

## FINANCIAL REFORMS AND BALANCE-OF-PAYMENTS CRISIS: THE CASE OF THE PHILIPPINES: 1980-83

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In the Philippines, financial reforms began in earnest in July 1981 with the deregulation of bank interest rates. But within two years; a crisis in the balance-of-payments intervened. This paper addresses two major issues. First, to what extent did the financial reforms contribute to the balance-of-payments crisis? The findings indicate that while the reforms do seem to have made it more difficult to finance the budget deficits in 1981 and 1982, they did so only in a minor way. Given the enormity of the budget deficits and the rate at which foreign exchange reserves were depleted, it does not look as if the balance-of-payments crisis would have been prevented had the reforms not been introduced. The second issue is: To what extent did the reforms weaken the financial sector's ability to weather the external crisis? The findings show that the sudden increase in deposit rates in 1981 and 1982 while the interest rates on outstanding loans remained the same hurt many banks. Even the increase in the interest rate on new loans contracted in 1984 was not enough to compensate for the interest rate loss incurred on medium- and long-term loans contracted in the previous years. Indeed, this has severely weakened the banking system's ability to weather the balance-of-payments crisis.

### 1. Introduction

In the Philippines, financial reforms began in earnest in July 1981 with the deregulation of bank interest rates. Except for short-term loans, all interest rates on deposits, deposit substitutes, and loans were freed from administrative ceilings. The reforms were clearly successful in producing substantial increases in the growth rates of savings and time deposits. The last remaining ceiling, that on short-term loan rate, was lifted in January 1983. But within two years, a crisis in the balance of payments intervened. The depletion of the country's exchange reserves forced a moratorium on payments of principal on all public and publicly guaranteed foreign debt. However, since the government hogged what remained of the foreign exchange in the financial system, the moratorium applied effectively to all foreign debt. In July 1984, with this moratorium still standing, the country's largest savings bank had to close its doors for ten days after struggling through a series of runs. It reopened for a while, but then the Central Bank had to close it permanently due to irreversible run. Deposits also fell sharply for six commercial banks controlling almost a fifth of the total assets of the domestic private commercial banking sector. A number of smaller banks had to be shut down permanently.

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This episode raises at least two major issues for research. First, to what extent did the financial reforms contribute to the balance-of-payments crisis? The hypothesis here is that the reforms reduced the resources the government could extract from commercial banks through the interest differential between public and private debt, particularly through the creation of bank reserves. Hence given the limits on how much the government could borrow abroad, it had to resort to currency creation to finance the bulk of its budget deficits in 1981 and 1982. The amount of currency creation that was required to meet the government's needs, however, far exceeded what the public was willing to hold. Such excess currency creation was what then led to a run on official exchange reserves and to the payments crisis in 1983. To test this hypothesis, we derive estimates of the demand for base money to measure the potential amount of resources the government lost because of the reforms. McKinnon (1982) has argued for a similar hypothesis for Argentina, the only difference being that Argentina's budget deficits resulted in inflation rather than in the depletion of exchange reserves.

Second, to what extent did the reforms weaken the financial sector's ability to weather the external crisis? The hypothesis in this case is that the higher deposit rates and the low returns on loans carried over from the period of repressed interest rates combined to put a severe squeeze on bank profits. This would have made banks more vulnerable to a balance-of-payments crisis, particularly if the crisis gave rise to capital flight that was financed at least in part by a run on domestic deposits. To test this hypothesis, we estimate the effect of higher deposit rates on bank profits.

Both of the above issues are part of the broader problem of how a country can avoid macroeconomic instability during the transition to microeconomic efficiency. In this regard, the recent experience of the Philippines can provide important lessons on how to manage a program of economic reform.

In the next section, we set the stage for confronting those issues by providing an overview of the 1980 financial reforms and the 1983 external payments crisis. In Section 3, we then evaluate the extent to which the reforms made it more difficult to finance budget deficits and the impact of this on international reserves. In Section 4, we evaluate the extent to which the reforms squeezed profits in the banking sector, thus making it more vulnerable to the balance-of-payments crisis. Finally, we summarize our results in the concluding remarks.

## 2. The 1980 Financial Reforms and the 1983 Balance-of-Payments Crisis

This section is divided into two subsections. The first subsection discusses the 1980 financial reforms and the response of the financial system to the new policy environment. The second deals with the 1983 balance-of-payments crisis and its impact on the financial system.

### *The 1980 Financial Reforms*

Before 1980, the Philippines had already instituted several financial reforms.<sup>1</sup> Most notable among them was the virtual repeal of the Anti-Usury Act of 1916 in 1973. The Monetary Board was then given the authority to prescribe the maximum deposit and lending rates. Between 1974 and 1980, four interest rate reforms, the purposes of which were to mobilize long-term funds for investment and to develop the capital market, were introduced. It should be noted that during this period, interest rates were still administratively fixed but constantly adjusted by the Monetary Board to reflect market conditions.

The earlier reforms failed to produce the desired results. Specifically, loans were still concentrated in the shorter end. This could be attributed to several factors. One is that the interest rates set by the Monetary Board were still below market rates. To realize higher effective lending rates, banks habitually lent out short-term, say one month, and rolled over the same loans again and again for more frequent compounding of interest. This was further encouraged by the Central Bank's rediscounting policy which was overly biased towards short-term loans. Another factor was the lack of competition in the financial market. The 1972 financial reforms, by formally enforcing financial specialization, led to reduced scope for direct competition among various types of financial institutions. Thus, towards the end of the 70s, it was felt necessary to introduce yet another set of reforms in the financial system.

The objective of the 1980 financial reforms was twofold: (1) to promote greater efficiency by means of more competitive conditions; and (2) to increase the availability of an access to longer term funds.<sup>2</sup> Three major techniques have been utilized to achieve

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<sup>1</sup> See Lamberte (1985).

<sup>2</sup> The Joint IMF/World Bank Report (1979) and the Hurtado Report (1979) are the main bases of the 1980 financial reforms.

these objectives. These are (1) floating of the interest rates; (2) restructuring of the financial system; and (3) strengthening the effectiveness of Central Bank policy instruments.

Interest rate ceilings on all types of deposits and loans, except short-term loans, were lifted in July 1981. The reason why the interest rate ceiling on short-term loans was not lifted was to allay fears that the interest rate on short-term loans would overshoot once deregulated and also to influence banks to lend long at rates relatively more attractive than for short-term loans. The interest rate ceiling for the latter was finally lifted in January 1983. Together with the lifting of the interest rate ceiling was the reduction of both the reserve-requirement ratio against deposit liabilities and the net-worth-risk-assets ratio of banks.<sup>3</sup> This was intended to release large amount of bank resources to be made available to borrowers, thereby preventing an excessive increase in lending rates.

As a step towards greater competition, functional differentiation among categories of banks and non-banks authorized to perform quasi-banking activities (NBQBs) has been significantly reduced. Thus, one type of financial institution can do almost all those that can be done by other types of financial institutions. For instance, thrift and rural banks may now offer demand deposits which used to be exclusively offered by commercial banks. The powers and functions on NBQBs have been increased to allow them to compete more effectively with other types of financial institutions. One important innovation in the 1980 financial reforms is the introduction of bigger types of financial institutions called "Expanded Commercial Banks" or "Universal Banks."<sup>4</sup> Aside from combining commercial and investment banking, they may now also

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<sup>3</sup> Under CB Circular No. 782 dated 27 February 1981, the reserve requirements against demand, savings, "Now" accounts and time deposits with original maturity of 730 days or less shall be 19% (from 20%) and shall be decreased at the rate of one percentage point every semester thereafter until the reserve requirement shall have been decreased to 16% while time deposits with original maturity of more than 730 days shall be 1% and shall be increased at the rate of one percentage point every semester thereafter until the 5% requirement shall have been reached.

