhP143.7 billion (Table 2). There was no indication at that time of a decline in the annual CBP losses in the immediate future. It was estimated to lose PhP22.0 billion in 1991 and between PhP32.0 and PhP34.0 billion in 1992. The question is: How did the Central Bank incur such huge losses? As shown in Box 1, the three major sources of losses were swap arrangement losses, forward cover losses and interest rate losses.

The largest source of CBP losses was associated with the excess of interest outlays over interest income. This was due to the CBP's bad loans and interest subsidies. Even after the reform of its rediscounting policy, the CBP still continued to grant loans at subsidized rates. As shown in Table 3, its rediscounting rate had been well below the Manila Reference Rate and the Treasury bill rate. Much of the lending of the Central Bank would, more appropriately, be performed as a fiscal activity under the management of the Department of Finance or other government agencies. It is probable that such lending activity was originally undertaken by the CBP to keep it off budget and so, to make the national government's deficit appear to be lower than it really was. The CBP was also made to assume the foreign exchange liabilities of

Table 2. Central Bank net income position (In billion pesos; year-end figures)

	1983	1984	1985	1986	1987	1988	1989	1990
I. Net Interest Income / Expense	-2.0	-8.3	-15.6	-18.5	-10.2	-16.2	-20.3	-
A. Interest Income	-	-	-	8.8	8.1	7.0	6.6	-
1. Domestic Assets	-	-	-	7.8	6.2	5.7	5.3	-
Loans and advances	-	-	-	6.8	5.1	4.9	4.5	-
Overdrafts	-	-	-	0.1	0.3	0.03	0.03	-
Domestic securities	-	-	-	0.9	0.8	0.8	0.7	-
2. Foreign assets	-	-	-	1.0	1.9	1.3	1.3	-
B. Interest Expenses	-	-	-	27.2	18.3	23.2	26.9	-
1. Domestic Liabilities	-	-	-	11.2	4.8	8.5	10.7	-
Legal Reserves	-	-	-	0.5	0.7	0.9	1.2	-
Blocked peso differential	-	-	-	2.0	0.9	1.20	1.60	-
NG deposits	-	-	-	-	1.8	5.10	6.30	-
Open market instruments	-	-	-	8.7	1.4	1.30	1.60	-
2. Foreign liabilities	-	-	-	16.0	13.5	14.70	16.20	-
II. Forward Cover Losses	-5.0	-5.3	-7.6	-.07	-0.1	-0.02	-0.02	-
III. Swap Cover Profits / Losses	-6.8	-14.0	7.0	1.0	-0.5	-0.70	-0.80	-
OVERALL CB SURPLUS (+) / DEFICIT (-)	-13.8	-27.6	-16.2	-18.2	-10.9	-16.90	-21.10	-19.0

Sources: (a) 1983 to 1985 figures were taken from IMF (1989).
(b) 1986 to 1989 figures were taken from World Bank (1990).

certain government-owned-and controlled corporations and private companies during the 1980s, also to keep it off-budget.

The stabilization of the economy, where the Central Bank plays a major role, is an important factor in financial intermediation. However, the Central Bank financial position stands out prominently in its effort to conduct monetary policy. It is, therefore, very important

Box 1. The sources of Central Bank losses

(1) Losses from Swap Facility

The swap facility is an arrangement whereby the exchange risk which should have been borne by banks and end-user non-financial corporations is absorbed by the Central Bank of the Philippines (CBP). There are three types of swaps, namely, liquidity swap, end-user swap and interbank swap. Under the liquidity swap arrangement, a domestic bank borrows from a foreign bank in foreign currency and exchanges it for pesos with the Central Bank with the provision that at maturity date, the domestic bank will get back the foreign currency at pre-agreed exchange rate (which is the forward contract exchange rate). In the end-user swap arrangement, a local corporation borrows from a foreign bank through a domestic bank, which in turn exchanges the borrowed funds denominated in foreign currency for pesos with the Central Bank and lends them to the local corporation, which is the end-user. The settlement arrangement between the domestic bank and the Central Bank is the same as that of the liquidity swap. The local corporation is supposed to benefit from the low interest rate in the international capital market. Local corporations resorted to this at a time when interest rate in the international capital market was much lower than that in the local capital market. Under the interbank swap arrangement, a domestic bank purchases foreign exchange from the interbank market and exchanges it for pesos with the Central Bank. Again, the settlement arrangement between the domestic bank and the Central Bank is the same as that of the liquidity swap.

In all these cases, the Central Bank was able to increase its foreign exchange reserves, while the domestic bank was able to expand its domestic credit. The Central Bank usually paid a dollar interest rate based on LIBOR, while the bank paid the MRR, plus 1/8 of the peso loan.

At maturity date, the Central Bank may pay off the swap contract or roll it over. In case of a roll-over, however, the bank may demand the original amount plus the differential arising from exchange rate depreciation, i.e., the differential due to the deviation of the spot rate at the time of maturity of the contract and the forward contract rate. In effect, the Central Bank is forced to deliver to the bank additional pesos equivalent to the swap differential. This is additional high-powered money, which could exert more pressure on domestic inflation. With the series of devaluations in 1983 and 1984, the Central Bank booked the differential as "due to banks" and blocked almost the entire amount (that is, banks were not allowed to withdraw it) to prevent a sudden increase in liquidity. In effect, the Central Bank borrowed the blocked peso differential and paid interest on it. Thus, the losses incurred by the Central Bank from the swap facility consisted of the additional peso that it owed to the bank resulting from the unexpected depreciation of the peso and the interest it had to pay for blocking such an account. As a result, the outstanding swap arrangement differential rose from PhP1.2 billion in 1982 to PhP18.6 billion in 1990, while the outstanding blocked account differential increased from PhP5.0 billion in 1983 to a staggering PhP15.6 billion in 1990. Except in 1985 and 1986 when the peso appreciated, the Central Bank had been losing on its swap facility. Huge losses were incurred in 1983 and 1984 because of a series of devaluations. The losses realized by the Central Bank from swap operations since 1987 were much lower than those in 1983 and 1984, but were by no means small. On top of this, the Central Bank had been paying the blocked differential at a rate equivalent to the Manila Reference Rate, which had

been 1 to 2 percentage points lower than the Treasury bill rate. Annual interest expenses incurred by the Central Bank on blocked accounts had been above PhP0.9 billion and rising in subsequent years.

(2) Forward Cover Facility

This is another arrangement whereby the Central Bank bears the exchange risk that should have been absorbed by banks and non-bank financial institutions. This practice was started in the 1970s when the Central Bank, upon instruction of the government, provided exchange cover to certain domestic corporations that obtained long-term loans from the international capital market. Under this arrangement, the Central Bank agreed to provide corporations foreign exchange at a prescribed date in the future at a guaranteed exchange rate. The CB would cover the differential in cases of depreciation. This practice was halted in 1981, but again was resumed in 1983, the start of the balance-of-payments crisis, to ensure the continuous importation of critical materials, notably oil. The amount of forward cover provided by the Central Bank surged to about US$2 billion in 1984. Since the peso rapidly depreciated between 1983 and 1985, the Central Bank had been incurring huge losses amounting to more than PhP5.0 billion a year. Forward cover provided by the Central Bank had been greatly reduced since 1986. It should however be noted that the provision of forward cover to oil firms had been continued with the Department of finance as the covering agency until recently.

(3) Interest Rate Losses

As part of its normal function, the Central Bank lends funds to the domestic sector consisting of the banking system and the public sector (both the national government, and government instrumentalities/corporations). The Central Bank realizes revenues from such operations. On the other hand, the CB borrows from the domestic sector consisting of banks, the national government and the public. It pays interest on the reserves deposited by banks with it. Under its open market operations, it either sells its own liabilities, such as the CB bills, or sells existing instruments it holds under the reverse repurchase agreements. When the CB accepts deposits from the national government, it in effect borrows from the national government. As already mentioned above, the blocked peso differential is a form of CB borrowing.

Under normal conditions, the Central Bank should have not incurred any losses from its lending and borrowing operations since it is supposed to lend at a rate higher that its borrowing rate. However, the Central Bank up until November 1985 had been performing fiscal functions by lending at a subsidized rate to what the government considered as priority sectors. Since November 1985, the CB had aligned its rediscounting rate with the MRR. However, its rediscounting rate had been well below the MRR or the Treasury bill rate.

In 1981, several financial institutions encountered financial problems as a result of the liquidity crisis precipitated by the Dewey Dee caper.[1] More banks collapsed since

[1] Mr. Dee borrowed heavily from several banks but suddenly left the country in 1981 when he could no longer pay his debts.

1983 when the economy experienced its worst foreign exchange crisis. The Central Bank tried to help ailing banks by providing them with financial assistance. Between 1980 and 1989, a total of 202 banks collapsed, including six large banks. The amount of financial assistance (which consisted of emergency loans and overdrafts) provided by the Central Bank to ailing banks rose from PhP306 million in 1980 to PhP14.8 billion in 1990. The interest rates on those loans were very high. Note, however, that most of these were claims on failed banks, which the Central Bank still carried in its books. That is why the interest earnings realized by the Central Bank from overdrafts of banks declined in 1988 and 1989 despite the rise in outstanding overdrafts and the high interest rates on such loans. Again, this was one of the sources of Central Bank's losses.

During the height of the 1983-1984 balance of payments crisis, the Central Bank pursued a tight monetary policy. Due to lack of government securities in its hands, the Central Bank issued its own liabilities, the CB bills, to conduct open-market operations. The rates on these bills were very high, reaching more than 40 percent per annum. When the CB bills were phased out starting 1987, the Central Bank used the reverse repurchase window to maintain its tight monetary policy. Rates on those instruments were also very high. Central Banks increasing reliance on the CB bills to conduct open-market operations added to its burgeoning losses.

The deposits of the national government had increased phenomenally from PhP1.6 billion in 1980 to PhP67.3 billion in 1990. This was done to help the Central Bank mop up excess liquidity. But the Central Bank had to pay interest on these deposits at market rates. In 1989 alone, the Central Bank paid the national Government PhP6.3 billion on such deposits. In the subsequent years, no interest was paid on these deposits. But pressure from the Department of Finance (DOF) on CB to pay interest on these deposits was mounting. Finally, the DOF and CBP agreed that interest would be paid on that portion of government deposits used to mop up excess liquidity and no interest would be paid on the transaction balances of the government.

Normally, the Central Bank does not lend to foreign governments or institutions. However, it deposits its foreign exchange reserves in foreign banks to earn some interest. On the other hand, it borrows from the international capital market to finance its normal operations and/or to beef up its reserves. Ideally, the Central Bank should fully cover its foreign exchange liabilities unless it can quickly secure foreign exchange reserves from the market at a relatively lower cost. Since 1983, however, the CB's foreign exchange liabilities greatly exceeded its foreign assets. Note, however, that an increasing proportion of its liabilities during that period were actually foreign loans incurred by government corporations and private corporations with guarantees from government-owned financial institutions (i.e., PNB and DBP) that it had assumed. As of 1990, 60 percent of the CB's total foreign exchange liabilities consisted of those that it had assumed. It had been servicing these obligations without corresponding revenues since most of those it had assumed were non-performing assets. The interest expenses incurred by the CB on its foreign liabilities greatly exceeded its interest revenues from foreign assets.

Source: Penner, Quant, Lamberte, and Diokno (1992)

Table 3. Rediscount rate, Manila reference rate, and Treasury bill rate (In percent per annum; year-end figures)

Year	Central Bank Rediscount Rate	Manila Reference Rate (90-day maturity)	Treasury Bills (91-day rates)
1980	9.00	-	12.309
1981	8.00	-	12.797
1982	8.00	14.5000	14.027
1983	8.00	17.0625	15.382
1984	30.25	36.2500	42.169
1985	12.75	12.7500	16.561
1986	10.00	8.5500	9.547
1987	10.00	10.6750	13.589
1988	10.00	12.0000	16.740
1989	12.00	19.9625	20.452
1990	14.00	23.7500	26.517

Sources: (a) Central Bank Statistical Bulletin.
(b) Central Bank Review.
(c) Philippine Financial Statistics.

to discuss here the implications of Central Bank losses on the conduct of monetary policy. In this regard, it is also worthwhile to discuss some fundamental relationships in money supply creation and relate them to the deficits of the Central Bank.[21]

As commonly known,

$$M \qquad m^* RM \qquad (1)$$

where

M = money supply,
m = money multiplier, and
RM = reserve money.

Equation (1) states that given a certain value for m, money supply expands as RM increases. Let us establish the link between Central Bank losses and money expansion.

Tables 4 and 5 present simplified representation of the income statement and balance sheet of the Central Bank. In short, the surplus

[21] This draws from Lamberte (1993).

(deficit) of the Central Bank for a specified period is given by the formula:

$$S = I - E \qquad (2)$$

The balance sheet is expressed as

$$L + eFA = RM + NG + eFL + OL + NW \qquad (3)$$

Rearranging (3),

$$RM = (L + eFA - (NG + eFL + OL + NW) \qquad (4)$$

Simplifying (4),

$$RM = - NW + NFA + NDA \qquad (5)$$

where

$NFA = e(FA-FL)$ = net foreign assets, and
$NDA = L - (NG + OL)$ = net domestic assets.

Note that any surplus realized by the Central Bank will be added to its net worth. Hence,

$$S = \Delta NW \qquad (6)$$

We are now in a position to link Central Bank losses to the conduct of monetary policy. Taking the first difference of (5),

$$\Delta RM = \Delta NW + \Delta NFA + \Delta NDA \qquad (7)$$

Substituting (6) for (7)

$$\Delta RM = -S + \Delta NFA + \Delta NDA \qquad (8)$$

Equation 8 states that any surplus realized by the Central Bank will lead to a reduction in reserve money, *ceteris paribus*. Conversely, any deficit will lead to an increase in reserve money, *ceteris paribus*. This brings out an important point that NFA and NDA can remain the same, yet RM can change due to changes in the surplus (deficit) of the Central Bank. Going back to the income statement of the Central Bank, differences in the interest rate on loans and liabilities as well as in the

Table 4. Income statement of the Central Bank

Income (I)		
	iL	Interest income on loans, where i = interest rate on loans.
	ERG	Exchange rate gains on foreign assets $[(e_t - e_{t-1})\ FA]$
Expenses (E)		
	rNG	Interest payments on government deposits, where r = interest rate on government deposits
	ERL	Exchange rate loss on foreign liabilities $[(e_t - e_{t-1})\ FL]$
	rOL	Interest expenses on other liabilities where r = same as above.
Surplus (S)		**Surplus = Income – Expenses**

Table 5. Balance sheet of the Central Bank

	Assets
L	Loans and discounts to banks (including overdrafts and emergency loans, and loans to the national government)
eFA	Foreign assets converted into local currency at exchange rate **e**
	Liabilities and Net Worth
RM	Reserve money (currency in circulation + bank reserves)
NG	National government deposits
eFL	Foreign liabilities converted into local currency at exchange rate
eOL	Other liabilities (CB bills, reverse repurchase, blocked differential)
NW	Net worth

level of its foreign assets and liabilities can bring about a surplus or deficit, which, in turn, can affect RM.

Table 6 shows the interest-bearing total liabilities of the Central Bank from 1980 to 1990. Foreign liabilities of the Central Bank comprised 61 percent of its total liabilities in 1990. On the other hand, its foreign assets constituted only 41 percent of its total earning assets (Table 7). In absolute number, Central Bank's foreign liabilities were more than three times its foreign assets. This shows how vulnerable the Central Bank was to exchange rate depreciation. Although it could reduce RM since NFA was negative, the losses of the Central Bank from such depreciation could partly offset it. In addition, it would increase the Central Bank's swap differential, which would exert an upward pressure on RM if it decided to roll over the swap. Blocking the

Table 6. Total liabilities of the Central Bank (End-of-period; in million pesos)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Total Liabilities	25,447	30,904	39,548	89,728	152,697	203,815	258,227	254,697	265,439	280,489	322,746
External Liabilities	20,103	25,146	33,764	73,223	105,344	138,694	184,707	174,130	166,622	161,464	198,156
Short-term foreign liabilities	16,466	20,689	28,538	36,274	51,552	53,534	67,744	54,129	53,040	49,655	55,748
Medium- and long-term liabilities	3,637	4,457	5,226	36,949	53,792	85,160	116,963	120,001	113,582	111,809	142,408
Domestic Liabilities	5,344	5,758	5,784	16,505	47,353	65,121	73,520	80,567	98,817	119,025	124,590
Legal reserves	3,771	3,073	3,342	4,310	7,835	10,611	16,413	15,840	19,150	32,789	37,792
National government deposits	1,573	2,685	2,442	5,553	11,947	8,272	16,413	42,563	58,210	69,556	67,255
Central Bank bills					6,850	24,046	23,324	582	3,381	3,605	1,939
Reverse repurchase				1,614	4,558	7,560	6,951	10,556	6,345	855	1,979
Blocked differential—MAAB43				5,028	16,163	14,632	10,419	11,026	11,731	12,220	15,625

[1] Starting 1983, data have reflected the expanded coverage of deposit money banks and the transfer of selected accounts of two government Banks to the national government.

Sources: (a) Department of Economic Research—Domestic, Central Bank of the Philippines
(b) Accounting Department, Central Bank of the Philippines

Table 7. Earning assets of the Central Bank (End-of-period; in million pesos)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1. Domestic Assets	31,670	39,119	48,797	65,282	80,838	89,292	87,313	78,594	75,872	76,668	83,062
Loans and advances	25,271	29,315	36,484	50,532	50,605	61,048	59,634	50,139	49,661	51,167	60,009
Assistance to financial	306	3,366	3,139	4,957	10,921	13,748	12,730	15,405	15,011	14,980	14,781
institutions: overdrafts	54	915	2	1,170	7,189	9,752	9,899	12,769	12,903	13,039	12,973
Domestic securities	6,093	6,438	9,174	9,793	13,312	14,496	14,949	13,040	11,200	10,521	8,272
2. Foreign Assets	23,609	21,123	15,694	12,108	17,686	20,661	51,420	41,878	45,041	53,228	57,610
TOTAL EARNING ASSETS	55,279	60,242	64,491	77,390	98,524	109,953	138,733	120,472	120,913	129,896	140,672

Sources:(a) Department of Economic Research—Domestic, Central Bank of the Philippines.
(b) Accounting Department, Central Bank of the Philippines.

additional swap differential would mean that it would have to pay interest on it. This again would lead to an increase in Central Bank's losses, which would eventually be reflected in higher RM levels.

The CBP could have used open-market operations to rein in the growth of RM. But for lack of government securities in its hands, the CBP could only do it by offering high interest rate on its bills and reverse repurchase instruments. But, again, this could worsen the losses of the Central Bank, which would have an impact on RM. The alternative was to encourage the national government to increase its deposits with the Central Bank as it had done in the past. If interest were paid on these deposits, then the Central Bank's losses would increase. On the other hand, nonpayment of interest on these deposits would result in higher deficit for the national government, which would exert upward pressure on interest rates, including those of the Central Bank's short-term debt instruments. The bottomline is that whatever the Central Bank would do to rein in the growth of RM, it would be less successful because of the impact of those measures on its losses.

The Central Bank came to a point where it was confronted with two huge problems. First, the effective interest rate it earned from its total earning assets fell well below the effective rate on its total liabilities (Table 8).

Second, the volume of its earning assets was substantially lower than its interest-bearing liabilities due to the transfer of foreign liabilities from government financial institutions and corporations to the Central Bank and the mounting blocked differential. Thus, raising the effective rate on its earning assets to approximate the market rates would hardly save the Central Bank from its predicament. The only solution was to clean its books of bad assets and transfer liabilities to the national government just like what the government did when it rehabilitated two government-owned financial institutions.

Given the losses of the Central Bank, its true net worth had already been negative for several years. This fact was, however, obscured by the bank's balance sheet, which appeared to show positive capital. This legerdemain was accomplished by the creation of suspense accounts on the asset side of the balance sheet that had no true economic value. The three most important suspense accounts were the Monetary Adjustment Account (MAA), the Exchange Stabilization Adjustment Account (ESAA), and the Revaluation of International Reserve (RIR).

The MAA was a temporary suspense account intended to absorb extraordinary costs of printing notes and minting coins as well as those arising from the issue and service of evidences of indebtedness of the Central Bank and interest on bank reserves, which the Monetary Board may prescribe. Over the years, however, new items had been included. The most important ones were the interest on reverse repurchase operations (1985), which were part of the open market instruments of

Table 8. Effective interest rate on earning assets and liabilities (End-of-period; in million pesos)

Item / Year	1986	1987	1988	1989
Interest income	8,800	8,100	7,000	6,600
Total earning assets	138,733	120,472	120,913	129,896
Interest expenses	27,200	18,300	23,200	26,900
Total liabilities	258,227	254,697	265,439	280,489
Effective interest rate on earning assets	6.34	6.72	5.79	5.08
Effective interest rate on total liabilities	10.53	7.19	8.74	9.59

Source of basic data: Central Bank of the Philippines.

the Central Bank, and interest on all national government peso deposits (1986). Both were significant expense items of the Central Bank, especially after 1983. Originally, the MAA was required to be amortized over a period of five years. However, the Central Bank charter was amended in 1984 to allow the MAA to be amortized over a period at a rate based on the adequacy of the Bank's profit. Thus, the outstanding MAA ballooned from PhP4.5 billion in 1980 to PhP28.6 billion in 1987, most of which could be accounted for by interest payments on CB bills, reverse repurchase agreement and government deposits. Note that the amount amortized each year had been very small.

The ESAA was a temporary suspense account subject to amortization over a three-to five- year period for expenses, which may be deferred so as not to overburden the Central Bank's operating income during a year of operation. The charter of the Central Bank was amended in 1984 so that interest expenses and commitment fees on foreign loans and other expenses incurred in connection with the negotiations, securing and servicing of foreign obligations could be amortized over a period at a rate which shall be based on the adequacy of the Bank's profits. Thus, the outstanding ESAA increased from PhP236 million in 1981 to PhP37.6 billion in 1987. Although annual amortization had been very minimal, however, interest on foreign borrowings and on foreign currency deposits as well as service charges on IMF loans contributed significantly to the build-up of the ESAA.

The RIR was a special frozen account credited or debited for losses or profits arising from a revaluation of the Central Bank's net assets or liabilities in gold or foreign currencies. Losses incurred by the Central Bank in swap and forward cover operations entered into in the past were lodged in this frozen account. In 1987, the outstanding RIR grew to PhP119.7 billion.

Clearly, the amendment made in 1984 concerning the period for amortizing the CBP's suspense accounts was in line with the Robinson-Stella view, which later on proved to be wrong.

Given the above situation, the only way the BSP can exercise its independence is to start with a clean balance sheet. The New Central Bank Act provides for this, transferring some assets and liabilities from the old Central Bank to the BSP in such a way that the latter would end up with a net worth of PhP10 billion.[22] The rest of the assets and liabilities are to remain with the old Central Bank, which will continue to exist as Central Bank Board of Liquidators (CB-BoL) for 25 years or until such time that the liabilities shall have been liquidated. The Committee of Seven, which was tasked to determine which assets and liabilities could be transferred to the BSP or retained with the CB-BoL, used the following guidelines for the performance of its function:

Guidelines prescribed under RA 7653:

> Upon effectivity of the Act (July 3, 1993), the government shall fully pay PhP10 billion of the BSP's authorized capital (Sec. 2). The assets of the BSP shall exceed its liabilities by an initial amount of PhP10 billion (Sec. 132c). The capital of the BSP shall be PhP50 billion by the third year to be fully subscribed by the national government.
>
> The outstanding amount of the three suspense accounts (MAA, ESAA and RIR) as of the effectivity of this Act shall continue to be for the account of the old Central Bank (Sec. 46).

3. Liabilities to be assumed by the BSP shall include the liability for notes and coins in circulation as of the effectivity date of this Act (Sec. 132d).

Additional guidelines drawn up by the Committee:

1. The BSP is a new corporate entity and, therefore, any paid-in capital should be backed up by real assets.
2. Assets inherent to central banking shall first be transferred to the BSP. In the same manner, liabilities inherent to central banking but PhP10 billion less than the corresponding assets shall be assumed by the BSP.
3. Fair market valuation of the fixed assets of the old Central Bank be done prior to the transfer.
4. The transfer of assets and liabilities shall be at the least cost to the national government.

[22] Section 132 of RA 7653.

Based on the above guidelines, the Committee decided to transfer to the BSP PhP290.8 worth of assets and PhP280.8 billion worth of liabilities (Table 9). On the other hand, it transferred to the CB-BoL PhP331.8 worth of assets and PhP331.2 billion worth of liabilities. Note that the bulk of CB-BoL's assets (suspense accounts and loans and advances) has no economic value whereas its liabilities, which need to be serviced, are real. The only way the CB-BoL can service its liabilities is to get subsidies from the government. The Act requires the BSP to remit 75 percent of its net income to CB-BoL to help the latter service its liabilities. Clearly, any deficiency has to be shouldered by the national government.

Table 9. Distribution of assets and liabilities of the former Central Bank as of July 2, 1993 (In billion pesos)

Account	Former CB	BSP	CB - BOL *
TOTAL ASSETS	622.6	290.8	331.8
International Reserves	155.8	155.8	0.0
Foreign Exchange Receivable	8.1	8.1	0.0
Domestic Securities	41.3	41.3	0.0
Loans and Advances	64.4*	54.1	10.4
Suspense Accounts	320.8*	0.0	320.8*
MAA	72.2	0.0	72.2
ESAA	85.0	0.0	85.0
RIR	163.7	0.0	163.7
Bank Premises and Other Fixed Assets	10.1*	9.4	0.6
Other Assets	22.1	22.1	0.0
TOTAL LIABILITIES	612.0	280.8	331.2*
Currency Issue	76.6	76.6	0.0
Deposits	315.1	155.5	159.6
Banks and Other Financial Institutions	79.0	79.0	0.0
In-Trust Deposits of Banks and Other Financial Institutions	0.1	0.1	0.0
National Government	179.8	20.2	159.6
Foreign Financial Institutions	47.6	47.6	0.0
Other Foreign Currency Deposits	6.5	6.5	0.0
Other Deposits	2.1	2.1	0.0
Loans Payable	148.9	39.1	109.8
Allocation of SDRs	4.4	4.4	0.0
CB Debt Instruments	57.9	0.0	57.9
Other Liabilities	9.1*	5.2	4.0

* Totals may not add up due to rounding.
Source: Accounting Department, Bangko Sentral ng Pilipinas.

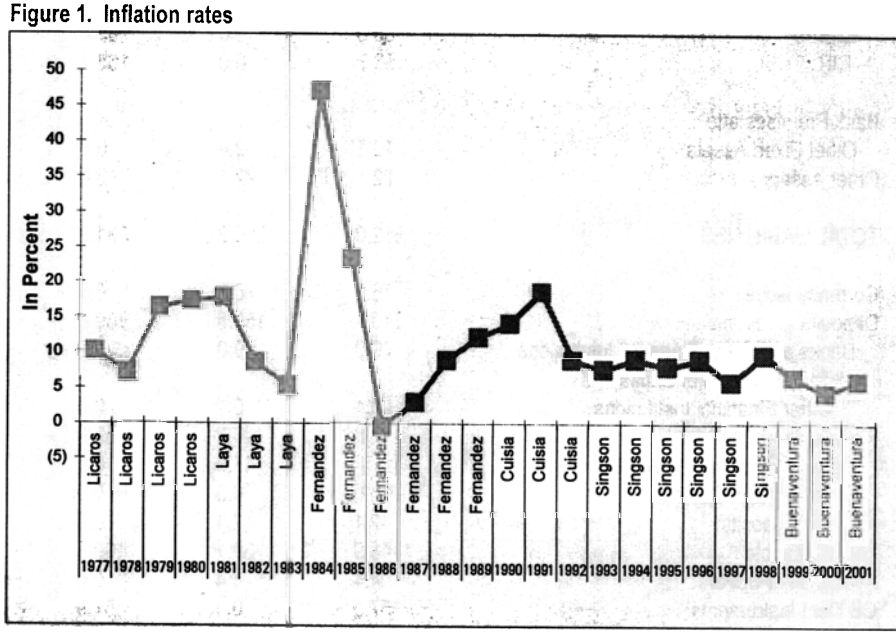
To prevent the BSP from falling into the same trap as the old Central Bank, the Act has eliminated two suspense accounts, namely, the MAA and the ESAA.[23] The RIR has been retained for obvious reason. The Act has also tightened the guidelines for the BSP's issuance of its own liabilities. More specifically, the BSP can issue its certificates of indebtedness "only in cases of extraordinary movement in price levels."[24] Since the effectivity of the Act, the BSP has not yet invoked this provision.

Performance measures: Early dividends from the reforms

To put a human face to the analysis in this section, Appendix A presents a list of members of the Monetary Board since 1977. The central bank (both old and new) has had six governors including the incumbent one. Two served for six years while another two for only three years. A total of 35 men and women, excluding the six governors, have served as members of the Monetary Board since 1977. One served for about 13 years, one for 10 years and two for nine years.

Figure 1 shows the annual inflation rates during the period 1977-2001 under the six governors. The most turbulent period occurred during the watch of Governor Jose Fernandez, when inflation rate shot up to 47.1 percent and subsequently dropped to -0.45 percent, then started to move up toward the end of his term and continued on during

Figure 1. Inflation rates

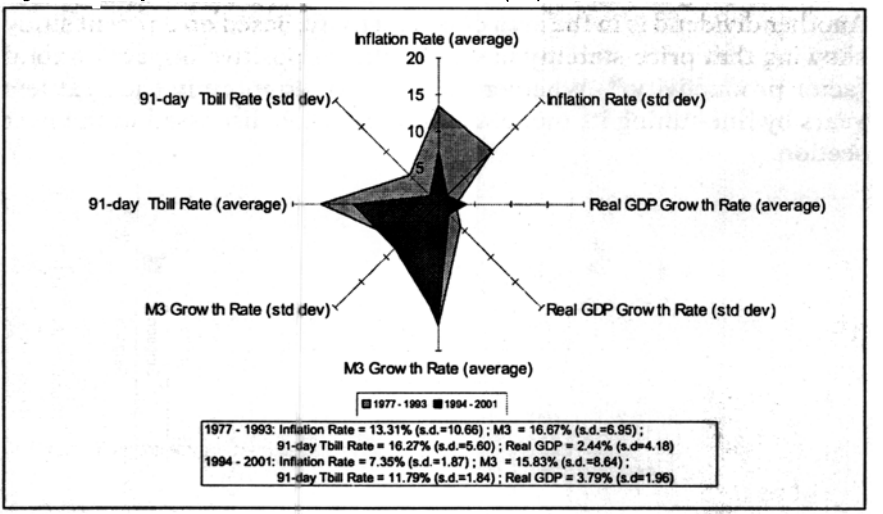


[23] Section 46 of RA 7653.
[24] Section 92 of RA 7653.

Cuisia's term. Fernandez inherited the problems of the past governors and tried to steer the central bank amid political and economic instability. Despite criticisms lobbied against him by various sectors of the society, he faced up to the challenges during that period. Cuisia served as governor for a brief period, but he was able to introduce major reforms, such as the deregulation of the foreign exchange market and the liberalization of the entry of banks. He was also the first to pursue the idea of opening the domestic banking system to foreign banks and, recognizing the constraint imposed by the mounting losses of the CBP on the conduct of monetary policy, worked hard for the passage of the New Central Bank Act.

Since in terms of independence the BSP is completely different from the CBP, it may be well to divide the period into two subperiods, namely, the CBP period (1977-1993) and the BSP period (1994-2001) and compare them according to four closely watched economic indicators, namely, inflation rate, the M3 growth rate, 91-Tbill rate, and the GDP growth rate. The results using averages and standard deviations of these variables for the two subperiods are shown in Figure 2a. It is noteworthy that the inflation rate was much lower on average and less variable during the BSP period than during the CBP period.[25] The same can be said of interest rate and GDP growth rate. In the case of the M3, however, the difference in the two subperiods in terms of average growth rate and standard deviation can hardly be discerned, suggesting that both the BSP and CBP had comparable performance in terms of controlling movements of the said monetary aggregate.

Figure 2a. Early dividents from Central Bank reforms (M3)



[25] This relates to the concept of price stability, which will be discussed below.

Figure 2b. Early dividents from Central Bank reforms (Base Money)

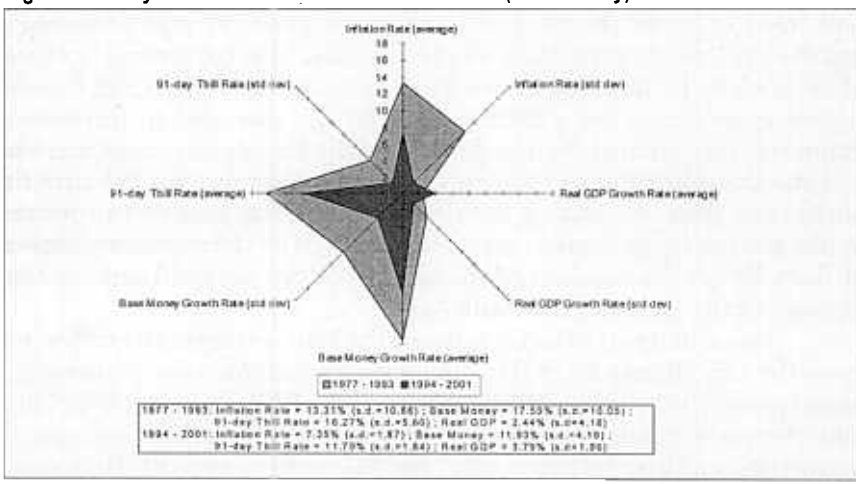


Figure 2b does the same as Figure 2a, except that the M3 is replaced by base money. Note that the base money growth rate was a lot lower on average and less variable during the BSP period than during the CBP period. This suggests that the BSP has been able to manage well the base money movements compared to the CBP. The absence of loss-making assets could have greatly facilitated the BSP's task of managing the base money.

Given the favorable performance of selected economic indicators during the BSP period, the country appears to have already started reaping some dividends from central bank reforms this early. Another dividend is in the area of productivity, based on a recent study showing that price stability has a significant positive impact on total factor productivity.[26] Whether the BSP can do more in the next few years by fine-tuning its monetary framework is discussed in the next section.

[26] See Cororaton (2002).

3
BSP's Monetary Policy Framework

A monetary policy framework is the monetary authorities' guide for conducting monetary policy. It naturally requires an institutional framework under which monetary policy decisions are made and executed. Beginning in January 2002, the BSP has formally adopted inflation targeting (IT) as its main monetary framework after two years of meticulous preparation. What is its significance?

This section starts with a general discussion of the previous and present monetary framework in the Philippines with some background information taken from some studies on the emerging monetary frameworks in the 1990s. Although the main subject of this section is the current monetary policy framework, a brief review of previous monetary frameworks appears in order to facilitate a better appreciation of IT the BSP has recently adopted. The second part of this section explains the concept of IT and how it applies to the Philippines and elsewhere. The third part discusses two important operational concepts in IT, namely, "price stability" and "strict vs. flexible inflation targeting." The fourth and last part of this section discusses some of the remaining issues that the BSP must deal with to make inflation targeting successful now and in the years to come.

Past and present monetary frameworks

Since the collapse of the Bretton Woods arrangements in 1971, countries have been searching for a monetary framework that would be most appropriate to their conditions and at the same time enhance the credibility of monetary policy. Figure 3 presents a simple representation of conducting monetary policy. The central bank is usually mandated by law to attain certain economic objectives, such as price stability, output growth, employment, etc.

Figure 3. A simple representation of conducting monetary policy

Instruments=>Operating target=>Intermediate target =>Ultimate objectives or Indicator variables

In his survey of 91 countries, excluding the Philippines, Sterne (1999) finds that 96 percent were using some form of explicit target or monitoring range in 1998 compared with 55 percent in 1990. He observes that "[E]xplicit monetary policy targets have become more widely used in the 1990s than any time since the Bretton Woods era." The targets were typically exchange rate, monetary aggregate, inflation rate, or a combination of these targets. More specifically, the number of countries with explicit money targets increased from 18 in 1990 to 39 in 1998, with inflation targets from 8 to 54, and with exchange rate targets from 30 to 47. What is more interesting is that among those with explicit targets in the 1990s, not one dropped its inflation target, whereas 10 dropped their exchange rate targets, and seven dropped their money targets. He enumerates the six factors that have influenced the choice of the policy target:

1. The role of the targeted variable and the impact of different shocks on the transmission mechanism from policy instruments to inflation.
2. The role of the target in defining a relationship between the central bank, the government, external institutions and the private sector.
3. The role of targets and forecasts in providing a basis to explain outcomes.
4. The skills and experience within the central bank.
5. The extent to which "policy technology" gives policymakers confidence in their ability to influence targeted variables in a predictable fashion .
6. Attempts to impose discipline on fiscal and monetary policy.

The Philippines had been under the IMF tutelage (i.e., IMF-supported programs) for so many years until recently. Between 1984 and 1998, it implemented nine programs valued at US$3.6 billion, of which US$2.7 billion was drawn down (see Appendix B). But as is well known, the IMF's financial support is less important than the "seal of good housekeeping" that went with these programs, which were aimed at enhancing the credibility of monetary policy. Key to this is the financial programming exercises usually imposed by the IMF on borrowing countries, which mainly rely on two performance criteria: 1) a ceiling on the central bank's net domestic assets and 2) a floor on its net international reserves (see Box 2). Thus, between 1984 and May

Box 2. Deriving NDA ceilings in fund-supported programs

NDA ceilings are derived as part of the financial programming exercises in IMF-supported programs. The theoretical foundation is provided by the Polak model. It is based on the monetary approach to the balance of payments, which views balance of payments fluctuations as a monetary phenomenon. In its simplest version, the Polak model centers around four identities: 1) the monetary survey, 2) the central bank balance sheet, 3) the money multiplier, and 4) the balance of payments constraints, plus one behavioral equation—the demand for money.

The first step to a financial programming exercise is to set objectives for the balance of payments, real GDP growth, inflation, and the fiscal deficit. The balance of payments target is expressed as a change in net international reserves ($\triangle NIR^*$). This results from the fact that the change in net international reserves equals the sum of the current account (CA) and the change in net foreign indebtedness ($\triangle FI$) (equation 1).

(1) $\triangle NIR^* = CA + \triangle FI.$

The second step is to project the change in money demand ($\triangle M^D$). A very simple way would be to use the estimated velocity of money (v) and use the target value for nominal GDP ($\triangle Y^*$), which can be derived from the real GDP growth target and the inflation target (equation 2).

(2) $$\triangle M^D = \frac{1}{v} \triangle Y^*.$$

In the third step, the level of net domestic assets of the banking system ($\triangle NDA^{BS}$) needed to adjust to satisfy the projected money demand change, given that the NIR target is calculated. For this, the money stock identity from the monetary survey is used (equation 3, in which $\triangle M^*$ stands for the change in money stock). In addition, it is assumed that changes in net foreign assets of the banking system ($\triangle NFA$) are identical to changes in net international reserves of the central bank ($\triangle NIR$).

(3) $\triangle M^* = \triangle M^D = \triangle NFA + \triangle NDA^{BS}$ or $\triangle NDA^{BS} - \triangle M^* - \triangle NIR^*$.
$= \triangle NIR^*$

The fourth and final step is to calculate the ceiling for the change in net domestic assets of the central bank ($\triangle NDA^*$) that corresponds with the change in net domestic assets of the banking system ($\triangle NDA^{BS}$). For this calculation, the central bank balance sheet identity, which defines the change in base money ($\triangle B$) as the sum of $\triangle NIR$ and $\triangle NDA$, and the money multiplier relation (m) are used (equations 4 and 5).

(4) $\triangle B = \triangle NIR^* + \triangle NDA.$

(5) $$\triangle B = \frac{1}{m} \triangle M^*.$$

Setting equations (4) and (5) equal yields the following maximum amount by which the central bank may change its NDA position to comply with the financial programming exercise:

(6) $$\triangle NDA^* = \frac{1}{M} \triangle M^* - \triangle NIR^*.$$

Source: Schaechter (2001)

1995, the CBP strictly adhered to the monetary targeting framework, using the M3 as the main intermediate target of monetary policy and base money as the operating target.[27]

This framework relies on two crucial assumptions: one is that there is a stable and predictable relationship between the M3 and the ultimate target of monetary policy, namely, inflation, growth, and employment; the other is the ability of the CBP to control the M3 by manipulating base money. Lamberte (1984a) finds that the M3 and other broader monetary aggregates that included liabilities of other deposit-taking and nondeposit-taking financial institutions predict future economic activity better than narrowly defined monetary aggregates. Unfortunately, the monetary aggregates that were found to have the best stability properties were not sufficiently controllable by the CBP (Lamberte 1984b).