The amended General Banking Act has empowered the Monetary Board to authorize a bank to maintain a net worth to risk assets ratio lower than 10%, such as 8% or 6%, depending on the bank's net worth and compliance of other conditions.

<sup>4</sup> These institutions are similar to the German universal banks (see Krummel, 1980).

go into equity investment in both allied and non-allied activities. Indeed, these banks offer a much broader range of financial services; hence the name Universal Banks. The authorized activities of various financial entities are summarized in Table 1.

As part of the recent financial reforms, the minimum capital requirements for each type of financial entity were increased (see Table 2). For instance, a bank may apply for a Universal Banking license only if it can put up the required minimum capital of ₦ 500 million. Thus, bigness is being emphasized in the current reforms. Two reasons are given for this: first, it provides banks larger and more stable sources of funds for long-term capital; second, it enables big banks to exploit economies of scale. Existing financial institutions can meet the increase in the minimum capital requirement through internal capital build-up and/or merger and consolidation.

With the floating of interest rates, it was expected that more funds would flow into longer-term deposits, thereby easing the availability of funds for longer-term lending. To increase further the availability of longer-term funds, banks have also been encouraged to engage in term transformation, as discussed below. Since it has been found that the banking system possesses short-term deposit liabilities with a more or less stable core, there is some potential for such term transformation given a more favorable environment.

The recent financial reforms also call for the change in the posture of the Central Bank from development-orientation to stabilization-orientation. For this purpose, the Central Bank initiated a rationalization program for government securities in 1981. It started phasing out its CBCIs in that year to give way to the Treasury Bill which will eventually become the primary government paper in the securities market. It is to be noted that the CBCIs issued in the 70s were utilized mainly to rechannel funds from the urban to the rural areas. Hence, they were not effectively used as instruments for stabilization.

To induce financial institutions to go into long-term financing, the Central Bank has opened the "medium- and long-term rediscounting window." This facility allows banks to rediscount papers evidencing medium- and long-term loans extended by them for the acquisition of fixed assets, working capital in connection with a proposed or ongoing expansion development program, investment in affiliates and other institutions, or for investment in high grade securities. To encourage banks and NBQBs to engage in term trans-



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and projects implementation

4. Financial Consultancy and investment adviser. Trust Operation	1	1	1	1	1	1	1	1
5. Portfolio management. Trust Operation	1	1	1	1	1	1	11	1
6. Mergers and consolidation	1	1	1	1	1	1	11	1
7. Research and studies	1	1	1	1	1	1	1	1
8. Acquire, own, hold, or lease real and/or personal	1	1	1	1	1	1	1	1
9. Pension, profit sharing pension benefit funds — Trust Operation	1	1	1	1	1	1	11	1
10. Money Market Operation	1	1	1	*f	*f	*f	*	1

1 — Authorized Activities 11 — Authorized but subjected to Monetary Board Approval \* — Not authorized/prohibited

<sup>a</sup>IH — are not yet allowed to accept deposits. However, certificates of time deposits for commercial banks and thrift banks have been put on equal footing against money market instruments of investment houses by subjecting them both to the same tax rate of 28 per cent.

<sup>b</sup>Limited only to domestic LCs and drafts.

<sup>c</sup>This may be allowed to IHs that finance imported equipment but not for raw material requirements.

<sup>d</sup>Includes warehousing companies, leasing companies, storage companies, safe deposit box companies, companies engaged in the management of mutual funds banks, and such other activities as the Monetary Board may declare as appropriate.

<sup>e</sup>As decreed in PD 1685 amending PD 1329 allowing the CB to grant portions of its foreign loans to financial institutions other than banks.

<sup>f</sup>Full blown money market operation which includes deposit substitutes requires quasi-banking license.

Source: PDCP, "Universal Banking in the Philippines," *Philippine Business Review*, Vol. 13 (Fourth Quarter, 1980), Table 1.

**Table 2 — Minimum Capitalization of Private Domestic Banks and Non-Banks Authorized to Perform Quasi Banking Activities (NBQB)**

Type of Institution	Minimum Capitalization (In ₱M)
1. Universal Banks	₱ 500
2. FCDUs	150
3. Commercial Banks	100
4. Thrift Banks	
(a) New Thrift Banks	
(i) Metro Manila	20
(ii) Other Places	10
(b) Existing Banks	
(i) Metro Manila	10
(ii) Other Places	5
5. Rural Banks	
<p>New Rural Banks to be established must have ₱0.5M before they can operate. Existing rural banks are allowed to increase their capital within a period of time depending upon their number of years of operation.</p>	
6. Non-Bank Quasi-Banks	
(a) Investment Houses (IH)	20
(b) New NBQBs other than IH	20

Source: *Central Bank Circular No. 739 (1980)*.

formation, a "lender of last resort" facility has been opened. Any paper irrespective of maturity is acceptable security under this facility. Banks and NBQBs encountering temporary liquidity problems while in the course of engaging in term transformation may avail of this facility. However, to minimize moral hazard, banks are going to be charged a rate closer to the market rate.

What has been the response of the financial system to the new policy environment? It is indeed difficult to answer the question without making some qualifications. After being weakened by the

second oil shock, the economy suffered a liquidity crisis in the early part of 1981. The biggest investment house, which had played the lead role in introducing financial innovations, collapsed. Many banks found themselves in trouble. The Government's effort to bail out distressed banks resulted in the transfer of some private commercial banks into the hands of government corporations (see Table 3). This has substantially changed the landscape of the financial system, a development contrary to the spirit of the 1980 financial reforms. The government-acquired commercial banks have undue advantages over privately-owned banks. Aside from enjoying the backing of the government, they have captive institutional deposits which do not flee at the slightest sign of trouble. For example, the International Corporate Bank Co. (Interbank) corners the deposits of subsidiaries and acquired firms of the National Development Corporation (NDC), a government holding company. Union Bank and Commercial Bank of Manila are assured of stable deposits from the Social Security System (SSS) and Government Service and Insurance System (GSIS), respectively. It is even possible for these banks to arrange a relatively cheaper deposit rate with their captive depositors if only to show a commendable income statement. There is no doubt that these banks have been in a better position to deal with the adverse effects of the 1983 BOP crisis.

**Table 3 -- Private Commercial Banks Recently Acquired/Controlled by Government Corporations**

Private Banks	Controlling Government Corporation(s)
1. Associated Bank	Development Bank of the Philippines (DBP)
2. Commercial Bank of Manila	Government Social Insurance System (GSIS)
3. International Corporate Bank	National Development Corporation (NDC)
4. Pilipinas Bank	Philippine National Bank (PNB)
5. Union Bank	Social and Security System (SSS) and Land Bank

Source: *Annual Reports* of controlling government corporations.

The expansion of bank capital and operations is one indicator of the response of the financial system to the 1980 financial reforms. To date, ten commercial banks have been given licenses to operate as universal banks. They have expanded the number of their affiliates/subsidiaries through merger/acquisition to position themselves in the supposedly new competitive environment. A partial list of affiliates/subsidiaries of top ten banks is presented in Table 4.