In its third Annual Report, the BSP revisited this issue and found that the "M3 and prices have a stable and predictable relationship, which means that targeting a certain price level can still be achieved by targeting the corresponding M3 level." However, it already began to worry about the possible impact of rapid financial innovations brought about by financial liberalization and thus indicated that apart from closely monitoring the M3 and base money, it would also closely monitor other financial and economic variables. It is to be noted that as early as the 1980s, many countries, including the US, had already abandoned money targeting as they began to realize the weakening and increasingly unstable relationship between monetary aggregates and ultimate targets of monetary policy.[28]

As Guinigundo (1999) reports, the BSP modified its monetary framework in June 1995 by "complementing monetary aggregate targeting with some form of inflation targeting" and increasingly putting more weight on the latter. The country, therefore, belonged to those countries found by Sterne (1999) to have adopted both money and inflation targets. In addition, the BSP started to monitor a larger set of economic variables in formulating its monetary stance. Because of surges in capital inflows in the first half of the 1990s, the base money ceilings were made adjustable depending on overperformance of the BSP's net international reserves.[29] This amounts to targeting monetary base instead of the M3.

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[27] See Guinigundo (1999) for a good account of changes in the monetary framework in the Philippines.

[28] The most widely quoted statement in this regard is that of Gerry Bouey, former governor of the Bank of Canada: "We didn't abandon the monetary aggregates, they abandoned us." There were suggestions that Bundesbank's record of attaining low inflation was due to its usage of monetary targeting framework. Svensson (1999), however, pointed out that "a number of studies of Bundesbank's monetary policy have come to the unanimous conclusion that, in the frequent conflicts between stabilizing inflation around the inflation target and stabilizing money-growth around the money-growth target, Bundesbank has consistently given priority to the inflation target and disregarded the monetary target."

[29] See Lamberte (1995) for a discussion on surges in capital inflows in the Philippines.

All this paves the way for the BSP's adoption of inflation targeting, which took an evolutionary rather than a revolutionary process. The BSP prepared the public through several discussions it organized. Thus, while the shift to IT is indeed significant from the perspective of monetary policy, the general public has hardly felt it because it was approached gradually manner and implemented at a time when actual inflation rates were coming down. This then begs the question: What is IT?

Inflation targeting defined

Svensson (2000) defines IT in the following manner:

> Indeed, inflation targeting in the form of forecasting targeting....automatically means watching for warnings of changes in future inflation and reacting in time. Forecast targeting means using available information about the economy and the transmission mechanism to make inflation (and output gap) forecasts for the relevant policy horizon (the horizon at which the current instrument setting has a significant impact), and setting the interest rate such that the inflation forecast conditional on this interest rate is close to the inflation target at the appropriate horizon. This also means watching for warnings of both upside and downside risk for future inflation, as well as watching private inflation expectations (measured from surveys and inferred from nominal and real yield curves), shocks to the economy, etc.

To appreciate this definition better, one would do well to review the transmission of monetary policy to the rest of the economy. At the outset, it is important to recognize that the task of stabilizing prices is not an easy one because monetary policy does not directly affect the price level. Instead, it works through various channels, which are collectively called "transmission mechanism." The transmission mechanism of monetary policy describes how the instrument and the current state of the economy affect the future path of the target variables.

Price stability calls for broadly balanced aggregate demand and supply in the economy. Monetary policy has an effect on real economic activity (i.e., GDP) in the short to medium run. However, it works mainly through its influence on aggregate demand and has little direct effect on production capacity. The aim of monetary policy, therefore, is to bring aggregate demand to a level that is broadly consistent with production capacity.

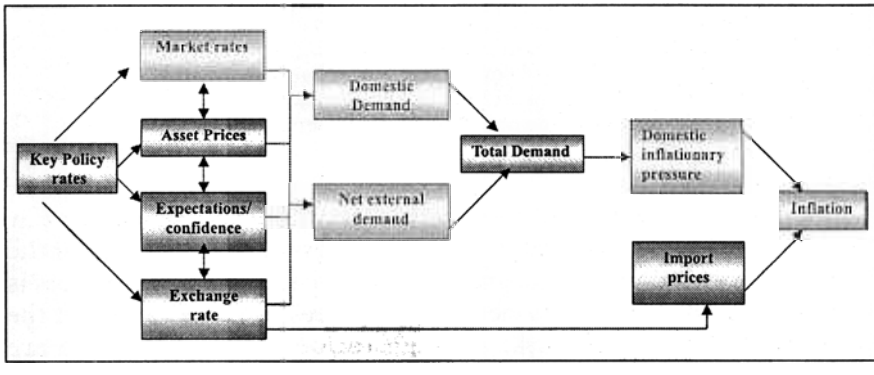
Aggregate demand is the sum of domestic spending—which consists of household consumption, government consumption and investment spending—and net exports, i.e., the balance of trade in goods and services.[30] Clearly, changes in spending decisions of households,

[30] In the national income account, aggregate demand is equal to GDP at market prices.

firms and government can alter aggregate demand. The crucial issue being addressed in discussions about transmission mechanism is how the central bank can affect households' and private firms' spending decisions.

Figure 4 provides a rough idea of the transmission mechanism of monetary policy. In the Philippine context, the BSP announces the policy rates it deems consistent with its ultimate target.[31] The movements and changes in spread between the repo and reverse repo rates reflect the BSP's monetary stance. Whenever the BSP decides to tighten monetary policy, it raises the key policy rates, which affect market rates and the lending rates banks charge their customers (households and firms).[32] Faced with higher cost of credit, customers hold down their borrowing and spending for both consumer goods and capital. This lowers the growth in aggregate demand, and hence relieves inflationary pressures.

Figure 4. The transmission mechanism of monetary policy



The second channel of monetary policy is asset prices. Households invest their surplus funds in securities, such as bonds and equities. Income from these investments can be used for consumption and investment in durable goods. A rise in market rates of interest caused by an upward movement of the BSP key policy rates lowers the market values of bonds, equities and other securities. Knowing that the present value of future income stream of securities has fallen, households reduce their consumption and investments in durable goods. Firms likewise reduce their spending in new plant and equipment. This is because the price of equity they will issue to finance expansion will be low relative to the cost of plant and equipment they

[31] This appears to be the current practice of many central banks (e.g., Bank of England, Bank of Canada, etc.).
[32] The market considers the 91-day Treasury bill rate as the bellwether rate. The BSP does not directly control the 91-Tbill rate, which is market-determined, but it can manage it indirectly through changes in its key policy rates.

plan to buy. Both changes in the spending behavior of households and firms lead to a reduction in aggregate demand.

The third channel is the exchange rate, which is the relative price of domestic and foreign monies. This has apparently become an important channel of monetary policy in the wake of the liberalization of trade and foreign exchange market in the early 1990s. Other things being equal, an increase in the BSP key policy rates makes domestic assets more attractive than foreign assets, causing the domestic currency to appreciate. The higher value of domestic currency relative to foreign currency makes domestic goods more expensive than foreign goods, which lowers net exports and hence aggregate demand. While exchange rate appreciation ultimately relieves inflationary pressures through aggregate demand, it also affects inflation via import prices.

The fourth channel is the public's expectations of the future course of the economy, in general, and inflation rate, in particular. A change in monetary policy could shift the public's expectations, resulting in a change in the firms' and households' borrowing and spending plans. However, the reaction of firms and households to such policy change cannot be predicted with precision. For instance, households and firms may perceive the tightening in monetary policy as a sign that the economy is growing faster than originally thought, thereby creating expectations that the economy will continue to grow faster. Expectations of faster economic growth could encourage households and firms to revise their spending and investment plans upward. Alternatively, they may also perceive the same monetary stance as an indication that the BSP wants the economy to slow down to achieve the inflation target, which would require a downward revision of their spending and investment plans. Indeed, this serves to emphasize the need for the central bank to make its signals clear and transparent so that market players would not be confused about the direction of monetary policy.

Although economists as well as policymakers still do not agree on the relative importance of these channels, they agree on two points. One, the links in the transmission mechanism are not a mechanical one. This is because they are affected by a host of factors, such as overall domestic economic policies, external environment and efficiency of the domestic financial market. In other words, inflation can be affected by other policies apart from monetary policy. Two, monetary policy cannot bypass these channels, and therefore lags between monetary policy decisions and their impact on inflation are inevitable. The problem is that these lags are not predetermined and may vary from channel to channel and according to circumstances. Clearly, monetary policy can have very little impact on current inflation.

Since monetary policy affects inflation with a lag, monetary authorities should focus on the prospective developments of inflation

in the near term, say, a year or two, and adjust the interest rate now to such anticipated developments, taking into account information from other economic and financial variables.[33] It is not that past events no longer figure in the decisionmaking process of monetary authorities. They do, but they are given less weight compared to anticipated developments in the near term. This is what IT is all about. In brief, IT is a *forward-looking* and *information-intensive* monetary framework. Thus, forecasting inflation is crucial to the conduct of monetary policy under IT.

In contrast to IT, monetary targeting assumes that the monetary instrument, given the state of the economy, affects money growth rate, which, in turn, exclusively affects the target variables. But as the discussion on transmission mechanism suggests, reality is far from it simply because there are several channels of monetary policy. Further, found that monetary targeting is inefficient in the sense that it is not able to stabilize inflation and output gap, notwithstanding the stability of the demand for money.

IT, as described by Svensson (2002), adheres to the following characteristics:

1. There is a numerical inflation target in the form of either a point target (with or without a tolerance interval) or a target range. There is no other nominal anchor, like an exchange-rate target or a money-growth rate.
2. The decisionmaking process can be described as "inflation-forecast targeting" in the sense that the central bank's inflation forecast has a prominent role and the instrument is set such that the inflation forecast conditional in the instrument-setting is consistent with the target.[34]
3. There is a high degree of transparency and accountability.

As more countries adopt IT, it has become clear that there are essential requirements for the successful application of such monetary framework, which even some early IT adopters did not initially meet. For instance, the Bank of England adopted IT long before attaining "instrument independence," that is, independence in setting monetary-policy instrument (Mishkin and Schmidt-Hebbel 2001). Others adopted IT long before they achieved a high level of transparency and accountability.

The BSP has pointed out that the country has already met most of the basic requirements for the successful adoption of IT (see Box 3). In January 2000, the Monetary Board approved the shift to IT as the

[33] In this case, monetary aggregates are no longer used as an intermediate target of monetary policy but are regarded as part of a host of indicators of the inflation outlook.

[34] Under IT, therefore, the central bank's forecast of future inflation becomes an intermediate target in contrast to monetary targeting in which a monetary aggregate serves as an intermediate target of monetary policy.

BSP's monetary framework, which was implemented two years later.[35] Thus, the Philippines is now one of the growing number of IT countries, which include industrial, emerging and transition economies.[36]

Box 3. Hurdling the requirements of inflation targeting

Requirements for the Adoptionof Inflation Targeting	Is it in place in the Philippines?
Central Bank independence	Yes, the law accords fiscal and administrative independence to the BSP as the central monetary authority.
Central Bank commitment	Yes, the law mandates that the central bank should be primarily concerned with maintaining price stability.
Good forecasting ability	Inflation forecasting models are continuously being improved. These will be supplemented by judgment and discretion, given the available economic and financial indicators.
Transparency	In addition to existing reports and publications, the BSP will also publish an Inflation Report and the minutes of relevant Monetary Board discussions on monetary policy (with a lag).
Accountability	The BSP will stand firmly behind the inflation target and will explain to the public and higher authorities should there be any deviations.
Sound financial system	The financial system is constantly developing partly in view of the measures implemented by supervisory authorities to strengthen it.

Source: www.bsp.gov.ph/resources/other_docs/inflation_targeting.htm.

[35] Since then, the Philippines has not had a standby program with the IMF. However, the IMF continues to conduct surveillance of the Philippine economy as it does with other members under Article IV consultations. Also, the Philippines is under the post-program monitoring framework (semestral basis) because its outstanding obligations with the Fund are still 160 percent of its quota.

[36] Note that there are still a number of non-IT industrial countries, including the US.

How do countries implement IT? Appendix C, which is taken from Mishkin and Schmidt-Hebbel (2001), shows that there is a wide divergence among 19 IT adopters regarding the target price index, target width, target horizon, escape clauses, accountability of target misses, and goal independence. Although most countries publish inflation report on a regular basis, few publish their inflation projections and minutes of policy meetings. The Bank of England stands out in this respect as it publishes also the models it uses for formulating inflation outlook. It is interesting to note that IT adopters that started with relatively high targeted inflation rates gradually brought down their targets over a period of time.[37]

Being a latecomer, the BSP has had sufficient time to learn from the early IT adopters and studies (e.g., Kongsamut 1999; Debelle and Lim 1998) on how best to design and implement IT in the country. Box 4 presents the BSP's IT design and implementation plan. While the BSP has instrument independence, it does not have goal independence. The NEDA, which is the lead agency in formulating the Medium-Term Philippine Development Plan, coordinates the formulation of macroeconomic targets including inflation rates in the medium-term. However, the BSP actively participates in such exercises.[38] Since the Plan is prepared only once during the incumbent Administration's term, the Development Budget and Coordinating Committee (DBCC)—which is composed of the Department of Budget and Management as chair and the DOF, NEDA, the BSP, and the Office of the President as members—periodically reviews the inflation targets and, if new conditions require, revises them. In December 2001, the BSP governor, after consultation with the DBCC, announced the target inflation of 5.0-6.0 percent for 2002 and 4.5-5.5 percent for 2003. These were, of course, the same inflation rates indicated in the Medium-Term Philippine Development Plan 2001-2004.

Although the Monetary Board is mandated by law to meet at least once a week, it deliberates on monetary issues only once a month.[39] To assist the Board in its deliberations, the BSP created an advisory committee composed of the governor, the deputy governors for banking services and supervision, and the heads of the research and treasury departments. The Committee, aided by concerned BSP staff, collects and process key economic and financial variables as well as economic news (e.g., closure of large firms, stock market developments, etc.) that may affect the future path of inflation on a continuous basis. Starting in January 2002, the committee has been meeting every four

[37] This issue will be revisited below for the Philippine case.

[38] The preparation of the Plan involves representatives from the executive branch, Congress (both chambers), business sector, labor sector, academics and civil society. The targets indicated in the Plan are naturally a result of a political process.

[39] Monthly inflation rates are reported by the National Statistics Office (NSO).

weeks, usually a few days before the board meeting, to discuss and finalize its monthly report to the board. The highlights of the meeting of the Monetary Board on monetary policy issues are published and made available online with a six-week lag. This is so because minutes of the previous month's board meeting are approved only in the following month's board meeting. But the board announces important decisions (e.g., change in policy rates) immediately after the meeting.

Box 4. Operationalization of inflation targeting in the Philippines

The BSP has observed the following operational guidelines in implementing inflation targeting by the beginning of 2002:

- ***Measure of inflation.*** The BSP will use the CPI-based ("headline") inflation rate as its target for monetary policy, since the CPI is the commonly used measure of inflation and is, therefore, widely known and easily understood by the public. However, since some price movements are not within the control of monetary policy, the BSP would also take into account the movements in the so-called "core inflation" in setting the monetary policy stance.

Core or underlying inflation is an alternative measure of inflation that eliminates transitory effects on the CPI. Core inflation removes certain components of the CPI basket that are subject to volatile price movements such as food and energy and whose price changes are not within the control of monetary policy inasmuch as these are supply shocks.

- ***Setting the inflation target.*** The inflation target may be defined in terms of either a target inflation range (e.g., 4-6 percent) or an explicit point target with a tolerance interval (e.g., 5 percent +/- 1 percentage point). A range inflation target provides more flexibility in achieving the target while an explicit point target helps strengthen credibility and also focuses the public's attention on the inflation target.

- ***Identification of reasons for deviations of actual inflation from the target due to factors beyond the influence of monetary policy.*** The BSP may use escape clauses or arguments to explain deviations of actual inflation performance from the target level. This is so because there are other factors affecting inflation that are beyond level. This is so because there are other factors affecting inflation that are beyond the control of monetary policy, such as changes in tax policy, prices of oil in the world market, and natural disturbances that affect food supply. The BSP will explain carefully and clearly to the public how these factors resulted in the deviation of the inflation outcome from the target.

- ***Adoption of a two-year target horizon.*** The BSP will observe a two-year time period over which it will seek to achieve the targeted inflation rate. This will entail the announcement of an inflation target two years in advance. This will also enable the BSP to take a gradual approach to achieving the target and have enough room to respond to shocks in the economy.

- ***Developing inflation forecasting models.*** The BSP has two models used to forecast the monthly inflation rate up to a period of one year. Statistical tests indicate

that these models track the actual inflation rate reasonably well. The BSP is also in the process of developing a long-term annual macroeconomic and inflation forecasting model that is capable of projecting the inflation rate further into the future.

- ***Ensuring transparency and accountability***. The BSP will adopt disclosure and reporting mechanisms to help the public monitor better the BSP's commitment to achieving the inflation target. In addition to existing reports and publications, the BSP will publish a Quarterly Inflation Report and a monthly report on the balance of payments. Other possible additional reporting mechanisms that may be adopted include the following:

  a. Issuance by the BSP governor of an open letter to the President explaining why actual inflation did not meet the target (if such a deviation occurs), along with the measure to be adopted to bring inflation back to target;
  b. Continued issuance of press releases on the stance and direction of monetary policy; and
  c. Continued sponsorship of seminars and conferences to discuss monetary developments and policy issues.

Source: www.bsp.gov.ph/resources/other_docs/inflation_targeting.htm

The BSP publishes the *Inflation Report* on a quarterly basis. The first *Inflation Report* was published in April 2002 and is available on the BSP's Website (www.bsp.gov.ph). Box 5 shows the major topics discussed in the Report. The second section of the Report reviews price movements for the past quarter. Although the BSP uses the headline inflation as its target price index, it also closely monitors for policy purposes a much narrower price index, the core inflation, which excludes largely unpredictable items, such as rice, corn, fruits and vegetables, fuel, and transport and communication. Together, these noncore items account for 25.5 percent of the CPI. Apart from this, it also monitors alternative measures of core inflation, such as the trimmed mean, weighted median, the net of volatile index. The third section discusses major policy decisions made by the Monetary Board for the quarter and explains the reasons why such decisions were made. The fourth section reviews recent movements of key financial indicators, such as interest rates, exchange rate, and monetary aggregates. It also assesses the financial health of the banking system. The fifth section presents the BSP's inflation outlook and indicates whether expected price movements would be in line with the target for the year. The BSP uses both single-equation model and multiple-equation model, which is a combination of vector autoregression (VAR) and structural equations, to come up with its inflation forecasts (Tetangco and Tuaño-Amador 2002). It also assesses risks to the inflation outlook, such as oil price increases. Then, too, it compares, the BSP inflation forecasts with published and unpublished inflation forecasts by other institutions. The sixth section presents the BSP's monetary policy stance for the next few months.

Box 5. Content of the first inflation report, first quarter 2002

1. Introduction
2. Recent Developments in Inflation and Economic Conditions
   Prices
   Aggregate Demand and Output
   - Domestic
   - External
   - Forward-looking demand indicators
   - Production and output growth
   - Manufacturing

   Labor and Employment
   Financial Market Conditions
   - Stock market
   - Government securities

3. Monetary Policy Developments
4. Recent Monetary Conditions
   Interest ratesExchange ratesMonetary aggregates
   Banking system
   External developments
5. Inflation outlook
   Outlook for prices
   Expected improvement in aggregate demand
   Risks to the inflation outlook
   BSP inflation forecasts
   Comparison between the inflation forecasts of the BSP and the Market
6. Implications for the Monetary Policy Stance

Source: Bangko Sentral ng Pilipinas (April 2002)

Together with the minutes of the monthly Monetary Board meeting, other regular reports of the BSP and frequent press releases and interviews with top BSP officials by the media, the *Inflation Report* provides a mechanism for explaining the BSP's monetary policy stance. All this enhances the transparency of the monetary policy process, which the BSP is mandated to ensure under the Act.

"Price Stability" and "Strict" vs. "Flexible Inflation Targeting"

In the IT literature, two closely related issues have been debated, namely, the operational concepts of "price stability" and "inflation targeting." These will be discussed below and related to the discussions that took place when the New Central Bank Act was crafted and debated by legislators.

Price stability can mean one of two things: the general price level is stable, meaning it is not moving; or the inflation rate is low and stable. There is a big difference between these two operational concepts under the IT framework. If the goal is price-level stability, then monetary authorities should adjust its instrument in such a way that the price level remains constant. In the case of targeting a low and stable inflation rate, monetary authorities allow the price level to increase (decrease) so long as the increases are low and not severely erratic. In the case of the Philippines, the New Central Bank Act adheres to the second operational definition of price stability. During his sponsorship speech (19 May 1993), Senator Roco explained to his colleagues the concept of price stability. He said:

> Price stability, ideally, should refer to the domestic consumer price index that is not moving, or to the domestic inflation rate at zero. In reality, however, this may not hold true because there are several uncontrollable factors that could contribute to the domestic inflation rate, one of which is imported inflation.
>
> Price stability connotes two things. First, it seems that the changes of the general price level or the domestic inflation rate are minimal. And second, such changes are not severely erratic, or as the economists would put it, Mr. President, the amplitude of such movement is not large. xxx That is the policy direction.

When Senator Roco was interpellated by Senator Teofisto Guingona, he further elaborated on the concept of price stability:

> Mr. President, maybe it will be simpler if we understand that 'price stability' refers to the effort to control domestic inflation. Although it is not exactly the same, it is really the control of inflation. So long as we can maintain the relative value of the peso as legal tender and as currency, then the industry, commerce, manufacturing and all the active economic actors can plan and project their activities.

This definition is very closes to Greenspan's (1989) widely quoted definition of price stability—"a rate of inflation that is sufficiently low that households and businesses do not have to take it into account in making everyday decisions." As though taking their cue from this definition, all the 19 countries surveyed by Mishkin and Schmidt-Hebbel (2001), as shown in Appendix C, adopt low and stable inflation rate as the target rather than stable price level.

The next issue one needs to consider is how low should the country's inflation rate be to be considered stable? The New Central Bank Act does not give a precise answer, but it does provide some guidance to the monetary authorities. At this point some background information appears in order.

When the said Act was crafted, IT was just a budding industry promoted, not by academics but by central bank and finance-

department officials. New Zealand became the first country to formally introduce IT, and because of its well-publicized success, several countries followed suit, such as Chile (1991), Canada (1991), Israel (1992), the United Kingdom (1992) Finland (1993), and Sweden (1993). Soon, academics caught up with the trend and started formalizing models of inflation targeting.[40]

The Reserve Bank of New Zealand (RBNZ) Act of 1989 specifies that the Reserve Bank's monetary policy role "is to formulate and implement monetary policy directed to the economic objective of achieving and maintaining stability in the general level of prices." The Act goes further by requiring a Policy Targets Agreement to be signed by the Governor of RBNZ and the Minister of Finance. This agreement includes a formal 0-2 percent inflation target for monetary policy with an escape clause. Otherwise, the Minister of Finance may ask for the resignation of the RBNZ Governor. In contrast, the New Central Bank Act does neither requires a similar agreement nor specifies a very low inflation target. However, it does provide BSP guidance on the country's preferred inflation rate. More specifically, section 63 of the Act requires the Monetary Board to report to the President and Congress "whenever monetary aggregates, or the level of credit, increases by more than fifteen percent (15 percent), or *the cost of living index increases by more than ten percent (10%)*" (italics supplied.) It further states that "even though any of these quantitative guidelines have not been reached when in its judgment the circumstances so warrant, the Monetary Board shall submit the reports mentioned in this section, and shall state therein whether, in the opinion of the Board, said changes in the monetary aggregates, credit or cost of living represent a threat to the stability of the Philippine economy or of important sectors thereof."

Juxtaposing Senator Roco's statements and section 63 of the Act, one can conclude that price stability means positive inflation rate but less than 10 percent annually. The lower bound is important in the sense that it conveys to the Monetary Board that it should be averse toward a deflationary situation that, if it persists, might create deflationary expectations and bring the economy to a liquidity trap.[41] But the controversial issue is the setting of a very high upper bound for the inflation rate. In his critique of then Governor Singson, who expressed satisfaction with the country's single-digit inflation rate, Mangahas (1995) pointed out that considering the performance of neighboring countries, namely, Singapore, Malaysia, and Thailand, "a reasonable par for inflation should be 4 percent—coincidentally, just like the par for an average golf-hole." He seemed to imply that any single-digit inflation rate above this number threatened the stability of the economy. He also correctly pointed out that the Act in fact

[40] For example, see Grimes (1992).

[41] This issue will be revisited in the succeeding paragraph.

enjoined the Monetary Board to sound the alarm bell even if the 10 percent ceiling had not yet been reached so long as the rising inflation rate appeared to threaten the stability of the economy. This set off a lively exchange of letters between Singson and Mangahas, which were addressed to then President Ramos.[42]

A perusal of the letters will show that both gentlemen agreed on one point, that is, maintaining an inflation rate farther below the alarm bell of 10 percent is better for the economy. The problem, however, is the starting point; that is, if the economy had been subjected to the boom-bust cycle and inflation rate had on the average been very high, should monetary policy conditions be set such that inflation rates would immediately be brought down to a low level, or should it be done gradually? In his letter to President Ramos (3 August 1995), Singson pointed out that based on the country's monetary program supported by the IMF, inflation rate was expected to go down to 6.5 percent in 1996, 5.5 percent in 1997, and 5 percent for the period 1998-2000. These inflation targets were deemed consistent with the real GNP targets of 6.5 percent in 1996, 7.0 percent in 1997, and 8.0 percent in 1998 to 2000. Considering that these were the country's commitments to the IMF, not meeting them could set off the alarm bell, which was consistent with section 63 of the Act. In the same letter, Singson expressed his view that a drastic drop in inflation rate, as happened in the mid-1980s, could lead to more painful adjustments to the domestic economy in terms of lower output and high unemployment. This leads us to the issue of how inflation targeting is really being done.

Initially, there was some confusion among academics and practitioners on what inflation targeting really was in practice. Should it mean that central bankers focus only on inflation and nothing else, or should they also pay attention to other variables, notably growth, employment, etc.? Indeed, many economists and practitioners initially thought that inflation targeting was monetary policy dedicated solely to achieving a specified inflation rate. Mervin King (1995) describes central bankers adhering to this practice as "inflation nutters." Even Alan Blinder, former vice-chairman of the US Federal Reserve Board, forcefully argued that monetary policy should focus on both inflation and employment. The ensuing criticism he received from central banking and financial circles for making such an assertion at a time when an increasing number of academics and practitioners had come to believe that inflation targeting was the appropriate monetary framework for central banks merely confirmed the prevailing thinking at the time (Friedman 2002).

[42] Mangahas shared these letters with the participants to the *Philippine Economic Society-Philippine Institute for Development Studies Roundtable Discussion on Inflation* held on 14 September 1995 in Makati City.

As research and debates went on, concepts and models of inflation targeting were refined. As a result, there evolved a consensus among academics and practitioners that inflation targeting in practice meant "flexible inflation targeting," not "strict inflation targeting." The former means that the objective of monetary policy is to stabilize inflation around the inflation target, but at the same time is concerned with other economic objectives, such as output stabilization, employment, interest rate stability, etc. In contrast, the latter simply does not put any weight on other economic objectives. This can be clarified with the help of the following quadratic intertemporal loss function popularized by Svensson (1997, 2002):

$$L_t = (1-\delta)\, E_t \sum_{\tau=0}^{\infty} \delta^{\tau} \left[\left(\pi_{t+\tau} - \pi^* \right)^2 + \lambda x_{t+\tau}^2 \right]$$

where δ $(0 < \delta < 1)$ is a discount factor, E_t denotes expectations conditional on information available at t, π_t and x_t denote inflation and the output gap in period t, respectively, π^* is the inflation target, and $\lambda \geq 0$ is the relative weight on output-gap stabilization.[43] It can also be interpreted as the central bank's preference function. If the only thing that matters to the central bank is to keep inflation close to the target, then $\lambda = 0$, which is the case of "strict inflation targeting." In this framework, any shock that would cause inflation forecast to deviate from the inflation target would immediately be met by a strong response by the central bank, such as dramatically increasing interest rates. It may succeed in quickly stabilizing inflation rate around the inflation target, but it would most likely lead to variability in output and interest rate, among others. In contrast, if the central bank also tries to avoid causing severe instability to other economic variables, then it may adopt a more gradualist approach, which means that $\lambda > 0$. This is "flexible inflation targeting." Thus, if there is a shock that would cause inflation forecast to deviate from the inflation target, the central bank will try to bring it back to the inflation target gradually over longer time horizon than if $\lambda = 0$. The speed of convergence of the inflation forecast to the inflation target depends on the strength of the central bank's preferences with respect to inflation vis-à-vis other objectives.

Based on the foregoing discussions, should the BSP follow "strict inflation targeting" or "flexible inflation targeting"? Again, it is

[43] The output is gap is defined as $x_t = \left(y_t - y_t^* \right)$, where y_t and y_t^* stand for the (log) output and potential output, respectively.

important to go back to the New Central Bank Act and the debates that took place when the Act was formulated. As stated earlier, section 3 states that "[T]he primary objective of the *Bangko Sentral* is to maintain price stability conducive to a balanced and sustainable growth of the economy." The word "primary" is important here. If the intent of the Act is for the BSP to be concerned only about price stability, then it should have used the term "only" rather than "primary." The use of the word "primary," therefore, implies that the BSP may accommodate other objectives.

In response to House Representative Exequiel B. Javier's interpellation during the deliberation on the New Central Bank Act by the bicameral conference committee in June 1993, Senator Roco clarified that the word "primary" was added because the seven members of Monetary Board might have several economic objectives in mind, but when they finally made their decision on the BSP's monetary stance, they should give primary importance to price stability. As the Act says, the BSP may consider a host of economic objectives provided that it attaches greater weight to price stability than other economic objectives.[44] This in a nutshell is "flexible" inflation targeting. Given relatively high inflation rates in the past 15 years, it is then natural for the BSP to engineer a soft landing toward a low inflation regime. This is important because inability to achieve a very low inflation target within a very short span of time can undermine its credibility in the long run. Credibility of its IT framework is an important ingredient to its success.

It is noteworthy that most IT adopters presented in Appendix C, especially those that came from a relatively high inflation regime, had specified declining inflation targets over some years instead of drastically lowering the inflation rate over a short period of time.

Remaining issues

This section discusses some issues that have a bearing on the BSP's IT framework. These are 1) the role of exchange rate, 2) the role of monetary aggregates, 3) measurement of inflation and liquidity trap, and 4) the budget deficit and external debts.

Exchange Rate

It is a monogamous monetary framework that does not admit other nominal anchors, such as exchange-rate target or money-growth rate target, other than the inflation-forecast target. But as portrayed in Figure 4, exchange rate plays an important part in the monetary

[44] In a recently circulated paper, Romer and Romer (2002) found that the US Federal Reserve Open Market Committee (FOMC) in the 1950s had a strong dislike for inflation, which it preemptively acted to control. Indeed, the FOMC was concerned about employment and growth, but the minutes of the meeting showed that it tended to overlook these concerns if it thought that inflation was about to rise.

transmission mechanism. It can have a large effect on inflation rate with a lag much shorter than those of monetary aggregates. Thus, although the BSP has espoused IT, it may be tempted to target an exchange rate, without necessarily being explicit about it, to achieve its low inflation target. What is at issue here is the extent of the exchange rate pass-through (ERPT) to domestic prices, because higher ERPT would require the BSP to pay greater attention to exchange rate movements to stabilize domestic prices. This is bad news to IT adopters.

Recent studies on the ERPT, however, have shed new light on this issue. Taylor (2000) was the first to point out that the recent decline in the ERPT in most industrialized countries could be attributed to their low inflation environment. In other words, the ERPT may be endogenous to a country's performance in stabilizing domestic prices. Taylor went on to develop a microeconomic model based on staggered price setting and monopolistic competition to explain the relationship between inflation and exchange rate pass-through. Firms set prices for several periods in advance and adjust them if they perceive that cost increases brought about by certain factors, such as exchange rate depreciation or other factors, are persistent. Countries with higher inflation rates tend to have higher persistence of cost changes, which can then lead to higher ERPT. Conversely, countries with lower inflation rates tend to have lower persistence of cost changes, and hence, lower ERPT. It therefore implies that a country with a credible low inflation policy tends to experience low ERPT.

Choudhri and Hakura (2001) have extended Taylor's paper by developing an open macroeconomic model based on imperfect competition and price inertia. The latter arises from staggered price adjustment. Their model rests on the assumption that the monetary authorities follow a monetary rule that targets a low inflation rate and responds strongly to deviations from the target. Thus, they argue that:

> The dependence of CPI [consumer price index] pass-through on the inflationary environment arises essentially because the pass-through reflects the expected effect of monetary shocks on current and future costs. A low inflation regime lowers the pass-through by weakening the expected future effect of the shocks (via its reaction to price deviations from the target path). Low inflation economies could also be subject to less variable monetary shocks. The lower the variability of monetary shocks would decrease the information content of the exchange rates in predicting monetary shocks and this effect suggests another reason for the pass-through to be smaller under a low inflation regime.

The pricing power of international firms increases in high inflation regimes, causing the ERPT to become larger. Conversely, their pricing power declines in low inflation regimes, causing the ERPT to be small.

The theoretical model they developed suggests an empirical model, which they used in their empirical analysis utilizing data from 71 countries for the period 1979-2000. This paper adopts the Choudhri-Hakura model in empirically investigating the ERPT in the Philippines in two inflation regimes: the CBP period for the high inflation regime; and the BSP period for the low inflation regime. The distinction of these two regimes is based on the findings discussed in Section 2 of this paper. The ERPT is expected to be lower during the BSP period than during the CBP period. The basic model being estimated is:

$$\Delta P_t = a + ß_1(L)\Delta P_{t-1} + ß_2(L)\Delta NEER_t + ß_3(L)\Delta FP_{t-1} + \varepsilon_t \quad (9)$$

Where P_t = domestic consumer price index (CPI);
$NEER_t$ = nominal effective exchange rate;
FP_t = import-weighted foreign price index;
(L) = lag operator;
Δ = first difference operator; and
ε_t = error term.

All variables are in logarithmic form. Monthly data for the period 1980-2001 were obtained from various sources. The CPI data came from the National Statistics Office (NSO) and the NEER from the BSP. In the BSP definition, an appreciation of the peso raises the nominal NEER index, while a depreciation reduces it. Thus, $ß_2$ is expected to have a negative sign. FP data were constructed using the CPI of the US, Japan, and Germany, which represented Europe. Weights were derived using the country's imports from the US, Japan, and Europe.

As Choudhri and Hakura suggest, the model above can be augmented by lagged values of money in case of incomplete markets, because the nominal effective exchange rate cannot serve as a perfect measure of the money stock. This is done here using alternatively narrow and broad definitions of monetary aggregates, which are represented by base money and M3, respectively.

The model was estimated for the entire sample period and separately for the two inflation regimes using two, three, and four lags for the right-hand side variables. The Ordinary Least Squares results are presented in Appendix D and summarized in Table 10a for a model that does not include a monetary aggregate; Table 10b for a model that includes the M3; and Table 10c for a model that includes base money. The results confirm expectations. More specifically, the magnitude of estimated long-run ERPT has substantially declined from the CBP period to the BSP period for all the three models with different lag structures. Consider, for example, the first model without a monetary aggregate. Using two lags, the long-run ERPT drops by a large margin—from –0.72 to –0.23. For a model with base money, the ERPT for two

lags declines from –0.39 to –0.15. Increasing the number of lags does not qualitatively change the results.

Table 10a. Exchange Rate pass-through to domestic prices without monetary aggregates dependent variable: CPI

Period	Monthly	Result of Chow Test (F statistic)
A. Lags: 2		
1. Total Sample : 1980–2001	(0.5616)	3.37*
2. CBP Period : 1980–1993	(0.7233)	
3. BSP Period : 1994–2001	(0.2263)	
B. Lags: 3		
1. Total Sample : 1980–2001	(0.5426)	2.55*
2. CBP Period : 1980–1993	(0.7051)	
3. BSP Period : 1994–2001	(0.3145)	
C. Lags: 4		
1. Total Sample : 1980–2001	(0.4899)	2.07**
2. CBP Period : 1980–1993	(0.6442)	
3. BSP Period : 1994–2001	(0.1117)	

* Significant at 1% level
** Significant at 5% level

Table 10b. Exchange Rate pass-through to domestic prices with M3 dependent variable: CPI

Period	Monthly	Result of Chow Test (F statistic)
A. Lags: 2		
1. Total Sample : 1980–2001	(0.6725)	4.60*
2. CBP Period : 1980–1993	(0.7278)	
3. BSP Period : 1994–2001	(0.2123)	
B. Lags: 3		
1. Total Sample : 1980–2001	(0.6808)	3.43*
2. CBP Period : 1980–1993	(0.7331)	
3. BSP Period : 1994–2001	(0.1868)	
C. Lags: 4		
1. Total Sample : 1980–2001	(0.6697)	2.70*
2. CBP Period : 1980–1993	(0.7286)	
3. BSP Period : 1994–2001	(0.1741)	

* Significant at 1% level.

Table 10c. Exchange Rate pass-through to domestic prices with base money dependent variable: CPI

Period	Monthly	Result of Chow Test (F statistic)
A. Lags: 2		
1. Total Sample : 1980–2001	(0.2927)	2.78*
2. CBP Period : 1980–1993	(0.3923)	
3. BSP Period : 1994–2001	(0.1543)	
B. Lags: 3		
1. Total Sample : 1980–2001	(0.2979)	2.10**
2. CBP Period : 1980–1993	(0.3908)	
3. BSP Period : 1994–2001	(0.0985)	
C. Lags: 4		
1. Total Sample : 1980–2001	(0.2461)	1.77**
2. CBP Period : 1980–1993	(0.3049)	
3. BSP Period : 1994–2001	0.0248	

* Significant at 1% level
** Significant at 5% level

The results above are supported by the Chow test results, which show statistically significant differences in the estimated equations of the two inflation regimes, indicating a change in the structural relationship between inflation and the right-hand-side variables.

The substantial drop in the ERPT during the BSP period leads to two important conclusions. First, the hypothesis that the ERPT depends on the inflation regime has been found in the case of the Philippines. Second, the low inflation rate regime would make it easier for the BSP to implement its IT framework. It is therefore important for the BSP to firmly establish its credibility in maintaining price stability in the sense discussed earlier to benefit from a low ERPT.

Monetary Aggregates

By switching to IT, the BSP has already abandoned monetary aggregates as intermediate targets because the information content of monetary aggregates has apparently fallen in recent years (Tetangco and Tuaño-Amador 2002). This paper revisits this issue by investigating the contribution of money to the variance of the forecast error of inflation during the CBP and BSP period. First, a vector autoregression (VAR) model was estimated using the same data and variables as above, namely, inflation rate, monetary aggregate (M3 or base money), nominal effective exchange rate and import-weighted inflation rates of the US, Japan and Europe, with inflation rate ordered first and money growth second. As before, two, three, and four lags were tried. Second, a variance decomposition was performed using 20 periods.

The results of the variance decomposition are shown in Table 11a for the model using base money as the monetary aggregate and Table 11b for the model using the M3. Over the full sample, the contribution of base money to the variance of the forecast error in inflation was quite large—about 40 percent if four lags were used. In contrast, the contribution of the M3 over the full sample was only modest—about 15 percent for all the three lags. However, the contribution of money, however defined, to the variance of the forecast error in inflation has substantially fallen as one goes from the CBP period to the BSP period. And this is true for all the results. For instance, for a model with four lags, the contribution of base money was nearly halved—from 32.6 percent to 18 percent. In the case of the M3, its contribution shrank from 33.8 percent to 21.8 percent.

The results above tend to support the BSP's decision to switch from money targeting to IT.

Tables 11a and 11b also present the contribution of the nominal effective exchange rate to the variance of the forecast error in inflation for the entire sample and two sub-periods. The results show that the contribution of the exchange rate has declined from the CBP period to the BSP period, confirming the results obtained earlier by estimating the ERPT for all the models.