Table 4 -- Top Five Banks and Some of Their  
Affiliates/Subsidiaries

Bank	Affiliates/Subsidiaries
1. Bank of the Philippine Islands	<ul style="list-style-type: none"> <li>a. BPI Family Bank</li> <li>b. People's Development Bank</li> <li>c. Filinvest Credit Corp.</li> <li>d. AF Merchants</li> <li>e. Philsec Investment Corp.</li> <li>f. BPI International Finance, Ltd.</li> <li>g. BPI Investment Corp.</li> </ul>
2. Far East Bank	<ul style="list-style-type: none"> <li>a. Private Development Corporation of the Philippines</li> <li>b. Far East Chemco Leasing and Finance</li> <li>c. FEB Insurance Brokers, Inc.</li> <li>d. Cavite Development Bank</li> <li>e. Makati Insurance Co., Inc.</li> <li>f. Banco Davao</li> </ul>
3. Metropolitan Bank and Trust Company	<ul style="list-style-type: none"> <li>a. Philippine Savings Bank</li> <li>b. First Metro Investment Corp.</li> <li>c. Pan Phil Life Insurance Co.</li> <li>d. MBTC-Venture Capital Corp.</li> <li>e. Charter Insurance Co., Inc.</li> </ul>
4. Philippine Commercial International Bank, Inc.	<ul style="list-style-type: none"> <li>a. PCI Capital Corp.</li> <li>b. PCI Insurance Brokers, Inc.</li> <li>c. Bankard</li> <li>d. PCI Leasing and Finance, Inc.</li> </ul>
5. United Coconut Planters Bank	<ul style="list-style-type: none"> <li>e. Several rural banks spread across the country</li> </ul>

Source: Various annual reports of individual banks.

The directions of their expansions have been selected with an eye to gaining a competitive edge in certain markets. For instance, the Bank of the Philippine Islands (BPI) has acquired Family Bank and Trust Co., recently converted into a savings bank, in order to play also a greater role in the retail market. It has also acquired People's Development Bank in order to make its presence felt in the agricultural sector.<sup>5</sup> United Coconut Planters Bank (UCPB) has acquired several rural banks in the coconut-producing areas in order to take the lead role in the coconut industry.

Another indicator of the financial system's response to the 1980 financial reforms is the upward adjustment of both the deposit and lending rates and the change in the maturity structure of deposits and loans. Table 5 shows the movements of nominal interest

Table 5 — Nominal Interest Rates

Year	Deposits			Loans (Secured)	
	Savings	Time (360 days)-	WAIR*	Short-Term	Long-Term
1977	7.00	10.00	12.59	12.00	19.00
1978	7.00	10.00	10.72	12.00	19.00
1979	9.00	12.00	12.89	14.00	21.00
1980	9.00	14.00	13.27	14.00	21.00
1981	9.79	15.60	15.80	16.00	21.08
1982	9.78	14.21	14.21	17.13	21.74

\*WAIR = weighted average interest rate of deposit substitutes

Source: Department of Economic Research, Central Bank of the Philippines.

rates in certain years. Contrary to what a lot of people had expected from interest rate deregulation, the deposit and lending rates only inched up a little in 1981 and 1982. There is, however, a perceptible change with regard to the maturity structure of bank deposits and loans (See Table 6). The combined share of savings and time deposits increased in 1981 and 1982 at the expense of demand deposit substitutes. Similarly, the share of long-term loans increased in the same years at the expense of demand and short-term loans. Caution must, however, be exercised in drawing conclusions from these figures. As may be gleaned from Table 6, the trend towards length-

<sup>5</sup> There is also an added advantage in owning a savings bank because it has lower reserve requirement against deposit liabilities compared with commercial banks.

Table 6 -- Structure of Deposits and Loans of Commercial Banks  
(In ₱M)

	Outstanding Deposits				Total	Outstanding Loans			Total
	Demand	Savings	Time	Deposit Substitutes		Demand	Short-Term <sup>a</sup>	Long-Term <sup>b</sup>	
1977	8,210 (22.1)	11,536 (31.0)	6,057 (16.3)	11,400 (30.6)	37,203 (100.0)	7,490 (18.6)	26,767 (66.6)	5,917 (14.8)	40,173 (100.0)
1978	8,810 (20.2)	15,011 (34.3)	8,387 (19.2)	11,494 (26.3)	43,702 (100.0)	9,164 (16.9)	35,227 (65.1)	9,688 (17.9)	54,078 (100.0)
1979	9,661 (20.0)	16,900 (35.1)	9,665 (20.1)	11,951 (24.8)	48,177 (100.0)	10,637 (15.6)	37,601 (55.1)	20,026 (29.3)	68,264 (100.0)
1980	12,362 (21.4)	19,530 (33.9)	13,364 (23.2)	12,371 (21.5)	57,627 (100.0)	10,458 (13.5)	49,844 (64.6)	16,895 (21.8)	77,198 (100.0)
1981	13,619 (17.4)	22,602 (33.8)	16,683 (25.0)	15,923 (23.8)	66,827 (100.0)	10,667 (12.3)	52,823 (61.1)	23,014 (26.6)	86,505 (100.0)
1982	10,815 (13.1)	28,919 (36.0)	26,289 (31.8)	16,566 (20.3)	82,589 (100.0)	9,308 (9.5)	58,478 (59.5)	30,454 (31.0)	98,240 (100.0)

<sup>a</sup>Loans with maturities of one year or less.<sup>b</sup>Loans with maturities of more than one year.

Source: CB Statistical Bulletin.

ening of the maturity structure of deposits and loans had already been established before the 1980 financial reforms.

The actual role played by the Central Bank also deserves some comments. Instead of being the "lender of last resort" as spelled out in the 1980 financial reforms, the Central Bank has still continued to be the "lender of first resort." This may be gathered from the numerous rediscounting windows it has maintained and/or opened after the 1980 financial reforms (see Table 7). Indeed, its selective credit policy has lost its selectiveness since virtually all economic activities can qualify for rediscounting.

The development of the financial system after 1982 is largely conditioned by the balance-of-payments crisis that struck in the middle of 1983. This is going to be discussed in the following subsection.

#### *The 1983 Balance-of-Payments (BOP) Crisis<sup>6</sup>*

The government intended to trim down the BOP deficits to US \$600 million in 1983 from the 1982 level of US \$1.6 billion. However, the BOP further deteriorated during the first semester of that year. The sharp adjustment of the exchange rate effected in June 1983 failed to reverse the trend. By August 1983, the BOP deficit already reached the staggering level of US \$1.3 billion. The political disturbances following the Aquino assassination accelerated capital flight. This significantly contributed to the dwindling of international reserves. The attendant political and economic uncertainty prompted several foreign bank creditors to stop rolling over their maturing short-term loans to the Philippines. Unable to meet repayments, the Philippines asked for a 90-day moratorium on principal repayments. Negotiations with the IMF and foreign creditor banks for the rescheduling of debt repayments dragged on for more than a year, resulting in the extension of the 90-day moratorium six times. The discovery of the overstatement of international reserves by at least US \$600 million, the excessive growth of money supply due to the May 1984 elections and to the bailing out of several banks, and the reluctance of some foreign bank creditors to go ahead with the agreement were the main reasons for the long delay. Finally, on 20 May 1985 the 483 foreign bank creditors of the Philippines formally approved a US \$10 billion financial package. This includes

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<sup>6</sup> Before 1983, the Philippines already encountered two severe BOP crises. The first one occurred in 1949-50 and the second, in 1969-70. The current BOP crisis is by far the worst among the three.