Table 11a. Variance decomposition, monthly using base money

Period	Contribution to CPI (%)	
	Base Money	Nominal Effective Exchange Rate
A. Lags: 2		
1. Total Sample : 1980–2001	35.4811	15.5129
2. CBP Period : 1980–1993	27.2086	26.3712
3. BSP Period : 1994–2001	17.1536	27.8374
B. Lags: 3		
1. Total Sample : 1980–2001	36.6915	15.6660
2. CBP Period : 1980–1993	26.7059	25.8720
3. BSP Period : 1994–2001	17.4076	16.1800
C. Lags: 4		
1. Total Sample : 1980–2001	39.4230	12.5264
2. CBP Period : 1980–1993	32.5895	18.0051
3. BSP Period : 1994–2001	18.4643	9.8236

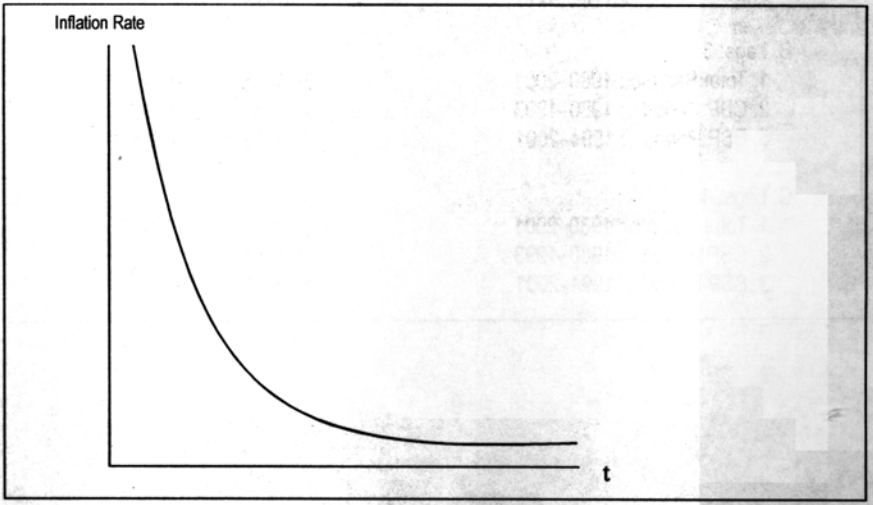
Table 11b. Variance decomposition, monthly using M3

Period	Contribution to CPI (%)	
	M3	Nominal Effective Exchange Rate
A. Lags: 2		
1. Total Sample : 1980–2001	14.6680	5.8743
2. CBP Period : 1980–1993	32.7103	7.4028
3. BSP Period : 1994–2001	26.9177	3.9797
B. Lags: 3		
1. Total Sample : 1980–2001	14.5320	4.8984
2. CBP Period : 1980–1993	35.9652	6.5368
3. BSP Period : 1994–2001	20.1498	2.6191
C. Lags: 4		
1. Total Sample : 1980–2001	14.9132	11.6340
2. CBP Period : 1980–1993	33.7678	14.7543
3. BSP Period : 1994–2001	21.7734	4.8099

Measurement of inflation and liquidity trap

With a credible inflation targeting monetary framework, the trajectory of the inflation rate over time will likely approximate that portrayed in Figure 5a. It is noteworthy that recently, the BSP, in coordination with the DBCC, has already lowered its inflation target from 5.0-6.0 percent for 2002 to 4.5-5.5 percent while it has maintained its inflation target for 2003. The latest monthly inflation figures indicate that the realized inflation rate for 2002 will likely be close to the lower limit of the inflation target.

Figure 5a. Inflation rate trajectory



As the economy becomes accustomed to low and stable inflation rate, more attention should be given to the improvement in the measurement of CPI. This is because a few percentage points matter a lot when inflation rates are low. Error in the measurement of the CPI may lead to inappropriate monetary policy response, which may have large undesirable consequences on the real economy. Improving the measurement of the CPI falls on the shoulders of the NSO, but the BSP will certainly have great interest in it. The era of price stability as measured by the movements of the CPI may also be the right time for the BSP to switch to core inflation targeting instead of headline or CPI-based inflation targeting. Core inflation indices are designed to remove the components of the CPI over which monetary policy has very little or no influence.[45] The BSP has been preparing for this eventuality and in fact has already included in its various reports, including the first *Inflation Report*, several core inflation indices. It has made representations with the National Statistical Coordination Board (NSCB) and NSO for the publication of core inflation indices since the mid-1990s.

The Monetary Board has the power to define prices and can guide the NSO in determining what data to collect and process. Being an independent data-collection agency, the NSO can greatly help the BSP implement IT by publishing statistics on core inflation on a regular basis. Since core inflation indices will likely be less understood by the general public than the CPI, at least initially, and do not include commodity items that matter most to consumers, the switch to core inflation targeting must be preceded by a well-orchestrated information drive, including the NSO's regular publication of such indices, together with the headline inflation index. Ensuring transparency, however, is one thing; making sure published information is well understood and accepted by the general public is another.

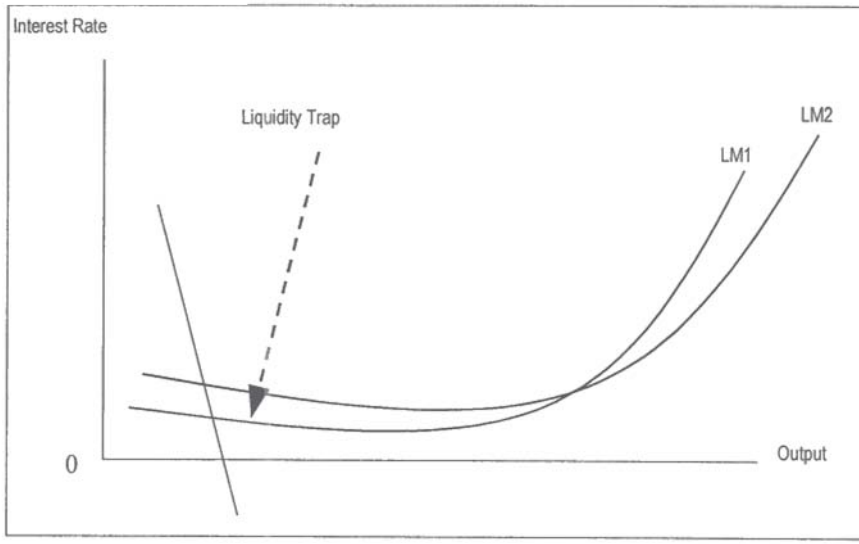
Another issue that the BSP must address when inflation rate declines to much lower levels is the threat of deflation. Recently conducted research on this issue has been inspired by the experience of Japan, which has been undergoing a deflationary condition for several years now. More recently, China has gone through a similar experience. A persistent deflation, as opposed to temporary deflationary situation, can lead the country to a liquidity trap.

Svensson (2000) defines liquidity trap as a situation with zero nominal interest rates, persistent deflation, and persistent deflation expectations. In this situation, bonds and money earn the same real rate of return, and the public will be indifferent to holding bonds or excess money. Monetary policy will then be ineffective as the public just holds the additional money pumped by monetary authorities into

[45] Other IT adopters listed in Appendix C exclude interest-related costs, indirect taxes, and subsidies.

the economy. This is best illustrated by the IS-LM framework shown in Figure 5b.

Figure 5b. Liquidity Trap



The best way to avoid a liquidity trap is to keep inflation and inflation expectations always slightly above zero, which is what IT suggests. The BSP should therefore set the lower bound of the inflation target slightly above zero and watch for developments that could cause inflation and inflation expectations fall below this lower bound. In other words, the BSP should act decisively in a symmetric manner when there is a danger of breaching either bounds of the inflation target. As already mentioned above, when the BSP thought that it was going to break the lower bound of its inflation target for 2002, it revised the inflation target downward instead of acting decisively to prevent it from happening. This is acceptable since inflation is still falling from higher levels. But once inflation settles at the targeted low range, say 2 to 4 percent, the BSP should act symmetrically to upward and downward risks and provide an explanation to the public whenever breaches occur. Monetary policy must be credible to eliminate both inflationary and deflationary expectations.

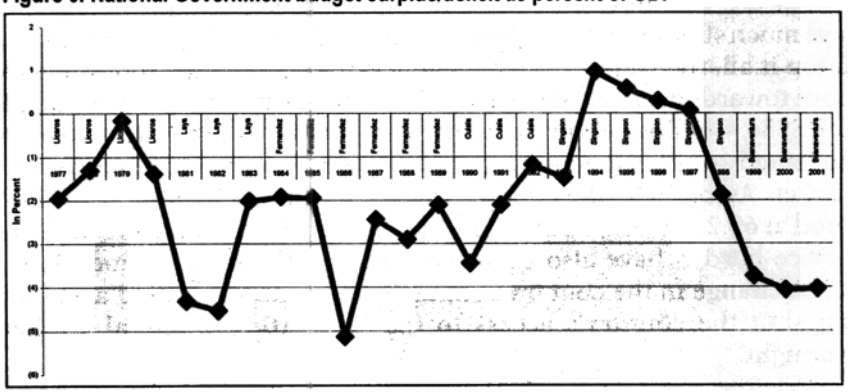
While it is important to discuss ways of avoiding a liquidity trap, it is also important to discuss ways of getting out of the liquidity trap. Here, it is important to have close coordination between fiscal and monetary policies. As Svensson suggests, well-targeted fiscal expansion—such as spending for infrastructure, education, etc., instead of cash transfers or tax cuts—financed by monetary expansion is a good way of bringing the economy out of the liquidity trap. But then, this assumes that the government has not been in a fiscal bind for several years, a topic to be discussed below.

Budget deficit and external debts

It would be interesting to start this particular discussion by posing this question: Between the BSP and the national government (GOP), who has deeper pockets? The BSP earns seigniorage through the sole authority given to it to print money. But as discussed in section 2, there is a limit to it beyond which it causes price instability. The GOP, on the other hand, can use its taxing powers to raise revenue without necessarily causing price instability. It, therefore, has deeper pockets than the BSP. Clearly, the fiscal position of the GOP has large implications on the BSP's ability to achieve its primary objective of price stability. As Walter Bagehot says, "Monetary policy begins at the Treasury."

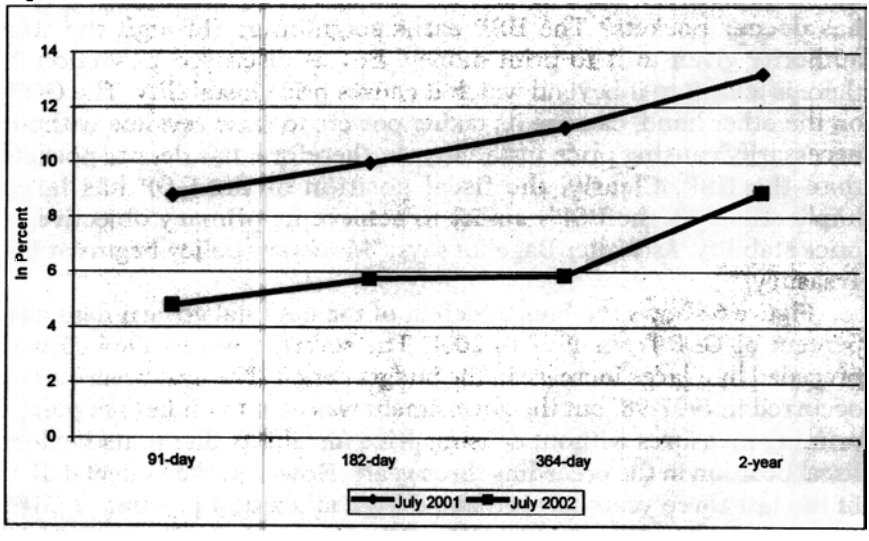
Figure 6 shows the budget deficit of the national government as a percent of GDP from 1977 to 2001. The severe crisis in 1984-85 was preceded by a large increase in the budget deficit. The next severe crisis occurred in 1997-98, but the government was able to undertake pump-priming measures without causing price instability due to its healthy fiscal position in the preceding three years. However, the budget deficit in the last three years has remained high at about 4 percent of GDP. With an outstanding debt-to-GDP ratio already hovering around 65 percent, no one would be comfortable with a budget deficit persistently running high in the next couple of years. It is, therefore, not surprising to see that while the interest rates have gone down in recent months, the yield curve of government securities in the primary market has remained steep, suggesting that inflationary expectations have remained high (Figure 7).[46] A persistently high budget deficit could easily cause the economy to go into a tailspin, transforming the high inflationary expectations into a reality. This only shows how difficult it is for the BSP to lower inflationary expectations when the fiscal position of the national government remains unhealthy.

Figure 6. National Government budget surplus/deficit as percent of GDP



[46] The *BSP Inflation Report* for the first quarter of 2002 showed much steeper yield curve for curve securities in the secondary market.

Figure 7. Yield curve



Given such high budget deficit, the government is currently concerned about two closely related issues. That is, it does not want to pay very high interest on its borrowings and, at the same time, it does not want to crowd out the market. The ideal situation, of course, is to raise revenues to avoid the situation in which the government has to borrow huge sums from the market. However, this has not been forthcoming especially in recent months. To support its planned expenditures and, at the same time, address the two concerns above, the government has resorted to borrowing from the international capital market. Although the interest rates in the international capital market are currently low, these loans are priced at a premium and have much shorter maturity than official development assistance (ODA). To top it all, the country's outstanding external debt has continued to move towards a less ideal position. For instance, it rose by US$1 billion to US$54.4 billion within only the first quarter of 2002. This can be attributed to government borrowings from the international capital market. As of 2001, the ratio of foreign exchange liabilities to GNP stood at 69.2 percent, up from 65.1 percent in 1999. Indicators of debt-service burden have also been rising during the same period (Table 12). A change in the country's rating by international rating agencies can shut the country's access to the international capital market overnight.

Table 12. Selected external debt ratios

Year	1999 r	2000 r	2001 p
Debt Service Burden (DSB) [1]	6319.0	6540.0	6561.0
Ratio to Export Shipments	18.5	17.5	21.0
Ratio to Export of Goods and Services	13.4	13.3	15.7
Ratio to Current Account Receipts	13.2	13.2	15.5
Ratio to Gross National Product	7.9	8.3	8.7
Ratio of Foreign Exchange Liabilities to GNP	65.1	65.9	69.2
Ratio of Gross International Reserves to DSB	237.8	229.7	238.7

Notes:
* Monthly data for these years were based on the concept under the BOP Manual, fifth edition.
[1] Represents principal and interest payments after rescheduling.
r revised
p preliminary

Source: Bangko Sentral ng Pilipinas.

The discussions above merely highlight the fact that the independence of the BSP and adoption of IT are not the economy's silver bullets as it were. Bagehot's comments still hold today. The BSP is in the best position to advice the national government on a tolerable budget deficit and the best means of financing it through various channels, such as the DBCC, of which it is a member. Section 123 of the New Central Bank Act, which spells out the BSP's function as financial advisor of the government, is clear on this matter. To further emphasize the points discussed above, it is worth noting that Brazil, which has accumulated huge public and external debts, is currently experiencing an economic crisis.[47] Yet it was one of the emerging economies that adopted IT and flexible exchange rate policy in 1999.

[47] At the time of the writing of this paper, Brazil just closed a deal with IMF worth US$30 billion.

4
The Future of Central Banking in the Philippines

This section discusses some developments currently sweeping around the world that have far-reaching implications on the future of central banking in the Philippines. These are the trend toward separating 1) monetary and bank supervision functions of central banks, 2) increasing regional economic and financial integration, and 3) the revolution in the payments system brought about by rapid changes in information and communications technology.

Separation of monetary policy and bank supervision functions

As stated earlier, the BSP performs both monetary policy function, which is directed toward price stability; and bank supervision function, which is intended for financial system stability. Both functions have been performed by the country's central bank since the establishment of the first central bank in 1948. In other jurisdictions, central banks that were founded in the nineteenth century or, earlier, took on the supervisory and regulatory function in an evolutionary manner, usually in response to a banking crisis that called for intervention from the central bank (Goodhart 1988). Even the Bank of England, which was founded in 1694, was officially given this mandate only after the banking crisis in 1973-1974. Central banks founded in the twentieth century took different paths, mainly influenced by certain events taking place when they were established. The US Federal Reserve System, for example, has had both monetary and bank supervision functions since its establishment, but the latter was given more weight initially to avoid the same banking crisis that hit the country in the 1800s and 1990s (Greenspan 1998). In the case of Germany, the Bundesbank, because of hyperinflation experienced by the country in the 1920s, was not given the responsibility for prudential supervision so that it could focus on price stability (Lastra 1996).

In the last 10 years, however, there has been a lively debate among economists and practitioners regarding the issue of keeping both

functions under one roof or lodging them in different institutions.[48] The decision recently made by several countries to transfer bank supervision from the central bank to another authority has further intensified the debates. The basic question, which Duquesne (1997) rightly puts, is: "Is it preferable, for the effectiveness of monetary policy and banking supervision, that the institutions responsible for monetary policy and banking supervision be independent or come from under the same joint authority, even be one and the same institution?"

Although the debates have touched on several issues, they can be narrowed down to three major ones, namely, conflict of interest, information sharing, and the blurring of distinction among financial institutions as a result of financial market deregulation and liberalization.

Conflict of interest

Many say conflict of interest could arise when the central bank performs both monetary and bank supervision functions. As Duquesne (1997) points out, "the existence of such conflict can be explained by the fact that monetary policy is supposed to have a countercyclical effect, whereas banking supervision policy has procyclical effects." In countries where the banking system is weak (as evidenced by low capitalization, high nonperforming loans, significant maturity and currency mismatch, etc.), central banks will likely be reluctant to raise interest rates to stabilize prices for fear of hurting several banks. This can undermine the credibility of monetary policy.

Erroneous monetary policy can hurt millions of people and even make the poor a lot poorer. However, since monetary policy affects the economy with a lag, error in making monetary policy today may not attract the attention of the general public. Sometimes, academics and other analysts can detect such mistakes early on and act by warning the public accordingly. Central banks' usual reaction in this kind of situation is to call them "ivory-tower" individuals, who are out of touch with reality. However they are called, academics are not inclined to sue the governor or the entire Monetary Board even if public welfare is at risk. When a crisis finally occurs as a result of erroneous monetary policy made one or two years ago, those adversely affected, especially the poor, do not go to court to sue either the governor or the entire Monetary Board for their action. This is not the case, however, when the central bank decides to close an ailing bank. Even if this decision is reasonable and can adversely affect only a few people, it can instantly attract the attention of the media as well as the general public. When this kind of situation happens, decisions of the central bank could suffer as a result.

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[48] For example, see Goodhart and Schoenmaker (1993, 1995), Goodhart (2000), Duquesne (1997), Briault (1999), Hawkesby (2000), and Quintyn and Taylor (2002).

Further, whether the ailing bank is weakened by fraud, mismanagement, or prolonged recession, bank owners will likely resist the closure and exhaust all means, including legal, to reverse the decision made by the central bank. The resulting lawsuits can hamper the conduct of monetary policy by the governor, the members of the Monetary Board, and the central bank senior staff. This problem can be avoided by incorporating into the law, such as what the BSP has proposed, immunity of the central bank's Monetary Board and personnel from any potential lawsuit for acts committed in the performance of their duties.

Proponents of combined functions for the central bank view the situation differently. They argue that monetary policy and financial system stability are inseparable. Thus, the central bank should always take into account the health of the banking system in its pursuit of price stability, especially since the latter plays an important part in the transmission of monetary policy.[49] Any misjudgment of the effects of monetary policy on the banking system can have an incalculable, negative impact on the economy. This view has gained many adherents, especially in the wake of the East Asian financial crisis.[50]

In their study of bank failures, Goodhart and Schoenmaker (1995) find that countries that combined both monetary policy and bank supervision functions had fewer bank failures in the 1980s and early 1990s than those that did otherwise.[51] Still, others were quick to point out that this could be the result of an overly protective monetary policy, a clear proof of conflict of interest.

Information sharing

Information is key to better policy formulation. The central bank, -both as a monetary policymaker and a bank supervisor, needs reliable and fresh, if not real-time, information about the economy in general and the financial system in particular. A central bank that has a lender of last resort (LOLR) facility needs reliable and timely information from its bank supervisors, since it has to sort out liquidity from the solvency problem of a requesting bank and distinguish a local run on deposits from a systemic one in so short a time. Information flow is not only one way. If the central bank also manages the payment system, then it can acquire information in the process of settling balances among banks that are important for its supervisory function. Goodhart (2000) asks, "Would not the transmission of information be most enhanced by locating the banking supervisors within—or under the umbrella of—the Central Bank?"

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[49] This has the backing of those who emphasize the credit view in the transmission process.