Table 7 — Rediscounting Windows of the Central Bank

Facility	Implementing Circular	Date	Loan Value (%)	Rediscount Rate (%)	Lending Rate (%)	Maturities
A. <i>Regular Rediscounting</i>						
1. Supervised Credits	784	Feb. 27, 1981	100	3	12	120 days
2. Non-Supervised Credits	784	Feb. 27, 1981	80	8	14	68 days/120 days/ 270 days
3. Small/Medium Scale Industry	784	Feb. 27, 1981	80	8	14	120 to 270 days
4. Exports	784	Feb. 27, 1981	80	3	12	90 days
Non-Traditional			80	8	14	10-40 days for sight drafts/120-170 days for production credits
5. Masaganang Maisan	828	Oct. 9, 1981	100	3	15	120-270 days
6. Special Programs						
NGA,FTI	784	Feb. 27, 1981	100	3	6	180 days
Grains Quedan/ Food Quedan	881	June 25, 1982	80	3	10	190 days
7. Tax Credit						
Certificates	862	June 1, 1981	80	8	14	180 days
8. Tobacco Trading	715-801	Feb. 1, 1980/ June 1, 1981	80	8	14	180 days One to five years; or the maturity of the paper/last amortization whichever first

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9. Energy Generating Projects	803-872	June 19, 1981/ April 26, 1982	180	3	10	
Mini Hydro			100	3	8	
Dendro Thermal			88	8	14	180 days
10. Stock Financing	607-651	June 26, 1981/ Feb. 15, 1982	80	8	14	90 days with another 90 days rollover
11. Metal Financing	873	May 6, 1982	80	8	14	90 days
12. Dollar Rediscouinting	875-944	May 21, 1982/ Aug. 15, 1983	100	12	—	90 days renewable for 90 days
Dollars Sold to CB			100	12	—	360 days or maturity whichever comes first
Dollars Deposited with CB			80	3	12	180 days
13. Manpower Exporters	842-894-895	Jan. 29, 1983/ Sept. 24, 1982	80	8	14	120 days
14. Orchard Growing/ Upland Farming	Circular Letter	Oct. 23, 1982	80	3	12	180 days
15. Congress Organizers	910	Jan. 6, 1983	80	3	12	90 days
16. Coconut Millers/ sicators	921	March 28, 1983	80	3	12	90 days



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US \$925 million in new loans, US \$3 billion in revolving trade credit facility, and US \$5.8 billion in short-term debts. The US \$5.8 billion short-term debts due foreign banks from 17 October 1983 to 31 December 1986 have been restructured on a 10-year basis with varying interest rates. In addition, the Philippines has arranged a standby credit facility with the IMF equivalent to US \$608 million.

The causes of the 1983 BOP crisis are well documented.<sup>7</sup> Hence, there is no need to discuss them here in detail. It suffices to say that both the international economic environment and domestic policies contributed to the BOP crisis. Specifically, the sharp deterioration in the terms of trade, high international interest rates, the prolonged recession experienced by important trading partners, an overvaluation of the peso, expansionary fiscal and monetary policies, the system of protection, and wasteful investment as exhibited by the rising incremental capital-output ratio (ICOR) were among the important factors causing the severe BOP difficulty.<sup>8</sup> There is persuasive evidence indicating that domestic policies are largely to blame for the BOP crisis.<sup>9</sup>

The response of the government to the 1983 crisis is well documented and thoroughly analyzed in Lamberte *et al.* (1985). In particular, policies first became very restrictive in the wake of the BOP crisis. In addition to the exchange rate adjustments,<sup>10</sup> the Central Bank imposed quantitative controls on importations and on foreign exchange holdings by domestic commercial banks. But as the need to secure a standby program with the IMF and a rescheduling agreement with foreign bank creditors became more pressing in view of the sharp deterioration in economic growth, the government began accepting orthodox IMF prescriptions.<sup>11</sup> These include, among others, freeing of the exchange rate and prices of basic commodities,<sup>12</sup> withdrawal of tax exemptions and subsidies, dismantling of overly protective tariffs and quantitative import controls, re-

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<sup>7</sup> See Remolona *et al.* (1985), Power (1984), Canlas *et al.* (1984), Intal (1984) and Lamberte *et al.* (1985).

<sup>8</sup> See Annex I for important economic indicators from 1975 to 1985.

<sup>9</sup> Aside from studies mentioned in footnote no. 7 above, see also Hill and Jayasuriya (1985).

<sup>10</sup> The adjustments occurred on 5 October 1983 (₱14 to \$1) and on 6 June 1984 (₱18 to \$1).

<sup>11</sup> Real GNP plunged by 5.5 per cent in 1984.

<sup>12</sup> A free float of the exchange rate was declared in October 1984 while price ceilings of basic commodities, except rice, were lifted.

straint on money growth, reduction of budget deficits, and aligning of rediscount rates with the market rates.

One controversial aspect of monetary policy adopted in the wake of the BOP crisis was the introduction of high-yielding CB bills which are intended to mop up excess liquidity and arrest the outflow of foreign exchange. The rates for Treasury bills approximated the movements of those of CB bills for most of the time.<sup>13</sup> The 90-day Treasury bill rate peaked at 43 per cent in November 1984 (see Table 8). To compete effectively with the Central Bank, banks responded by offering higher rates for time deposits and promissory notes. Thus, the bank's average cost of acquiring short-term funds in the market, as indexed by the Manila Reference Rate (MRR),<sup>14</sup> closely followed the movements of CB and Treasury bill rates. CB borrowings also became more expensive to banks since the rediscount rates on new loans shot up.<sup>15</sup> However, old loans, especially longer-term loans, with fixed rates still carried the old low rates. This can be an unsettling situation especially to those banks which have engaged in term transformation. Unless the increase in the interest rates on new loans is enough to compensate for the loss incurred with the old loans there will be a squeeze on bank profits. This is an empirical question that will be dealt with later on. Note that all the real rates including the real lending rates were severely negative in all the months of 1984. This means that even banks absorbed the inflation tax during this period.

The BOP crisis has put the banking system in severe financial stress. Since September 1983, the banking system has been unable to meet reserve requirements (see Table 8). According to a World Bank study, ten commercial banks had past due loans exceeding the critical ratio of 20 per cent of their outstanding loans. The sudden upsurge of non-performing assets in their portfolio led to their piling up of rediscounting arrearages with the Central Bank. As of 31 December 1984, the past due ratio of the entire banking system

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<sup>13</sup> CB and Treasury bills are short-term in nature. While CB bills are aimed at big institutional savers because of the minimum placement of ₱0.5 million, Treasury bills are aimed at the general public since they can be sold in smaller denominations, say ₱5,000 at the secondary market.

<sup>14</sup> MRRs (90 and 180 days) are weighted average interest rates on 90- and 180-day promissory issues paid during the immediately preceding week by the ten commercial banks with the highest levels of outstanding deposit substitutes.

<sup>15</sup> Lending rates are usually arrived at by adding the intermediation cost to the relevant MRR. The intermediation cost increased during the same period due partly to the adjustment of reserve requirement ratio from 18 to 24 per cent.

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Table 8 — Nominal Interest Rates of Selected Financial Instruments,  
Inflation Rate and Excess Reserves

	Savings Deposits	Time Deposits (61-90 days)	WAIR	T-Bills (91 days)	MRR (90 days)	Secured Loans		Inflation Rate	Excess (Deficit) Reserves (P.M)
						1 Yr. and Below	1-2 Yrs.		
1983 J	9.841	13.323	13.083	14.043	15		21.176	17.629	242
F	9.780	13.585	14.895	14.047	14	5/16	21.305	18.187	77
M	9.740	14.026	15.031	14.043	14	3/4	18.275	18.255	86
A	9.680	12.906	12.680	14.034	14	9/16	20.366	17.828	86
M	9.731	13.200	14.628	13.988	14	3/4	18.439	17.824	295
J	9.721	12.806	14.371	13.561	14	1/12	19.519	18.180	302
J	9.778	12.718	14.329	13.704	15	1/16	21.467	18.746	302
A	9.712	13.433	15.814	14.061	15	1/8	19.505	18.438	149
S	9.713	13.467	16.513	14.299	15	1/4	21.514	18.021	149
O	9.702	13.615	22.195	14.577	15	3/8	19.511	18.619	(1,389)
N	9.666	14.933	19.401	15.038	16	9/16	26.251	21.654	(972)
D	9.687	14.964	26.304	15.382	17	1/16	22.974	21.280	(1,966)
1984 J	9.738	14.329	23.440	15.633	16	7/8	24.118	21.039	(1,292)
F	9.842	15.573	20.881	16.320	17	7/8	24.085	22.059	(1,755)
M	9.784	15.368	12.579	16.542	16	15/16	24.220	21.846	(175)
A	9.685	15.298	17.545	16.863	17	15/16	25.043	21.841	(442)