[50] For example, see Yoshitomi and Ohno (1999).

[51] Some countries have had separate agencies performing monetary and bank supervision functions even before the 1980s.

Roger Ferguson, Jr., a member of the US Federal Reserve Board, shares his insights on this issue:[52]

> The intelligence and know-how that come from our examination and regulatory responsibilities play an important—at times, critical—role in our monetary policy making. No less relevant, our economic stabilization responsibilities contribute to our supervisory policies.

Given the issue of conflict of interest discussed above, some have suggested to have two separate bodies, but that they should closely coordinate each other, especially in matters pertaining to information that is vital to making policy decisions. The internationalization of the financial system (i.e., presence of a large number of foreign banks) presents another case of strong coordination not only within these institutions but also with the home country's bank supervisors. A memorandum of agreement between the two institutions will be a good instrument for such coordination. However, having two separate bodies with equal legal status, governed by two individuals with possibly very different appreciation of each other's responsibilities and temperament can considerably slow down the flow of information. In such situation, even forging a memorandum of agreement to hasten the flow of information between the two bodies will be less optimal than putting the two functions together under one institution.

A more basic issue, however, is whether indeed information gathered by the central bank in the course of supervising banks will be useful for its conduct of monetary policy. On this, Allan Blinder, former vice-chairman of the same board, has a different view from his former colleague:[53]

> Throughout, the Fed has steadfastly insisted that the information it routinely receives in its supervisory role, is vital to the performance of its monetary-policy duties. Is it true? My personal view is that the Fed has taken a grain of truth and greatly exaggerated its importance. Proprietary information that the central bank receives in bank examinations is of some, limited use in formulating monetary policy—and is on rare occasions very important. So, on balance, it is probably better to have it than not. On the other hand, a bank supervisor may sometimes have to be a protector of banks and sometimes a stern disciplinarian—and either stance may conflict with monetary policy.

Among the key indicators monitored by the BSP in implementing IT, almost all are made available to the general public and to the BSP at the same time.

[52] See Ferguson (2000).
[53] See Blinder (1999).

Blurring of distinction among financial institutions

Most countries took to heart the US Glass-Steagall Act by delineating in their own backyard financial institutions by functions and disallowing them from crossing the boundaries. The last 20 years, however, saw these boundaries gradually breaking down as many countries started to deregulate their financial systems to improve efficiency and provide customers with better services. In the Philippines, universal banking system was introduced in 1981, although some of the old barriers are still retained, especially for small financial institutions.

Recent mergers and consolidations and the blurring of distinction among different types of financial institutions have posed new challenges to central banks as bank supervisors. The trend toward a consolidated approach to supervision has now extended the sphere of the central banks' supervision function. They are now looking at risks that emanate not only from the banks' traditional activities but also from the new ones (e.g., derivatives), including those previously exclusively performed by nonbank financial institutions (e.g., insurance, securities).

The blurring of distinction among financial institutions raises three issues. One is, Should supervision of different financial institutions be performed by separate, highly specialized supervisory bodies, or should it be performed by a single institution? This paper does not explore in detail this issue since another paper has dealt with it more exhaustively.[54] Suffice it to say that apart from being the fad nowadays, there seems to be a strong reason for consolidating supervision of all financial institutions under one supervisory agency. The second issue is whether it is beneficial for the country to make the central bank the sole bank supervisory body aside from being the sole authority on monetary policy? Again, the answer to this question has something to do with the conflict of interest discussed above, which can become more acute when the central bank has to supervise all financial institutions. But apart from it, the efficiency of the central bank to perform both functions can be raised. In the case of the Philippines, the regulatory powers of the BSP over the operations of finance corporations and other institutions performing similar functions were phased out under the New Central Bank Act so that it can devote its time to supervising deposit-taking institutions and to conducting monetary policy.

The third issue has to do with political factors. An independent central bank responsible for monetary policy only already makes that institution a powerful one. Making it also the sole supervisory body for all financial institutions can further increase its powers. More

[54] See Milo (2002).

specifically, it will have both the powers to create and destroy money and to grant and revoke licenses of financial institutions. Of the two, the latter gives the central bank coercive power of the state against private citizens. This power is no match to the powers given to a separate, independent central bank that does only monetary policy function (Quintyn and Taylor 2002). Democratic societies will be more cautious about building institutions with highly concentrated power. Thus, if there is indeed a strong economic reason for having a single supervisory body for all financial institutions, it is likely that it will be established as an agency separate from the central bank. As Goodhart (2000) noted, this could perhaps be the overriding reason why those countries that shifted to a unified supervision of all financial institutions established a separate, independent authority.

Notwithstanding the continuing debates on the advantages and disadvantages of separating monetary and financial supervision functions under different roofs, several countries have nonetheless separated the two functions. These include the UK, Australia, Japan, and Korea. Table 13 gives a partial list of economies classified according to the location of monetary and bank supervision functions. Both Group A (where both monetary and bank supervision functions are lodged with the central bank) and Group B (where bank supervision function is lodged in a separate institution) include developed and developing economies. In recent years, several countries have shifted from Group A to Group B and none in the opposite direction. This trend will likely continue as several countries are currently studying the merits of putting all financial institutions under one supervisory body independent of the central bank.

Table 13. Location of Monetary Policy and Bank Supervision functions

A.	Economies where central banking and bank supervision functions are lodged with the central bank:		
1.	Brazil	16.	Poland
2.	Czech Republic	17.	Portugal
3.	Gambia	18.	Saudi Arabia
4.	Ghana	19.	Singapore
5.	Greece	20.	South Africa
6.	Guatemala	21.	Spain
7.	Hong Kong	22.	United States (supervision is shared with OCC, FDIC, and State governments)
8.	India		
9.	Italy		
10.	Kazakhstan		
11.	Luxembourg		
12.	Malaysia		
13.	Netherlands		
14.	New Zealand		
15.	Philippines		

Table 13. (cont'd.)

B. Economies where bank supervision lies with the Ministry of Finance
1. Austria
C. Economies where bank supervision is a separate agency
1. Australia
2. Belgium
3. Bolivia
4. Canada
5. Chile
6. Colombia
7. Costa Rica
8. France
9. Germany
10. Honduras
11. Hungary
12. Japan
13. Korea
14. Latvia
15. Mexico
16. Norway
17. Peru
18. Sweden
19. Switzerland
20. United Kingdom
D. Countries with other types of institutional arrangements
1. Finland
2. Thailand

Sources: Quintyn and Taylor (2002); Goodhart and Schoenmaker (1995); and from personal interviews with key informants.

Increasing regional economic and financial integration

The last 20 years have witnessed increasing economic integration among countries that have substantially liberalized their economies. Regional groupings of countries have even gone faster than the rest of the world by establishing free trade zones. In January 2002, 11 European countries (or Euroland for short) have gone much farther than others by doing away with their national currencies in exchange for a common currency, the euro, and surrendering monetary sovereignty to a supranational central bank. However, bank supervision remains with the national bank supervisors in accordance with the principle of subsidiarity.

Intraregional trade and investment in Asia have increased significantly, especially in the 1990s. The development in the Euroland has sparked some interest in East Asia in forging a much closer monetary cooperation, including the possibility of having a common currency in the region. More specifically, ASEAN countries raised in their 1998 Hanoi Plan of Action the need to study the feasibility of establishing an ASEAN currency and exchange rate system. Several studies show that East Asia has largely satisfied the economic criteria for an optimum currency area. However, Lamberte et al. (2001) point out that the region still has a long way to go in forming an arrangement similar to that of Euroland. It must hurdle several stumbling blocks, such as the wide disparities in economic development among East Asian countries, differences in political systems, and contemporary rivalries in the region. Above all, East Asia still has to muster enough political will to pursue deeper economic integration.

In spite of this, East Asia has already started to develop, albeit in a modest way, some regional financial arrangements that can serve as a springboard for closer monetary cooperation in the future. Right after the Mexican crisis, the Hong Kong Monetary Authority and the central banks in Australia, Malaysia, Indonesia, and Thailand completed a repurchase agreement in which central banks can borrow dollars from one another to deal with unwarranted movement of the exchange rates. The Philippines, Singapore, and Japan later joined them. For its part, the ASEAN decided to intensify financial cooperation right after the 1997 regional financial crisis. Thus, it has established the ASEAN Surveillance Process, which aims to maintain regional macroeconomic and financial stability. Recently, ASEAN, Japan, China, and the Republic of Korea (so-called ASEAN + 3) agreed to strengthen further the existing ASEAN swap arrangement under the Chiang Mai Initiative. This new arrangement has expanded the ASEAN swap arrangement to include all ASEAN member countries and a network of bilateral swap arrangements among ASEAN, China, Japan, and Korea. This has already been implemented and some ASEAN member countries, including the Philippines have already completed negotiations with some ASEAN member countries, Japan, China, and Korea.

These initiatives merely demonstrate that East Asia can enter into a cooperative arrangement that would benefit them. The irreversibility of the economic integration process in East Asia and the establishment of regional economic and monetary cooperation in other parts of the world can certainly put additional pressure on East Asia to forge a closer regional monetary integration. While a common currency for East Asia is not feasible within the next 10 years, it might be so 20 or 30 years from now.[55] If it happens, then East Asian countries must be

[55] It took the 11 European countries more than 40 years, plus a strong political will, to arrive at where they are now

prepared to surrender their monetary sovereignty to a supranational central bank for a better coordination of monetary policy.

Revolution in the payments system

The rapid advances in information and communications technology, the liberalization of financial markets, and the phenomenal growth of e-commerce have significantly changed the payments systems in industrialized countries, which in recent years have spilled over into developing countries. Most central banks around the world, including the Philippines and other developing economies, are now moving toward a real-time gross settlement system (RTGS) to improve efficiency and reduce risks in their payments systems.

A new type of payment instrument, called electronic money (e-money for short), is gaining headway in industrialized countries and a few emerging market economies.[56] Some of them are introduced by large, reputable nonfinancial entities. The growing use of e-money poses serious threats to the survival of central banks (Blinder 1999).[57] First, it can undermine the monopoly of central banks over the issuance of the medium of exchange, an important source of revenue, especially for developing economies. In the case of the Philippines, the seigniorage realized by the BSP, which was calculated using two alternative methodologies, has been quite large (Table 14). It earned on average equivalent to 0.8 percent of GDP during the period 1994-2001 (assuming method 2 was used) and 1.27 percent (if method 1 was used). In 2001 alone, the BSP earned roughly PhP24 billion from money creation using method 2 and PhP39 billion using Method 1. Indeed, the large potential for earning money by making money provides a strong incentive to both banks and nonbank institutions operating in the country to promote their e-money products, such as those that are rapidly gaining acceptance in industrialized economies. The widespread use of e-money can significantly reduce, if not entirely eliminate, the BSP's revenue from money creation. In this kind of situation, the BSP will have no other recourse but to ask for annual appropriations from Congress. The BSP's loss of budgetary independence can seriously undermine its independence, an important ingredient in a successful implementation of its IT framework.

Second, if e-money becomes widely used for settlement, banks will no longer find any use for holding reserves at the central bank for settlement purposes. They will certainly exploit this opportunity to avoid the cost of holding reserves in the central bank. Interestingly, there are new e-money products that allow direct settlement between transacting parties without passing through the banking system. In

[56] See Lamberte (2002) for a review of payments systems in industrialized countries and the Philippines.
[57] See also Freedman (2000), Friedman (2000) and Goodhart (2000).

the absence of bank reserves, the central bank will lose its influence on short-term interest rates—a key variable in the transmission of monetary policy. Central banks have yet to learn how to survive and maintain the effectiveness of its monetary policy in this new environment. Research on this issue has just begun, and already two opposing camps are emerging. One camp (Freedman 2000, Goodhart 2000, Henckel et al. 1999, and Woodford 2000) espouses the view that central banks can still influence short-term interest rates even if money creation and settlement of interbank balances are completely in private hands. Still, it has to change how it implements monetary policy. The other camp (Friedman 2000 and King 1995) argues that the central bank's intention must be backed up by the ability to create reserves, which can be used for settlement of interbank balances and are closely linked with the demand for base money. Without that, the central bank should cease to exist.

Table 14. Revenue from money creation (seigniorage) as percent of GDP, 1994-2001

Year	Method 1	Method 2
1994	1.20	0.94
1995	1.75	0.83
1996	1.51	0.95
1997	1.74	0.64
1998	0.45	1.11
1999	1.38	0.70
2000	1.04	0.47
2001	1.08	0.66
Average	1.27	0.80

Note:

Method 1: Seigniorage = $(M_t - M_{t-1}) / GDP_t$

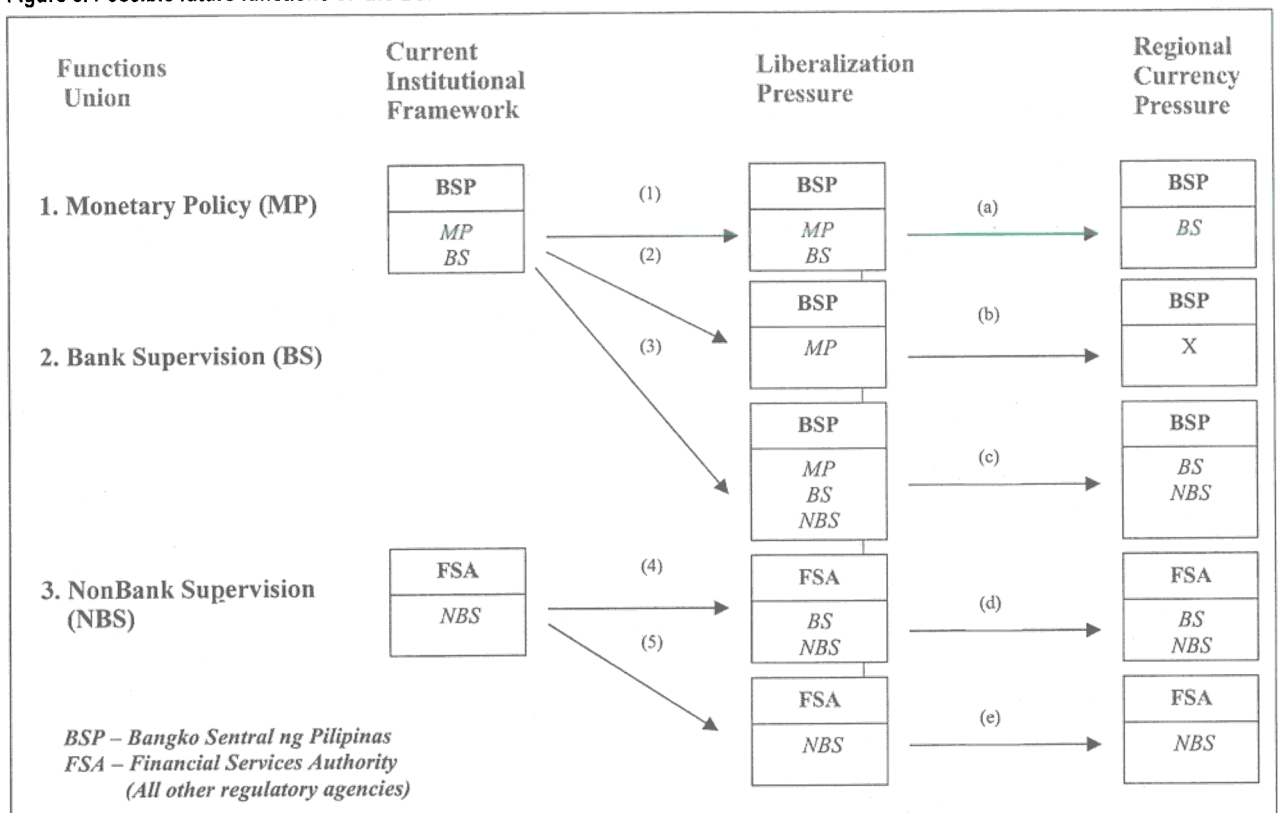
Method 2: Seigniorage = $\pi_t (M_{t-1} / GDP_t)$

where:

M_t = base money, current period
M_{t-1} = base money, previous period
GDP_t = gross domestic product, nominal
π_t = inflation rate

Source of basic data: Bangko Sentral ng Pilipinas

Figure 8. Possible future functions of the BSP



Lamberte (2002) observes that e-money products circulating in industrialized countries have recently been introduced in the Philippines, albeit the level of diffusion is still small. However, the wonder of innovations is that once they are found to be economically efficient and affordable to the majority of the people, they spread like wildfire. Computers and mobile phones are clear examples. Thus 25 years from now, the country's central bank will either be completely different from what it is today, or cease to exist at all.

In view of the foregoing discussions, what would be the likely trajectory of the country's central bank in the next 25 years? Figure 8 presents various scenarios. Presently, the BSP performs both monetary policy and bank supervision functions, while other regulatory agencies, such as the Insurance Commission and Securities and Exchange Commission, which are lumped here together under Financial Services Authority (FSA) for convenience, are responsible for regulating and supervising other nonbank financial institutions without quasibanking functions. This institutional framework may remain for some years, which is the case indicated by both (1) and (5). It definitely requires much stronger coordination among regulatory and supervisory agencies than what they have now in view of the blurring of distinction among financial institutions. However, there are other possible scenarios. With the blurring of distinction among financial institutions, the country might find it worthwhile to have one institution responsible for regulating and supervising all financial institutions. One possible scenario is to assign such function to the BSP in addition to its monetary policy function, which is the case indicated by (3). This will make the BSP a very powerful independent institution in the country. Another possible scenario is to establish an independent agency which will be responsible for regulating and supervising all financial institutions (4), while the BSP limits itself to monetary policy function (2). This will eliminate conflict of interest and both institutions can focus on their primary functions while maintaining close coordination.

The adoption of a regional currency union in East Asia can further change the trajectory of the BSP. In this situation, the regional central bank conducts monetary policy while the national financial supervisory agency(ies) continue to regulate and supervise domestic financial institutions following regionally accepted prudential regulations. Without a monetary policy function, the BSP could continue regulating and supervising banks (a), while other agencies take charge of other nonbank financial institutions (e). Again, strong coordination is required among these regulatory agencies. If supervision of all financial institutions were to be lodged under one roof, then the BSP could take that function (c). Another possible scenario is when the FSA assumes such a function (d). In this case the BSP should ease to exist (b). Any trajectory taken by the BSP in the future that is different from the status quo would certainly require an amendment to section 20 of the Philippine Constitution.

5
Summary and Conclusion

The country's central bank has a profound impact on the lives of all residents in the country. This paper has attempted to put some policy issues on central banking in the country in certain perspectives so that policy debates on these issues can proceed with greater focus. More specifically, it examined central banking in the Philippines from three perspectives—past, present, and future. First, it has taken a fresh look at central banking in the Philippines in the last 25 years. This period, which covers five administrations and six central bank governors, is the most turbulent one in the history of central banking in the Philippines. Second, the paper has examined how the BSP currently conducts monetary policy, highlighting its shift to inflation targeting as its monetary policy framework and the issues it must confront to attain success. Third, it has discussed the future of central banking in the Philippines, based on three major trends that are currently sweeping the world, namely, the separation of bank supervision function from monetary policy function of central banks, increasing regional economic and financial integration, and the revolution in the payments system brought about by rapid changes in information and communications technology.

The original Central Bank Act was passed in 1948 and was substantially amended in 1972, that is, 23 years later, to keep pace with the changes in the economy in general and the financial system in particular. In the 1980s, the CBP encountered severe difficulty in conducting monetary policy due to the continuous accumulation of loss-making assets. One important lesson that can be learned from this experience is that a central bank can reach a point of insolvency where it can continue to service its liabilities only through accelerating inflation that can have a debilitating effect on the economy. Thus, in 1993, or roughly 21 years after the original charter of the Central Bank was substantially amended, a new law was passed creating a new, independent central bank. The debates that took place in Congress clearly showed what the public wanted from the country's new

independent central bank; that is, price stability should be its primary objective and that it should be transparent and accountable to the public. Price stability, as defined by Congress, refers to low and less variable inflation rate. The reforms have already yielded some dividends in terms of low and less variable inflation rate during the BSP period, i.e., 1994-2001, compared to the CBP period, i.e., 1977-1993.