Table 8 (Continued)

	Savings Deposits	Time Deposits (61-90 days)	WAIR (91 days)	T-Bills (91 days)	MRR (90 days)	Secured Loans		Inflation Rate	Excess (Deficit) Reserves (PM)	
						1 Yr. & Below	1-2 Yrs.			
1984 M	9.697	15.921	28.562	19.776	18	7/16	24.035	26.325	42.1	(442)
J	9.660	20.826	34.825	26.628	22	1/4	24.052	25.594	49.2	(386)
J	9.688	19.918	33.349	31.625	22	13/16	24.058	28.239	58.8	(440)
A	9.607	20.630	28.501	33.535	24	3/4	NT	30.421	60.4	(380)
S	9.604	23.355	31.450	37.775	25	3/4	26.750	30.234	63.6	(837)
O	9.660	29.370	37.148	42.040	33	3/4	37.119	32.445	63.8	(581)
N	9.734	32.471	33.680	43.000	37	1/16	39.000	37.950	60.6	(360)
D	11.559	31.006	23.986	42.214	39		39.000	39.102	50.8	—

N.T. = No. Transaction

Note: Figures are averages for the month, except for excess reserves and inflation rate.

Source: Department of Economic Research, Central Bank of the Philippines.

had already reached 59 per cent (see Table 9). During the past two years, four thrift banks and two commercial banks were closed by the Central Bank.<sup>16</sup> The rural banking system, which heavily relies on Central Bank rediscounting, has been completely immobilized, with 85 per cent of them having past due obligations with the Central Bank.

### 3. Financing the Budget Deficits Under the Reforms

#### *The Shift in Monetary Aggregates*

As far as the basic monetary aggregates are concerned, the 1980 financial reforms seem to have had the expected effects. As one would expect from the lifting of the ceilings on deposit rates, there was substantial growth in the broader money aggregates led by a portfolio shift into interest-earning deposits. As shown in Table 10, broad money (*M2*) grew from 20.9 per cent of GNP in 1980 to 21.6 per cent in 1981 and 23.5 per cent in 1982. Total liquidity (*M3*) grew from 25.6 per cent of GNP in 1980 to 27.0 per cent in 1981 and 28.4 per cent in 1982. Such growth is pretty impressive, coming as it did in the wake of a financial crisis.

The shift into interest-earning deposits came partly at the expense of currency and demand deposits, the two forms of money which paid no interest. This in turn meant a downward shift in the demand for base money, stemming from a reduced demand for both of its components. The reduced demand for the currency component has already been mentioned. For the other component of base money, bank reserves, the reduction in demand came from the lower reserve requirements mandated by the reforms. Hence, the ratio of *M2* to base money rose from 3.4 in 1980 to 3.7 in 1981 and 4.2 in 1982. This corresponded to a fall in the ratio of base money to GNP from 6.4 per cent in 1980 to 6.1 per cent in 1981 and 5.9 per cent in 1982.

All this should have been desirable as it reflected an increased flow of resources into the financial system as people put more of their savings into bank deposits. At the same time it reflected a potential for a more efficient allocation of those resources as the relaxation of the reserve requirements would allow narrower spreads

<sup>16</sup> The thrift banks are: Banco Filipino and Mortgage Savings Bank, Royal Savings Bank (taken over by ComBank), Daily Savings Bank and PAIC Savings and Mortgage Bank; the commercial banks are: Philippine Veterans Bank and Pacific Banking Corporation, a medium-size bank.

Table 9 -- Rediscouting Arrearages with the Central Bank,  
By Type of Bank  
For the Year ended December 31, 1984

Type of Institution	Outstanding Rediscounts* (₱M)	Past Due Amount (₱M)	Per Cent to Total	Past Due Ratio (%)
Government Banks		355.3	7.0	25.8
PNB	—			
LBP	301.9			
Private Commercial Banks	3,154.4	1,690.8	33.2	53.6
Thrift Banks	472.6	472.6	9.3	100.0
Rural Banks	3,569.9	2,579.1	50.6	72.2
Total	<u>7,498.8</u>	<u>5,097.8</u>	<u>100.0</u>	<u>59.4</u>

\*Includes advances by CB to distressed banks.

Source: Central Bank of the Philippines.

Table 10 -- Selected Monetary Ratios  
1978-83  
(Endyear Stocks)

	1978	1979	1980	1981	1982	1983
Ratio of M2 to GNP (%)	22.7	20.5	20.9	21.6	23.5	25.3
Ratio of M3 to GNP (%)	29.1	26.0	25.6	27.0	28.4	29.8
Ratio of M2 to base money	3.3	3.1	3.4	3.7	4.2	3.5
Ratio of M3 to base money	4.2	3.9	4.2	4.6	5.1	4.1
Ratio of base money to GNP (%)	6.9	6.8	6.4	6.1	5.9	7.7
Ratio of base money to currency in circulation	1.5	1.6	1.7	1.6	1.6	1.5

Source of basic data: Central Bank of the Philippines.

between deposit rates and lending rates. However, it also meant that the monetary system would be providing a smaller base for the financing of the government budget deficit. To finance a larger deficit from a smaller base would have to mean more burdensome means of extracting the revenue. In the case of the Philippines, the burden fell on international reserves.

### *Financing the Budget Deficits*

At the very time the financial reforms were being put in place, the national government started running budget deficits of unprecedented size. As shown in Table 11, the budget deficit in 1980 was recorded to be ₱3.4 billion. But in 1981, when the reforms were first implemented, the budget deficit reached a staggering ₱12.2 billion, and in 1982 it was ₱14.4 billion.<sup>17</sup> Up until then, the budget deficit had not exceeded 3.0 per cent of GNP. In 1981 and 1982, this ratio had reached 4.0 per cent and 4.3 per cent, respectively. In a country with a capital market as poorly developed as that of the Philippines, the national government had to turn abroad and to the domestic banking system to finance these deficits.

In 1981, the government resorted to foreign borrowing to finance 49 per cent of its deficit. But in 1982, this source could provide no more than 33 per cent of the needed financing. Hence the government had to turn increasingly to the domestic banking system. However, as we have pointed out, the financial reforms now limited the government's access to commercial banks as a relatively cheap source of financing. As Table 11 shows, in 1980 commercial banks were still financing the bulk of the budget deficit, whether by increased holdings of reserves or by increased holdings of government securities. By 1981, however, in spite of a much larger deficit to finance, commercial banks provided less than half of the 1980 level of financing. In 1982, these banks did increase their financing to match the increase in the budget deficit. Nonetheless, the result was still that the government had to resort to currency creation much more than to any other domestic means of financing. Hence, while currency creation accounted for only 16.7 per cent of domestic financing in 1980, it accounted for 67.7 per cent in 1981 and for 72.2 per cent in 1982.

The demands the government placed on currency creation, however, far exceeded the willingness of the public to absorb it. As

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<sup>17</sup> According to records of the Office of the Budget and Management, the combined deficits of the 13 major nonfinancial parentals were even larger (₱12.5 billion in 1981 and ₱14.5 billion in 1982).