In January 2002, the BSP adopted inflation targeting (IT) as its monetary framework. In BSP's assessment, the country had already met most of the essential requirements for the successful adoption of IT. Congress' definition of price stability provides the BSP with a guide on what operational variable to target. The New Central Bank Act and records of Congressional debates seem to suggest that legislators want the BSP to pursue "flexible" inflation targeting, not "strict" inflation targeting. In other words, the Monetary Board may consider other economic objectives but it should always put a large weight to its primary objective of price stability. This is important as guides the BSP in determining its response to any deviation of its inflation forecasts from the inflation target.

The IT monetary framework calls for a more flexible exchange rate policy. However, the exchange rate plays an important role in the monetary transmission process. A country with high exchange rate pass-through (ERPT) will find it difficult to implement IT. Recent studies, however, showed that the ERPT may be endogenous to a country's performance in stabilizing domestic prices. This paper found empirical support to this view. More specifically, the estimated ERPT during the BSP period was significantly lower than that during the CBP period. Such decline could be attributed to the country's switch to a low inflation regime in recent years. This is a boon to the BSP's IT.

Another key result that emerged from the variance decomposition analysis is the substantial decline in the information content of monetary aggregates during the BSP period. This further boosts the BSP's decision to switch from money targeting to IT.

As the inflation rate stabilizes at low levels, improvement in measuring the consumer price index becomes more urgent. This may also be the right time to switch from headline inflation to core inflation as the operating target variable. Since core inflation indices will likely be less understood by the general public than the CPI, at least initially, and do not include commodity items that matter most to consumers, the switch to core inflation targeting must be preceded by a well orchestrated information drive, including the NSO's regular publication of such indices together with the headline inflation index. The BSP should also take deviation from the inflation ttarget symmetrically and avoid falling into a liquidity trap that would render monetary policy ineffective.

It should be noted that the BSP's independence and IT monetary framework are not the economy's silver bullets as it were. Brazil is currently encountering an economic crisis despite its adoption of ~~the~~ IT and flexible exchange rate as early as 1999. Persistently high budget deficit and huge external debts can easily destabilize the economy and ultimately undermine the effectiveness of the BSP's monetary policy. These problems have recently emerged in the country, and the BSP cannot just sit idly without giving advice to the government. Section 123 of the New Central Bank Act, which spells out the BSP's function as financial advisor to the government, is clear on this matter.

Looking ahead, the future of central banking in the country is less certain. There is now a move toward putting all financial institutions under one regulatory body due to the blurring of distinction among financial institutions brought about by liberalization. Giving that responsibility to the BSP will lead to the creation an independent institution with highly concentrated power, which the general public may not accept. Moreover, conflict of interest when the BSP performs both monetary policy and financial supervision functions will likely become more acute, making it hard to function efficiently and effectively. Thus, it is more likely that such responsibility, in case the country decides to adopt one supervisory body for all institutions, will be lodged under a separate agency. This move will be in line with what other countries have recently done. This will even be better for the BSP because it can focus its attention to the conduct of monetary policy. But given the importance of a stable financial system to the effectiveness of the BSP's monetary policy, it has to work very closely with the financial supervisory body.

The revolution in the payments system, particularly the potential widespread use of e-money, presents the BSP with at least two challenges. One, it can undermine the monopoly power of the BSP over the issuance of the medium of exchange, which has been its important source of revenue. Without budgetary independence, the BSP may lose its independence in conducting monetary policy. The other is that if e-money products that allow direct settlement between transacting parties without passing through the banking system become more widely used, then reserves at the BSP will shrink considerably, if not totally disappear. In the absence of bank reserves, the central bank will lose its influence on short-term interest rate—a key variable in the transmission of monetary policy. This will not happen in the near term, but situations could change 25 years from now. The BSP and other central banks around the world have yet to learn how to survive and maintain the effectiveness of its monetary policy in this new environment. Thus, the next few years will be an opportune time to discuss this issue.

Increasing regional economic and financial integration threatens the survival of the BSP. Although East Asia is still far from

matching the feat recently accomplished by 11 European countries, it has already started to develop some financial arrangements that can serve as a springboard for closer monetary cooperation in the future. A common currency for East Asia is certainly not feasible within the next 10 years but it might be so 20 or 30 years from now. If it happens, then East Asian countries must be prepared to surrender their monetary policy function to a supranational central bank. The BSP may remain as a supervisory body either of deposit-taking financial institutions only or of all financial institutions. Without this residual function, the BSP will have no more reason for its existence. But this will not necessarily be bad for the economy.

Appendix Table A. Members of the Monetary Board 1977 - 2002

Name	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
Gregorio S. Licaros	*	*	*	*																						
Cesar E. A. Virata	*	*	*	*	*	*	*	*	*																	
Gerardo P. Sicat	*	*	*	*																						
Vicente T. Paterno	*	*																								
Cesar C. Zalamea	*	*	*	*																						
Robert V. Ongpin			*	*	*	*	*	*	*																	
Jaime C. Laya					*	*	*																			
Placido Mapa, Jr.					*																					
Cesar A. Buenaventura					*	*	*	*	*	*																
Jose B. Fernandez, Jr.								*	*	*	*	*	*													
Vicente B. Valdepeñas, Jr.							*	*	*												*	*	*	*	*	*
Jaime V. Ongpin										*																
Guillermo N. Carague										*	*	*	*	*	*	*	*	*	*	*	*	*				
Jose S. Concepcion, Jr.										*	*	*	*													
Solita C. Monsod										*	*	*														
Jesus V. Ayala										*	*	*	*	*	*	*										
Vicente R. Jayme											*	*														
Luis F. Lorenzo											*	*	*	*	*											
Jose L. Cuisia, Jr.														*	*	*										
Jesus P. Estanislao													*	*	*	*										
Cayetano W. Paderanga, Jr.													*	*	*	*	*	*	*	*	*	*				
Peter D. Garrucho, Jr.														*	*	*										
Salvador M. Enriquez [a]																*										
Lilia R. Bautista [b]																*										
Renato L. Paras [c]																*										
Ramon R. Del Rosario, Jr. [d]																*										
Rizalino S. Navarro [e]																*	*	*	*	*						
Cielito F. Habito [f]																*										
Jose T. Pardo [g]																*						*	*	*		

Appendix Table A. (cont'd.)

Name	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02
Gabriel C. Singson																	*	*	*	*	*	*				
Manuel L. Morales																	*	*	*							
Aurelio Periquet, Jr.																	*	*	*	*	*					
Iñigo B. Regalado, Jr.																	*	*	*							
Cesar B. Bautista																				*	*					
Teodoro B. Montecillo																				*	*	*	*	*	*	*
Andre Navato																						*				
Rafael B. Buenaventura																							*	*	*	*
Juan G. Quintos, Jr.																							*	*	*	*
Antonino L. Alindogan, Jr.																							*	*	*	*
Melito S. Salazar, Jr.																							*	*	*	*
Manuel A. Roxas II [h]																								*	*	*

[a] assumed position June 30, 1992, vice Guillermo N. Caragüe
[b] assumed position February 21, 1992, vice Peter D. Garrucho, Jr.
[c] assumed position February 12, 1992, vice Jesus V. Ayala
[d] assumed position June 30, 1992, vice Jesus P. Estanislao
[e] assumed position June 30, 1992, vice Lilia R. Bautista
[f] assumed position June 30, 1992, vice Cayetano W. Paderanga, Jr.
[g] assumed position September 23, 1992
[h] replaced Jose T. Pardo on 2000
Source: CBP / BSP Annual Reports (various years).

Appendix Table B. Philippine history of IMF borrowing arrangements (US$)

FacilityDate of	Date of Arrangement	Amount Expiration or Cancellation	Amount Drawn Agreed	Amount	Outstanding
SBA (ordinary)	1 April 1998	31 December 2000	1,020,790,000	783,230,000	783,230,000
EFF (ordinary)	24 June 1994	31 March 1998	791,200,000	791,200,000	775,991,665
SBA (ordinary)	20 February 1991	31 March 1993	334,200,000	334,200,000	0
EFF (EAR)	23 May 1989	19 February 1991	142,585,833	0	0
EFF (ordinary)	23 May 1989	19 February 1991	518,014,167	235,920,000	0
SBA (EAR)	24 October 1986	23 August 1988	131,166,667	131,166,667	0
SBA (ordinary)	24 October 1986	23 August 1988	66,833,333	66,833,333	0
SBA (EAR)	14 December 1984	13 June 1986	307,500,000	201,500,000	0
SBA (ordinary)	14 December 1984	13 June 1986	307,500,000	201,500,000	0
		Total	**3,619,790,000**	**2,745,550,000**	**1,559,221,665**

Source: International Monetary Fund website (www.imf.org).

Appendix Table C. Implementation and design of inflation targeting in 19 countries

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Australia	Sep. 1994	Core CPI	2-3%	Over one business cycle	None	None	Jointly by the governor and CB	Pub. of inflation report. Pub. of inflation projections (2-year point estimate)
Brazil	Jun. 1999	Headline CPI	1999: 8% (± 2%) 2000: 6% (± 2%) 2001: 4% (± 2%)	1 year	None	Issuance of open letter to Minister of Finance explaining target breach and measures taken (and the time required) to bring inflation within the target	Governor in consultation with CB	Pub. of inflation report. Pub. of inflation projections (2-year fan chart). Pub. of extract of Board meetings. Pub. of models used for inflation outlook.
Canada	Feb. 1991	Core CPI (excl. food, energy, and indirect taxes)	1991: 3-5% 1992: 2-4% Jun. 94: 1.5-3.5% 1995-2001: 1-3%	1991: 22 months Since 1992: multi-year	Revision of target path under exceptional circumstances (ex. major oil price shock, natural disaster)	Public explanation	Jointly by the governor and CB	Pub. of monetary policy report. Pub. of inflation projections (1-year point estimate)

Appendix Table C. (cont'd.)

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Chile	Jan. 1991	Headline CPI	1991: 15-20% 1992: 13-16% 1993: 10-12% 1994: 9-11% 1995: ± 8% 1996: ± 6.5% 1997: ± 5.5% 1998: ± 4.5% 1999: ± 4.3% 2000: ± 3.5% 2001 onwards: 2-4%	1991-2000: 1 year 2001 onwards: indefinite	None	None	CB in consultation with the Governor	Pub. of inflation report (2000) Pub. of minutes of monetary policy meetings. Publication of inflation projections (2-year fan chart)
Colombia	Sep. 1999	Headline CPI	1999: 15% 2000: 10% 2001: 8% 2002: 6%	1 year	None	None	Jointly by Gov and CB	Pub. of inflation report
Czech Republic	Jan. 1998	Core CPI (excl. regulated prices and indirect taxes)	1998: 5.5-6.5% 1999: 4-5% 2000: 3-5.5% 2001: 2-4%	1 year	Natural disasters, global raw material price shocks, exchange rate shocks unrelated to domestic economic fundamentals and monetary policy, and agricultural production shocks	None	CB	Pub. of inflation report (1998) Pub. of minutes of monetary policy meetings. Pub. of inflation projections (1-year range)

Appendix Table C. (cont'd.)

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Finland	Feb. 1993 to Jun. 1998	Core CPI (excl. indirect taxes, subsidies, housing prices, and mortgage interest)	Annual average of 2% by 1995	Until 1995: multi-year Since 1996: indefinite	None	None	CB	None
Israel	Jan. 1992	Headline CPI	1992: 14-15% 1993: 10% 1994: 8% 1995: 8-11% 1996: 8-10% 1997: 7-10% 1998: 7-10% 1999: 4% 2000: 3-4% 2001: 3-4%	1 year	None	Public explanation of deviation of inflation forecast from target in excess of 1%	Governor in consultation with CB	Pub. of inflation report (1998)
Korea, Rep.	Jan. 1998		1998: 9% (± 1%) 1999: 3% (± 1%) 2000: 2.5% (± 1%) 2001 onwards: 2.5%	1998-2000: 1 year 2001 onwards: indefinite	None (before 2000: changes caused by major forces)	None	Governor in consultation with CB	Pub. of inflation report and submission to Parliament. Monthly announcement of monetary policy direction. Pub. of minutes of monetary policy meetings.

Appendix Table C. (cont'd.)

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Mexico	Jan. 1999	Headline CPI	1999: 13% 2000: <10% 2001: 6.5% 2002: 4.5% 2003: similar to trade partners inflation (3%)	1998-2002: 1 year 2002 onwards: indefinite	None	None	CB	Pub. of inflation report (2000)
New Zealand	Mar. 1990	Headline CPI (Since 1999, headline CPI has excluded interest charges; prior to then, targets where defined in terms of the headline CPI, less interest charges and other first-round effect (of?) prices	1990: 3-5% 1991: 2.5-4.5% 1992: 1.5-3.5% 1993-1996: 0-2% Since 1997: 0-3%	1990-1992: 1 year 1993-1996: multi-year Since 1997: indefinite	Unusual events, provided they do not cause general inflationary pressures	Public explanation of target breach and measures taken (and the time required) to bring inflation within the target. Minister of Finance may ask for resignation of RBNZ Governor	Jointly by Gov and CB Pub. of inflation	Pub. of inflation report (1990) projections

Appendix Table C. (cont'd.)

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Peru	Jan. 1994	Headline CPI	1994: 15-20% 1995: 9-11% 1996: 9.5-11.5% 1997: 8-10% 1998: 7.5-9% 1999: 5-6% 2000: 3.5-4% 2001: 2.5-3.5% 2002: 1.5-2.5% 2003: 1.5-2.5%	1 year	None	None	CB in consultation with the governor	None
Poland	Oct. 1998	Headline CPI	1998: <9.5% 1999: 6.6-7.8% 2000: 5.4-6.8% 2003: <4%	1998-2000: 1 year 2000-2003: multi-year 2003 onwards: indefinite	None	None	CB	Pub. of inflation report Pub. of inflation Guidelines Pub. of report on monetary policy implementation
South Africa	Feb. 2000	Core CPI (excl. interest costs)	2003: 3-6%	Multi-year	Major unforeseen events outside of CB's control	None	CB	Pub. of inflation report
Spain	Nov. 1994 to Jun. 1998	Headline CPI	Jun. 1996: 3.5-4% 1997: 2.5% 1998: 2%	Until 1996: multi-year 1997-1998: 1 year	None	None	CB	Governor reports regularly to Parliament. Pub. of inflation report (1995)

Appendix Table C. (cont'd.)

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
Sweden	Jan. 1993	Headline CPI	Since 1995: 2% (± 1%)	Until 1995: multi-year Since 1996: indefinite	None	None	CB	Pub. of inflation report (1997) Pub. of minutes of monetary policy Meetings pub. of inflation Projections (2-year Fan chart) Submission of Monetary policy Report to Parliament.
Switzerland	Jan. 2000	Headline CPI	<2%	3 years	Unusual events, provided they do not cause general inflationary Pressures.	None	CB	Pub. of inflation report. Pub. of inflation Projections (3 years)
Thailand	Apr. 2000	Core CPI (excl. raw food and energy prices)	2000: 0-3.5%	Indefinite	None	Public explanation of target breach and measures taken (and the time required) to bring inflation within the target	Governor in consultation with CB	Pub. of inflation report (2000). pub. of inflation projections (2-year Fan chart) Pub. of minutes of monetary policy meetings

Appendix Table C. (cont'd.

Country	Date Introduced	Target Price Index	Target Width	Target Horizon	Escape Clauses	Accountability of Target Misses	Target set by	Publications and Accountability
United Kingdom	Oct. 1992	RPIX (excl. mortgage interest)	1992-1995: 1-4% Since 1996: 2.5%	Until 1995: multi-year Since 1996: indefinite	None	Issuance of open letter to the Minister of Finance explaining target breach and measures taken (and the time required) to bring the inflation within the target	Governor	Pub. of inflation report. Pub. of inflation projections (2-year fan chart) Pub. of models used for inflation outlook

Source: Mishkin and Schmidt-Hebbel (2001).

Appendix D - 1. Exchange Rate pass-through without monetary aggregates (t-statistic in parentheses)

	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
Variable / Lags	2	3	4	2	3	4	2	3	4
CPI									
-1	1.6071	1.5736	1.5734	1.6426	1.6308	1.6359	1.0952	1.0964	1.0884
	(34.0432)	(24.1875)	(23.9497)	(28.9754)	(19.1512)	(18.9353)	(10.2641)	(9.9644)	(9.6410)
2	-0.6341	-0.5414	-0.5831	-0.6725	-0.6394	-0.7362	-0.1550	0.0201	-0.0039
	(-13.7943)	(-4.6597)	(-4.7032)	(-12.3575)	(-4.1562)	(-4.2981)	(-1.4518)	(0.1258)	(-0.0236)
-3		-0.0614	0.0329		-0.0236	0.1757		-0.1807	-0.0533
		(0.9667)	(0.2657)		(-0.2861)	(1.0148)		(-1.6744)	(-0.3243)
-4			-0.0535			-0.1081			-0.1078
			(-0.8311)			(-1.2711)			(-0.9331)
NEER									
0	-0.0271	-0.0264	-0.0266	-0.0561	-0.0554	-0.0593	0.0101	0.0129	0.0157
	(-1.8250)	(-1.7652)	(-1.7259)	(-2.8099)	(-2.7229)	(-2.7954)	(0.5382)	(0.6838)	(0.7913)
-1	-0.0437	-0.0482	-0.0463	-0.0360	-0.0397	-0.0315	-0.0446	-0.0367	-0.0401
	(-1.9480)	(-2.1037)	(-1.9699)	(-1.2348)	(-1.3056)	(-0.9945)	(-1.5131)	(-1.2034)	(-1.2667)
-2	0.0556	0.0693	0.0663	0.0705	0.0808	0.0708	0.0209	0.0053	0.0095
	(3.6470)	(3.0193)	(2.8041)	(3.3660)	(2.7082)	(2.2574)	(1.1068)	(0.1716)	(0.2890)
-3		-0.0105	-0.0150		-0.0084	-0.0128		0.0089	0.0066
		(-0.6681)	(-0.6287)		(-0.3820)	(-0.4038)		(0.4602)	(0.2017)
-4			0.0067			0.0116			-0.0003
			(0.4134)			(0.5100)			(-0.0143)

Appendix D - 1. (cont'd.)

Variable / Lags	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
	2	3	4	2	3	4	2	3	4
WFCPI									
	0.0788	0.1038	0.0978	0.1503	0.1624	0.1377	0.0245	-0.0214	0.0038
	(0.8371)	(1.0686)	(0.9969)	(1.2318)	(1.2672)	(1.0417)	(0.1726)	(-0.1455)	(0.0252)
-2	-0.1088	-0.1178	-0.0918	-0.1529	-0.0861	-0.0192	-0.1840	-0.2825	-0.2564
	(-1.1852)	(-0.9440)	(-0.7187)	(-1.2752)	(-0.5044)	(-0.1065)	(-1.3920)	(-1.9192)	(-1.6648)
-3		-0.0038	0.0538		-0.0706	-0.0875		0.1794	0.2112
		(-0.0413)	(0.4272)		(-0.5788)	(0.5081)		(1.3196)	(1.3612)
-4			-0.0809			-0.0232			-0.0907
			(-0.8661)			(-0.1880)			(-0.6525)
Adjusted R^2	0.9882	0.9881	0.9899	0.9898	0.9897	0.9164	0.9174	0.9160	
Durbin-Watson stat	2.0595	2.0003	2.0107	2.0125	1.9970	2.0268	2.0067	2.0014	1.9625
Schwarz criterion	-6.3380	-6.2766	-6.2120	-6.0615	-5.9663	-5.8716	-7.2831	-6.9738	-6.8499

Note: CPI - consumer price index
NEER - nominal effective exchange rate
WFCPI - weighted foreign CPI

Appendix D - 2. Exchange Rate pass-through with M3 (t-statistic in parentheses)

	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
Variable / Lags	2	3	4	2	3	4	2	3	4
CPI									
-1	1.5296	1.5329	1.5352	1.4878	1.5284	1.5311	0.9407	0.9473	0.9206
	(29.6083)	(23.4335)	(23.2115)	(22.5223)	(17.8400)	(17.3481)	(8.7889)	(8.4662)	(8.1368)
-2	-0.5604	-0.5562	-0.5621	-0.5266	-0.6494	-0.6541	-0.0486	0.0122	-0.0216
	(-11.1969)	(-4.8585)	(-4.5801)	(-8.3598)	(-4.4246)	(-3.9361)	(-0.4712)	(0.0801)	(-0.1383)
-3		-0.0096	-0.0001		0.0785	0.0855		-0.0835	-0.0559
		(-0.1494)	(-0.0006)		(0.9555)	(0.5091)		(-0.7912)	(-0.3615)
-4			-0.0060			-0.0022			0.0002
			(-0.0914)			(-0.0252)			(0.0020)
NEER									
0	-0.0225	-0.0225	-0.0215	-0.0437	-0.0427	-0.0406	0.0167	0.0196	0.0110
	(-1.5389)	(-1.5261)	(-1.4088)	(-2.2633)	(-2.1564)	(-1.9150)	(0.9512)	(1.0905)	(0.5815)
-1	-0.0453	-0.0488	-0.0490	-0.0458	-0.0431	-0.0455	-0.0337	-0.0378	-0.0265
	(-2.0598)	(-2.1645)	(-2.1114)	(-1.6429)	(-1.4862)	(-1.4846)	(-1.2228)	(-1.3136)	(-0.8863)
-2	0.0471	0.0667	0.0654	0.0613	0.0671	0.0682	-0.0059	0.0130	0.0002
	(3.1044)	(2.9483)	(2.8031)	(3.0473)	(2.3327)	(2.2562)	(-0.3156)	(0.4485)	(0.0077)
-3		-0.0178	-0.0178		-0.0125	-0.0225		-0.0173	0.0169
		(-1.1350)	(-0.7551)		(-0.5934)	(-0.7322)		(-0.8886)	(0.5487)
-4			0.0009			0.0114			-0.0290
			(0.0529)			(0.5208)			(-1.4335)
WFCPI									
-1	0.0346	0.0414	0.0382	0.0652	0.0370	0.0305	-0.0255	-0.0180	-0.0231
	(0.3686)	(0.4187)	(0.3817)	(0.5478)	(0.2879)	(0.2289)	(-0.1904)	(-0.1275)	(-0.1626)
-2	-0.1137	-0.1158	-0.1189	-0.1903	-0.0745	-0.0877	-0.2573	-0.2858	-0.2100
	(-1.2496)	(-0.9408)	(-0.9330)	(-1.6453)	(-0.4568)	(-0.4963)	(-2.0546)	(-2.0423)	(-1.4544)
-3		0.0031	0.0773		-0.1066	-0.0435		0.0790	0.1771
		(0.0336)	(0.6144)		(-0.8954)	(-0.2587)		(0.5954)	(1.2153)
-4			-0.0710			-0.0457			-0.2312
			(-0.7555)			(-0.3730)			(-1.7055)

Appendix D - 2. (cont'd.)