Table 11 — Financing of the Budget Deficit of the National Government  
1978-83  
(Billions of Pesos)

	1978	1979	1980	1981	1982	1983
Budget deficit	2.2	0.3	3.4	12.2	14.4	6.5
Domestic financing <sup>a</sup>	0.4	-2.8	1.2	6.2	9.7	0.8
Currency creation <sup>b</sup>	-0.5	-0.2	0.2	4.2	7.0	6.1
Commercial banks <sup>b</sup>	1.2	0.4	2.7	1.3	3.6	0.1
Nonbank borrowing <sup>c</sup>	-0.3	-3.0	-1.7	0.7	-0.9	-5.4
External financing	1.8	3.1	2.2	6.0	4.7	5.7

<sup>a</sup>Measured as the change in Central Bank claims on the national government net of deposits less the change in bank reserves.

<sup>b</sup>Measured as the change in bank reserves plus the change in commercial bank claims on the national government net of government deposits.

<sup>c</sup>Measured as the residual.

Source of basic data: Central Bank of the Philippines.

mentioned earlier, one result of the financial reforms was a shift away from holding bank reserves on the part of banks and from holding currency on the part of the public. As a consequence, the increments in base money in 1981 and 1982 fell far short of Central Bank holding to the national government, such lending being the sum of the uses of currency and bank reserves to finance the budget deficit. As shown in Table 12, this meant that other sources of base money creation had to suffer. One such other source, Central Bank liquidity credit to commercial banks, did decline somewhat but by not nearly enough to accommodate the credit requirements of the national government. As it turned out, the entire burden of accommodation was placed on Central Bank holdings of international reserves. As Table 12 shows, net foreign assets of monetary authorities suffered acute declines starting in 1981, leading to the external payments crisis in 1983.

The accommodation of international reserves to the pressures on the peso exerted by having to finance unusually large budget deficits would have worked through various channels. When households and firms find themselves holding more local currency than they desire, they will find a way to either spend it or to replace it with other assets. In an economy as open as that of the Philippines, the increased spending must somehow find its way to an increased demand for foreign goods.<sup>18</sup> If the desire were to replace pesos with foreign assets, one could then circumvent exchange controls in the Philippines by means of export underinvoicing. Either way of getting rid of excess pesos will be reflected in a worsening in the recorded current account deficit and a depletion of exchange reserves such as what did take place in the Philippines. At the same time this excess creation of currency may have led to capital flight as evidenced by the large negative flows under errors and omissions in the balance of payments, amounting to over \$850 million in 1981 and 1982.

### *Estimating the Effect of the Reforms*

To get a better handle on the degree to which the financial reforms affected the way the government had to finance its budget deficits, we estimated the demand for money, using  $M2$  as our aggre-

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<sup>18</sup> In a closed economy, the increased spending will be reflected in higher prices. In the Philippines, however, inflation rates in 1981 and 1982 were kept moderate relative to previous years.

Table 12 — Sources of Changes in Base Money  
1978-83  
(Billions of Pesos)

	1978	1979	1980	1981	1982	1983
Change in base money	2.4	2.8	1.9	1.7	1.0	9.4
of which: Bank reserves	0.9	1.5	0.6	0.2	-0.2	2.2
Net credit to National Government <sup>a</sup>	0.4	1.3	0.8	4.4	6.8	8.3
Credit to commercial banks	3.0	3.8	4.4	3.6	0.6	-0.7
Change in net foreign assets	-1.2	-2.1	-3.4	-10.8	-15.8	-27.7

<sup>a</sup>Change in Central Bank claims on the national government net of changes in government deposits.  
Source of basic data: Central Bank of the Philippines.

Table 13 --- Estimates of the Demand for Broad Money (M2) and of the Base Money (H) Multiplier 1958-80

Equation	Dependent Variable	Constant	Inflation Rate	Return on Foreign Assets	$\log(y - g)$	$\log\left(\frac{M2}{P-1}\right)$	R <sup>2</sup>	S. E.	D. W.	P
(1)	$\log \frac{M2}{P}$	-0.65	-1.59 (-2.59)	0.21 (0.80)	0.30 (2.57)	0.80 (6.44)	0.98	0.06	2.61	
(2)	$\log \frac{M2}{P}$	-0.62	-1.89 (-2.62)		0.24 (1.83)	0.91 (6.06)	0.98	0.06	2.02	
(3)	$\log \frac{M2}{P}$	-1.70	-2.77 (-2.07)		1.10 (11.35)		0.88	0.14	1.25	
(4)	$\log \frac{H}{M2}$	0.55	1.01 (1.18)	-0.06 (-0.16)	-0.34 (-5.30)		0.58	0.09	0.94	
(5)	$\log \frac{H}{M2}$	0.48	-0.70 (-0.68)		-0.30 (-2.16)		0.70	0.08	1.81	0.69
(6)	$\log \frac{H}{M2}$	0.56	1.15 (1.21)		-0.34 (-5.04)		0.55	0.21	0.98	

Note: Estimates are two-stage-least-squares based on annual data for 1956-80; t-statistics in parentheses. The return on foreign assets is the U.S. T-Bill rate plus the peso depreciation rate. The scale variable,  $y - g$ , is real GNP minus real government expenditures. Instruments are two lagged values of the right-hand side variables.

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gate and using data for 1956-80.<sup>19</sup> To derive a demand for base money, we also estimated functions for the reciprocal of the base money multiplier for *M2*. Our various estimates are presented in Table 13. They all give reasonably good fit. For our purposes we shall use equations (1) and (2) for money demand and equations (5) and (6) for the multiplier to try to predict what would have happened to base money had there been no financial reforms and had inflation rates been what they were. Equation (6) has the worst fit — as far as equation (4) is concerned, it has the wrong sign for the coefficient on inflation — but we shall see it anyway to see how robust our conclusions are.

Using different combinations of our four equations, there are four sets of hypothetical values for base money at yearends 1981 and 1982. These hypothetical values are presented in Table 14. In

Table 14 — Creation of Base Money: Actual and Hypothetical  
1981-82  
(Billions of Pesos)

	1981	1982
Actual	1.69	1.03
Equations (1) and (5)	2.32	3.10
Equations (1) and (6)	1.57	2.17
Equations (2) and (5)	2.27	3.60
Equations (2) and (6)	1.52	2.63

Source of basic data: Central Bank of the Philippines and Table 13.

two of these sets, our estimates indicate a lag in the effect of the reforms. This is the case for the combination of equations (1) and (6) and the combination of equations (2) and (6), in which the hypothetical increases in base money in 1981 fall short of the actual increase. This may be due to the problem that equation (6) has with regard to its coefficient in inflation, as we have indicated above. In any case, for 1982 the hypothetical increases in base money do exceed the actual increase.

<sup>19</sup>The reason why we use *M2* instead of *M3* is that data for deposit substitutes, a component of *M3*, are not available before the 70s.

The hypothetical increase in base money is greater based on equations (1) and (5) and equations (2) and (5). However, even using these more favorable estimates, postponing the reforms would have meant at most ₱630 million in additional base money creation in 1981 and ₱2.6 billion additional in 1982. These appear to be very modest sums given the ₱10.8 billion fall in net foreign assets in 1981, the ₱15.8 billion fall in 1982 and the size of the budget deficits (see Tables 11 and 12). Hence, while the reforms do seem to have made it more difficult to finance the budget deficits in 1981 and 1982, they did so only in a minor way. Given the enormity of the budget deficits and the rate at which foreign exchange reserves were depleted, it does not look as if the balance-of-payments crisis would have been prevented had the reforms not been introduced.

This experience confirms the lesson McKinnon (1982) drew from earlier developments in Argentina and Chile. Both countries undertook reforms similar to those in the Philippines. Like the Philippines, Argentina was unable to establish fiscal control. The only difference was that in Argentina the result was runaway inflation. In the Philippines the result was a depletion of international reserves. Chile, on the other hand, supported its financial reforms by keeping a tight lid on the government's budget deficit, and thus avoided the problems the Philippines and Argentina faced.

#### 4. The Vulnerability of the Banking System to the Balance-of-Payments Crisis

This section is going to test the hypothesis that the higher interest rates on bank's sources of funds, i.e., deposits and borrowed funds, and the low returns on loans carried over from the period of repressed interest rates combined to put a severe squeeze on bank profits.<sup>20</sup> The hypothesis is going to be tested by using the statistical revenue-cost accounting model.<sup>21</sup> We will briefly discuss here the essential elements of the said model.

The statistical revenue-cost accounting model provides empirical estimates of the net rates of return (cost) which banks realize on various elements of their portfolios. In the model, the gross revenue

<sup>20</sup> This hypothesis has been suggested in IMF (1983).

<sup>21</sup> See Lamberte (1983) for the development and application of the said model.

earned by banks is assumed to be a linear function of the elements of their portfolio. That is,

$$(1) \quad Y_i = Y_o + \sum_j Y_j X_{ji}$$

where:

$Y_i$  : gross income of the  $i$ th bank,

$Y_o$  : the revenue not associated with any of the elements in the portfolio (balance sheet),

$Y_j$  : the gross rate of return on the  $j$ th element in the portfolio, and

$X_{ji}$  : the book value of the  $j$ th element in the portfolio of the  $i$ th bank.

The total cost is also assumed to be a linear function of the elements of bank portfolio. That is,

$$(2) \quad C_i = b_o + \sum_j b_j x_{ji}$$

where:

$C_i$  : the total current operating cost for the  $i$ th bank

$b_o$  : the cost not associated with any of the elements in the portfolio, and

$b_j$  : the rate of cost on the  $j$ th element in the portfolio.

To obtain the net rates of return on the various elements of bank portfolio, we subtract equation (2) from equation (1). This gives

$$(3) \quad \bar{R}_i = \bar{r}_o + \sum_j \bar{r}_j x_{ji}$$

where:

$\bar{R}_i = Y_i - C_i$  = net income for the  $i$ th bank,

$\bar{r}_j = y_j - b_j$  = net rates of return on the  $j$ th element in the portfolio, and

$\bar{r}_o = y_o - b_o$  = net fixed revenue that does not vary with any of the elements of the bank's portfolio.

The interpretation of  $\bar{r}_j$  has to be clarified. Under a balance sheet constraint, a peso increase in loans will result in an increase in expected income, but this will drain reserves by an equal amount, thereby increasing the expected cost of short-term borrowing. Simi-

larly, a peso increase in deposits will raise the cost of servicing them, though this will also reduce the expected cost of borrowing. Thus,  $\bar{r}_j$  should be interpreted as the marginal return or implicit rate of return of an asset or liability item adjusted by the marginal cost and probability of short-term borrowing.

Instead of estimating equation (3), we deflate all variables by total assets to avoid inefficiency in the estimation of coefficients associated with heteroskedasticity of residuals. Thus, the form of the equation to be estimated is:

$$(4) \quad R_i = a + r_o A_{oi} + \sum_j r_j X_{ji}^* + w_i$$

where:

$TA_i$  : total assets of the  $i$ th bank,

$R_i$  :  $\bar{R}_i / TA_i$ ,

$A_{oi}$  : a scale variable given by the reciprocal of the total assets of the  $i$ th bank, i.e.,  $1/TA_i$ ,

$X_{ji}^*$  :  $x_{ji} / TA_i$ ,

$r_o$  : coefficient of the scale variable,

$a$  : the constant term,

$r_j$  : net rate of return on the  $j$ th element in the portfolio, and

$w_i$  : the stochastic disturbance term.

Our study includes all domestic commercial banks. The combined assets of commercial banks comprised about 72 per cent of the total assets of the entire banking system in 1984. It can therefore be said that the banking system is reasonably covered in our study.

Under normal conditions, the coefficients of the asset items in equation (4) are expected to be nonnegative while those of the liability items, nonpositive. To test our hypothesis, we need estimates of equation (4) before and after the financial reforms. If the estimated net rates of return on earning assets after the financial reforms are lower than those obtained before the financial reforms, then our hypothesis is said to be supported. Note that the coefficients of the asset items in equation (4) may even be negative after the financial reforms considering that two crises — one in 1981 and another in 1983 — had badly hit the financial system.

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This study covers the period 1977-84. It is divided into two subperiods, namely: Pre-Reform Period (1977-80) and the Post-Reform Period (1981-84). The latter is further divided into two subperiods, namely: 1981-82, the period before the balance-of-payments crisis; and 1983-84, the balance-of-payments crisis period.

Balance sheets and income statements of individual banks for the period 1977-84 were obtained from the Securities and Exchange Commission (SEC). We encountered great difficulty in sorting out balance sheet items since the balance sheets submitted by individual banks do not follow a uniform format.<sup>22</sup> More disaggregative data, for example, loans classified according to maturity and deposits according to type, i.e., demand, savings and time deposits, would have been more appropriate for our purpose. However, this was not possible because most banks submitted highly aggregative financial statements. The best classification of balance sheet items we could

**Table 15 — Variables Included in the Model**

Variables	Description
<i>I. Dependent Variable</i>	
$R_i$	Net income of the <i>i</i> th bank
<i>II. Independent Variables</i>	
$1/TA_i$	Reciprocal of total assets of the <i>i</i> th bank
$X_{1i}$	Investments of the <i>i</i> th bank
$X_{2i}$	Loans outstanding of the <i>i</i> th bank
$X_{3i}$	Outstanding deposits of the <i>i</i> th bank
$X_{4i}$	Borrowings of the <i>i</i> th bank

come up with is presented in Table 15. It includes two earning assets, namely loans and investments, and two liability items, namely deposits and borrowings. Note that cash reserve, defined as cash on hand, checks and other cash items, is deliberately excluded from the model. The reason for its exclusion is that the balance sheet constraint needs to be satisfied always so that if there are any changes

<sup>22</sup> Data from the Central Bank would have been ideal since individual banks are required to follow a certain format. However, our request to obtain data from the Central Bank was turned down.

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in any of the asset and liability items, cash reserve could be adjusted accordingly. This is required in order to be consistent with our interpretation of the coefficients of equation (4).

The ordinary least-squares (OLS) method is used to estimate equation (4). Since pooled time series and cross-section data are being utilized, we estimate equation (4) with and without time dummy variables.

Table 16 presents the estimated net rates of return (cost) on the elements of bank portfolio before and after the financial reforms. The computed F-statistics of all regressions are statistically significant at .01 level, and the values of  $\bar{R}^2$  are quite reasonable considering that we are using cross-section data. Note that the coefficients of the time dummy variables are not statistically significant for both periods.