Variable / Lags	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
	2	3	4	2	3	4	2	3	4
M3									
-1	0.0172	0.0206	0.0250	0.0181	0.0182	0.0227	0.0374	0.0348	0.0359
	(0.6750)	(0.7931)	(0.9473)	(0.5077)	(0.5010)	(0.6076)	(1.4514)	(1.3182)	(1.3269)
-2	0.0220	0.0165	0.0123	0.0656	0.0535	0.0484	0.0053	-0.0009	-0.0018
	(0.8560)	(0.4857)	(0.3534)	(1.7413)	(1.1259)	(0.9919)	(0.2075)	(-0.0253)	(-0.0511)
-3		0.0032	0.0225		0.0232	0.4796		0.0103	-0.0116
		(0.1208)	(0.6509)		(0.5919)	(0.9621)		(0.3966)	(-0.3447)
-4			-0.0213			-0.0274			0.0318
			(-0.8020)			(-0.6768)			(1.2433)
Adjusted R^2	0.9887	0.9886	0.9885	0.9908	0.9907	0.9905	0.9283	0.9270	0.9283
Durbin-Watson stat	1.9895	1.9938	1.9881	1.9155	1.9901	1.9838	1.9866	2.0248	1.9683
Schwarz criterion	-6.3408	-6.2561	-6.1695	-6.1056	-5.9870	-5.8540	-7.1507	-6.9912	-6.8690

Note: CPI - consumer price index
NEER - nominal effective exchange rate
WFCPI - weighted foreign CPI
M3 - domestic liquidity

Appendix D - 3. Exchange Rate pass-through with base money (t-statistic in parentheses)

	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
Variable / Lags	2	3	4	2	3	4	2	3	4
CPI									
-1	1.4953	1.5075	1.5092	1.5253	1.5558	1.5584	1.1066	1.1094	1.1179
	(27.1078)	(22.4975)	(22.4181)	(22.3319)	(17.6373)	(17.3896)	(10.6135)	(10.0722)	(10.1266)
-2	-0.5350	-0.5424	-0.5698	-0.5668	-0.6381	-0.6976	-0.1819	-0.0211	-0.0005
	(-10.2912)	(-4.7468)	(-4.6853)	(-8.8085)	(-4.1948)	(-4.1333)	(-1.7682)	(-0.1316)	(-0.0031)
-3		-0.0084	0.0195		0.0365	0.1328		-0.1798	-0.1685
		(-0.1304)	(0.1604)		(0.4324)	(0.7749)		(-1.7167)	(-1.0552)
-4			-0.0033			-0.0362			-0.0594
			(-0.0512)			(-0.4135)			(-0.5459)
NEER									
0	-0.0222	-0.0244	-0.0219	-0.0532	-0.0567	-0.0525	0.0193	0.0250	0.0340
	(-1.5258)	(-1.6505)	(-1.4398)	(-2.7189)	(-2.8198)	(-2.4821)	(1.0351)	(1.3120)	(1.7518)
-1	-0.0417	-0.0416	-0.0414	-0.0397	-0.0348	-0.0329	-0.0442	-0.0437	-0.0556
	(-1.8999)	(-1.8468)	(-1.7985)	(-1.3797)	(-1.1587)	(-1.0482)	(-1.5670)	(-1.4928)	(-1.8759)
-2	0.0523	0.0670	0.0663	0.0766	0.0726	0.0676	0.0132	0.0192	0.0311
	(3.5010)	(2.9789)	(2.8645)	(3.7017)	(2.4544)	(2.1859)	(0.7114)	(0.6423)	(0.9997)
-3		-0.0139	-0.0263		0.0010	-0.0152		-0.0096	-0.0166
		(-0.8957)	(-1.1163)		(0.0457)	(-0.4848)		(-0.4737)	(-0.5152)
-4			0.0122			0.0200			0.0043
			(0.7676)			(0.8725)			(0.2098)
WFCPI									
-1	0.1083	0.1169	0.1058	0.1792	0.1676	0.1522	-0.0092	-0.0343	-0.0468
	(1.1787)	(1.2323)	(1.1047)	(1.4947)	(1.3290)	(1.1576)	(-0.0661)	(-0.2395)	(-0.3225)
-2	-0.1365	-0.1443	-0.1345	-0.1729	-0.0880	-0.0739	-0.2123	-0.2929	-0.2975
	(-1.5206)	(-1.1747)	(-1.0729)	(-1.4655)	(-0.5146)	(-0.4075)	(-1.6468)	(-2.0684)	(-2.0765)
-3		0.0099	0.1256		-0.0647	0.0085		0.1683	0.1737
		(0.1088)	(1.0075)		(-0.5332)	(0.0483)		(1.2771)	(1.1956)
-4			-0.1301			-0.0907			-0.0494
			(-1.4156)			(-0.7272)			(-0.3774)

Appendix D - 3. (cont'd.)

Variable / Lags	Total Sample: 1980 - 2001			CBP Period: 1980 - 1993			BSP Period: 1994 - 2001		
	2	3	4	2	3	4	2	3	4
BM									
-1	0.0406	0.0383	0.0427	0.0287	0.0227	0.0295	0.0485	0.0523	0.0498
	(3.1919)	(2.8992)	(3.1665)	(1.6001)	(1.2158)	(1.5152)	(3.1369)	(3.1959)	(3.0830)
-2	-0.0093	-0.0209	-0.0248	0.0055	-0.0049	-0.0073	-0.0253	-0.0232	-0.0254
	(-0.7473)	(-1.3895)	(-1.6041)	(0.3233)	(-0.2293)	(-0.3282)	(-1.6021)	(-1.3780)	(-1.4286)
-3		0.0155	0.0195		0.0200	0.0316		-0.0035	-0.0167
		(1.2010)	(1.2779)		(1.1252)	(1.4388)		(-0.2188)	(-1.0030)
-4			-0.0016			-0.0146			0.0398
			(-0.1192)			-0.7874			(2.5551)
Adjusted R^2	0.9889	0.9888	0.9888	0.9903	0.9902	0.9901	0.9236	0.9244	0.9277
Durbin-Watson stat	1.9794	1.9825	2.0028	1.9527	1.9740	2.0114	1.9986	1.9900	2.1155
Schwarz criterion	-6.3560	-6.2747	-6.1970	-6.0545	-5.9312	-5.8098	-7.0873	-6.9550	-6.8607

Note: CPI - consumer price index
NEER - nominal effective exchange rate
WFCPI - weighted foreign CPI money

References

Agenor, P.R. 2000. *Monetary policy under flexible exchange rates: An introduction to inflation targeting.* Washington D.C.: World Bank.

Bade, R. and M. Parkin. 1980. Central bank laws and monetary policy. Unpublished manuscript. Department of Economics, University of Western Ontario: Ontario,Canada.

Banaian, K., L. Laney and T. Willett. 1983. Central bank independence: An international comparison. Economic Review. Federal Reserve Bank of Dallas.Texas, U.S.A.

Bangko Sentral ng Pilipinas. 1995. Third Annual Report. Manila: BSP: Manila.

_____. 2002. *Inflation Report: First Quarter 2002.* BSP: Manila. Also available from the World Wide Web: (http://www,bsp.gov.ph/resources/other_docs/inflation_targeting.htm).

Blinder, A.S. 1996. Central banking in a democracy. *Economic Quarterly* 82(4).

_____. 1999. Critical issues for modern major central bankers. Paper presented during the conference Monetary policymaking under uncertainty, December 3-4, Frankfurt, Germany.

Briault, C. 1999. The rationale for a single national financial services regulator. FSA Occasional Paper No. 2. London: Financial Services Authority.

Choudhri, EU. and D. Hakura. 2001. Exchange rate pass-through to domestic prices: Does inflationary environment matter? IMF Working Paper 01-194. Washington D.C.: International Monetary Fund.

Cororaton, C. 2002. Total factor productivity in the Philippines. PIDS Discussion Paper Series No. 2002-01. Makati City: Philippine Institute for Development Studies.

Cukierman, A. 1992. *Central Bank strategy, credibility, and independence: Theory and evidence.* Cambridge, Massachusetts: The MIT Press.

Debelle, G. and C. Lim. 1998. Preliminary considerations of an inflation targeting framework for the Philippines. IMF Working Paper WP/98/39. Washington D.C.: International Monetary Fund.

Duquesne, P. 1997. The supervisory role of the Central Bank. In *Banking Soundness and Monetary Policy,* edited by C. Enoch and J. Green. Washington D.C.: International Monetary Fund.

Ferguson, R, Jr. 2000. Alternative approaches to financial supervision and regulation. *Journal of Financial Services Research* 7(1): pp.297-303.

Freedman, C. 2000. Monetary policy implementation: Past, present and future--Will the advent of electronic money lead to the demise of Central Banking? *International Finance* 3(2).

Friedman, B. 2002. The use and meaning of words in Central Banking: Inflation targeting, credibility, and transparency. NBER Working Paper 8972. Cambridge, Massachusetts: National Bureau of Economic Research.

_____2002. Decoupling at the margin: The threat to monetary policy from the electronic revolution in banking. NBER Working Paper Series No. 7955. Cambridge, Massachusetts: National Bureau of Economic Research.

Fry, M. 1988. *Money, Interest, and Banking in Economic Development.* 2nd Edition. Baltimore: The Johns Hopkins University Press.

Goodfriend, M. 1997. Monetary policy comes of Age: a 20th century odyssey. *Economic Quarterly* 83(1).

Goodhart, C.A. 1988. *The Evolution of Central Banks.* Cambridge, Massachusetts: The MIT Press.

_____. 2000. The organizational structure of banking supervision. FSI Occasional Paper 2000-10-25. Basel, Switzerland: Financial Stability Institute, Bank for International Settlements.

_____. 2000. Can Central Banking survive the IT Revolution? *International Finance* 3 (2).

_____ and D. Schoenmaker. 1995. Should the functions of monetary policy and banking supervision be separated? Oxford *Economic Papers* 47(4).

_____. 1993. Institutional separation between supervisory and monetary Agencies edited by F. Bruni. Prudential Regulation Supervision, and Monetary Policy: Milan.

Greenspan, A. 1989. Statement by Chairman, Board of Governors of the Federal Reserve System before the Committee on Banking, Finance and Urban Affairs, US House of Representatives, 24 January 1989. Federal Reserve Bulletin, March 1989, pp. 139-142.

_____. 1998. Our banking history. Remarks before the Annual Meeting and Conference of the Conference of State Supervisors, May 2, Nashville, Tennessee.

Greider, W. 1987. *Secrets of the Temple.* New York: Simon & Schuster, Inc.

Grimes, A. 1992. The role of the exchange rate in New Zealand monetary policy. Pacific Basin Working Paper Series No. 93-03. San Francisco: Center for Pacific Basin Monetary and Economic Studies, Federal Reserve Bank of San Francisco.

Guinigundo, D. 1999. Problems and issues on inflation targeting: The case of the Philippines. Paper presented at the conference on Framework for Monetary Policy in Post-Asia: Policy Options and Inflation Targeting, December 8-10 Cebu City, Philippines.

Hawkesby, C. 2000. The institutional structure of financial supervision: A cost-benefit approach prepared for the conference, Rules,

incentives and sanctions: Enforcement in financial regulation, March 26, London School of Economics, London.

Henckel, T., A. Ize and A. Kovanen. 1999. Central Banking without Central Bank Money. Working Paper of the Monetary and Exchange Affairs Department, International Monetary Fund.

King, M. 1995. Changes in UK monetary policy: Rules and discretion in practice. Paper presented to the Swiss National Bank Conference on Rules versus Discretion in Monetary Policy, March 15-19, Gerzensee, Switzerland.

Kongsamut, P. 2001. Philippines: preparations for inflation targeting. IMF Working Paper 01-99. Washington, D.C.: International Monetary Fund.

Kydland, F.E.. and E.C.. Prescott. 1977. Rules rather Discretion: the inconsistency of optimal plans. *Journal of Political Economy* 85: 473-92.

_____. 1999. Challenges for Monetary Policy: new and old. Paper prepared for the Symposium on "New Challenges for Monetary Policy" sponsored by the Federal Reserve Bank of Kansas City, 27 August, Jackson Hole, Wyoming.

Lamberte, M. 1984a. Monetary aggregates and economic activity. *The Philippine Economic Journal* 23 (4): 264-305.

_____. 1984b. Controllability of various monetary aggregates. *Journal of Philippine Development* 6(2): 230-256.

_____. 1985. Financial liberalization and the internal structure of the capital markets: the Philippine case. PIDS Staff Paper Series No. 85-07. Makati City, Philippines: Philippine Institute for Development Studies.

_____. 1993. Assessment of the financial market reforms in the Philippines, 1980-1992. *Journal of Philippine Development* 22 (2): 231-259.

_____. 1995. Managing surges in capital inflows: the Philippine case. *Journal of Philippine Development* 22(1): 43-88.

_____. 2002. The Philippine payment system: efficiency and implications for the conduct of monetary policy. PIDS Research Paper Series No. 2002-05. Makati City, Philippines: Philippine Institute for Development Studies.

_____. and J. L. 1987. Rural financial markets: a review of literature. PIDS Staff Paper Series No. 87-02. Makati City, Philippines: Philippine Institute for Development Studies.

_____, M.S. Milo and V. Pontines. 2001. NO to ¥E$? Enhancing economic integration in East Asia through closer monetary cooperation. *Asia-Pacific Social Science Review* 3(1): 52-105.

Lastra, R. M. 1996. *Central Banking and banking regulation.* London: Financial Markets Group, London School of Economics and Political Science.

Leitemo, K. 2002. Inflation targeting rules: history-dependent or forward-looking? Norway: Norges Bank.

Loayza, N. and R. Soto. 2002. Inflation targeting: an overview In *Inflation targeting: design, performance, challenges* edited by N. Loayza and R. Soto, Santiago, Chile: Central Bank of Chile.

Mangahas, M. 1995. Inflation: single-digit isn't par. *Manila Standard.* August 14, 1995. p.10.

Milo, M. 2002. *Financial services integration and consolidated supervision: some issues to consider for the Philippines* Makati City: Philippine Institute for Development Studies.

Mishkin, F. and K. Schmidt-Hebbel. 2001. One decade of inflation targeting in the world: what do we know and what do we need to know? NBER Working Paper 8397. Cambridge, Massachussetts: National Bureau of Economic Research.

Pakko, M.R. 1995. The FOMC in 1993 and 1994: monetary policy in transition. *Federal Reserve Bank of St. Louis Review* 77(2): 3-25.

Peek, E.S. and G. Rosengreen. 1999. Is bank supervision central to Central Banking? *The Quarterly Journal of Economics* 114(2): 629-653.

Penner, R., E. Quant, M.B. Lamberte and B. Diokno. 1992. Philippine public debt management. Washington, D.C.: US Agency for International Development.

Philippine Institute for Development Studies. 1986. Economic recovery and long-run economic growth: agenda for reforms (Vol. 1). Makati City, Philippines: Philippine Institute for Development Studies.

Quintyn, M. and M.W. Taylor. 2002. Regulatory and supervisory independence and financial stability. IMF Working Paper No 02-46. Washington DC: International Monetary Fund.

Robinson, D.J. and P. Stella. 1988. Amalgamating Central Bank and fiscal deficits edited by M. Blejer and K. Chu. In Measurement of Fiscal Impact: Methodological Issues. Occasional Paper 59. Washington, D.C.: International Monetary Fund.

Romer, C.D. and D.H. Romer. 2002. A rehabilitation of monetary policy in the 1950s. NBER Working Paper No. 8800. Cambridge, Massachussetts: National Bureau of Economic Research.

Rudebusch, G. and L. Svensson. 1999. Policy rules for inflation targeting. In *Monetary Policy Rules,* edited by J. Taylor. University of Chicago Press, Chicago.

Schaechter, A. 2001. Implementation of monetary policy and the Central Bank's balance sheet. IMF Working Paper No. 01-149. Washington, D.C.: International Monetary Fund.

Sterne, G. 1999. The use of explicit targets for monetary policy: practical experiences of 91 economies in the 1990s. Quarterly Bulletin. London, U.K. Bank of England.

Svensson, L. 2002. Inflation targeting: should it be modeled as an instrument rule or a target rule? NBER Working Paper 8925. Massachusetts: National Bureau of Economic Research.

_____. 2000. How should monetary policy be conducted in an era of price stability? NBER Working Paper No. w7516. Massachussetts: National Bureau of Economic Research.

_____. 1999. Inflation targeting: some extensions. *Scandinavian Journal of Economics* 101 (3) 337-361.

_____. 1999. Inflation targeting as a monetary rule. *Journal of Monetary Economics* 43 607-654.

_____. 1998. Inflation targeting in an open economy: strict vs. flexible inflation targeting. Victoria Economic Commentaries. Victoria University of Wellington: Wellington, New Zeland.

_____. 1997. Inflation forecast targeting: implementing and monitoring inflation targets. *European Economic Review* 1111-1146.

Taylor, J.B. 2000. Low inflation, pass-through, and the pricing power of firms. *European Economic Review* 44(7): 1389-1408.

Tetangco, A.M. Jr. and M.C. Tuaño-Amador. 2002. Informational requirements of inflation targeting in the Philippines. Inflation Report: first quarter 2002. Manila, Philippines: Bangko Sentral ng Pilipinas.

Tuaño-Amador, M..C.N. and M. D.G. Paraso. 2002. Operational issues in inflation targeting for the Philippines. *Bangko Sentral Review* 6(1): 22-29.

Waller, C.J. 1995. Performance contracts for Central bankers. *Federal Reserve Bank of St. Louis Review* 77(5): 3-14.

Woodford, M. 2000. Monetary policy in a world without money. *International Finance* 3(2): 229-260.

Yoshitomi, M. and K. Ohno. 1999. Capital-account crisis and credit contraction. ADB Institute Working Paper No. 2. Tokyo, Japan: Asian Development Bank.

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The country's central bank has a profound impact on the lives of all residents of the country. This paper attempts to put some policy issues on central banking in the country in certain perspectives so that policy debates on these issues can proceed with greater focus. More specifically, it examines central banking in the Philippines from three perspectives—past, present, and future. First, it takes a fresh look at central banking in the Philippines in the last 25 years.

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