Table 16 — Estimated Net Rates of Return (Cost)  
on the Elements of Bank Portfolio:  
Pre-Reform (1977-80) and  
Post-Reform (1981-84) Periods

	Post-Reform Period (1981-84)		Pre-Reform Period (1977-80)	
	Without Time Dummies	With Time Dummies	Without Time Dummies	With Time Dummies
Constant	0.0350 (5.31)*	0.0354 (4.42)*	-0.0041 (-0.33)	-0.0088 (-0.68)
1/TA	-0.1377 (-0.47)	-0.1242 (-0.41)	-5.636 (-2.95)*	-4.8293 (-2.36)**
Investments	-0.0208 (-1.22)	-0.0206 (-1.15)	0.0804 (6.34)*	0.0837 (6.42)*
Loans	-0.0116 (-1.39)	-0.0122 (-1.28)	0.0504 (4.25)*	0.0512 (4.27)*
Deposits	-0.0128 (-2.37)**	-0.0128 (-2.31)**	-0.0275 (-2.80)	-0.0263 (-2.65)**
Borrowings	-0.0418 (-5.69)*	-0.0419 (-5.60)*	-0.0326 (-2.87)*	-0.0300 (-2.67)**
D78				0.0027 (1.06)
D79				0.0015 (0.59)
D80				0.0034 (1.30)
D81				
D82		-0.0011 (-0.48)		
D83		0.0097 (0.41)		
D84		-0.0040 (-0.15)		
R <sup>2</sup>	0.21	0.20	0.31	0.31
F	7.62*	4.78*	11.65*	7.46*

\*Significant at .01 level.

\*\*Significant at .05 level.

The estimated net rates of return (cost) on the elements of bank portfolio for the Pre-Reform Period are statistically significant at

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standard significance levels, except for the constant term. Their signs conform to our *a priori* expectation; that is, the coefficients of earning assets are positive, while the coefficients of liability items are negative. Note that the net rate of cost for borrowings is slightly higher than that for deposits. This is to be expected since a greater proportion of borrowings consists of deposit substitutes whose rates are usually higher than those of traditional deposits, whereas, the variable deposits include demand deposits which are non-interest bearing liability of banks.

The net rate of return on investments is relatively higher than that of loans. This is possible since the variable investments include bank's equity investments in allied undertakings whose rates of return are not controlled by the Central Bank; hence the average return for all investments was pulled up.<sup>23</sup> In contrast, a ceiling on interest rate was imposed on loans during this period; hence, the relatively lower return on loans.

For the Post-Reform Period, only the constant term and the coefficients of deposits and borrowings are statistically significant. Note that the net rate of cost of borrowings is relatively higher for the Post-Reform Period than for the Pre-Reform Period. When interest rates were liberalized, stiffer competition in the market for deposit substitutes compelled banks to offer higher rates for deposit substitutes. As may be seen from Table 5, the weighted average interest rate (WAIR) of deposit substitutes jumped to 15.8 per cent per annum in 1981 from 13.3 per cent per annum in 1980.

The most interesting result is that the coefficients of investments and loans are negative, although not statistically significant. It suggests that investments and loans have adversely affected bank profits. The reason is that the higher interest rates on deposits and borrowed funds and the low returns on loans and investments carried over from the period of repressed interest rates combined to put a squeeze on bank profits. Indeed, the results of our analysis seem to support our hypothesis.

The Post-Reform Period was further subdivided into two periods, namely: 1981-82, the period before the balance-of-payments crisis; and 1983-84; the balance-of-payments crisis period. The reason for further subdividing this period is that the Central Bank heavily influenced the movements of the interest rate in 1983-84 as part of

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<sup>23</sup> Investments also include investments in government bonds whose rates were fixed by the Central Bank at low levels.

its effort to mop up excess liquidity. In contrast, it played only a passive role in the determination of interest rate before 1983.

The estimated net rates of return (cost) on the elements of bank portfolio with and without time dummies for the two sub-periods are presented in Table 17. Loans have negative effects on bank profits for both periods, although the coefficients are not statistically significant. The coefficient of investments is positive for 1983-84 without time dummies while negative for the other regressions; however, the coefficient is not statistically significant for all the regressions.

Table 17 — Estimated Net Rates of Return (Cost) on the Elements of Bank Portfolio: Before (1981-82) and During (1983-84) Balance-of-Payments Crisis

	1983-1984		1981-82	
	Without Dummies	With Dummies	Without Dummies	With Dummies
Constant	0.0377 (3.82)*	0.0431 (3.22)*	0.0285 (2.88)*	0.0290 (2.91)
1/TA	1.3921 (0.25)	0.6162 (0.11)	-0.7099 (-0.20)	-0.7536 (-0.21)
Investments	0.0043 (0.16)	-0.0024 (-0.08)	-0.0378 (-1.66)	-0.0384 (-1.68)***
Loans	-0.0097 (-0.76)	-0.0156 (-0.97)	-0.0107 (-0.89)	-0.0102 (-0.84)
Deposits	-0.0257 (-3.22)*	-0.0261 (-3.24)*	-0.0014 (-0.18)	-0.0009 (-0.11)
Borrowings	-0.0429 (-3.94)*	-0.0432 (-3.94)*	-0.0354 (-3.42)*	-0.0359 (-3.46)*
D84		-0.0019 (-0.60)		
D82				-0.0016 (-0.69)
$\bar{R}^2$	0.32	0.33	0.14	0.13
F	5.11*	4.27*	3.14**	2.67**

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .10 level.

The interesting result is that the coefficient of deposits is statistically significant during the period 1983-84, but not statistically significant during the period 1981-82. Some explanations are in order here. When the interest rates were liberalized in 1961, the interest rate on savings deposits virtually remained the same, while the interest rate on time deposits only inched up a little in 1981, and even went down in 1982 (see Table 5). This reflects the oligopoly power exercised by commercial banks over the market for deposits. Indeed, the effort of the Philippine National Bank (PNB) to break away from the oligopoly resulted in having PNB alienated from the banking community for a while.<sup>24</sup> Thus, variation in the volume of deposits did not have much to do with the variation in net income.

The situation in 1983-84 is quite different from the previous period. The Central Bank actively traded high-yielding CB bills and Treasury Bills. Confronted with the possibility of severe disintermediation, banks started offering higher rates for time deposits to stay competitive. This could be the reason why deposits had a statistically significant negative effect on bank profits in 1983-84.

Note that the interest rate on loans shot up in 1984. However, the estimated net rate of return is negative for the period 1983-84. This suggests that the increase in interest rate on new loans contracted in 1984 was not enough to compensate for the interest rate loss incurred on medium- and long-term loans contracted in the previous years, not to mention the losses due to loan default. Those who have heeded the Central Bank's call for term transformation must have been badly hurt during the crisis period. Indeed, this has severely weakened the banking system's ability to weather the balance-of-payments crisis.

## 5. Summary and Conclusions

In 1981, the Philippines started to implement a set of financial reforms primarily aimed at liberalizing the financial system. However, two years after, a balance-of-payments crisis intervened, and this has put severe stress on the financial system. This episode raises at least two major issues. First, to what extent did the financial

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<sup>24</sup> Commercial banks seem to have no oligopoly over the market for deposit substitutes since they are dealing mostly with large institutional investors who are sensitive to changes in the interest rates. In addition, banks are also confronted with strong competition from non-banks authorized to perform quasi-banking activities (NBQBs).

reforms contribute to the balance-of-payments crisis? Second, to what extent did the reforms weaken the banking system's ability to weather the external crisis? This paper has attempted to address these issues. The following is a summary of the major findings and conclusions of the study.

The financial reforms had led to a downward shift in the demand for base money. The public shifted to interest-earning deposits at the expense of currency, which is a component of base money. The demand for bank reserve, which is the other component of base money, had also declined, due mainly to the lower reserve requirements mandated by the reforms. The downward shift in the demand for base money implies that the monetary system had been providing a smaller base for the financing of the government budget deficit. To finance a larger deficit from a smaller base means a more burdensome way of extracting the revenue; and the burden fell on international reserves.

The losses in base money due to the reforms were calculated. The results show that the losses in base money due to the reforms were very small relative to the fall in net foreign assets and the size of the budget deficits in 1981 and 1982. The conclusion that can be drawn from these results is that the 1983 balance-of-payments crisis could not be attributed to the financial reforms. Rather, the inability to establish fiscal control at the time when financial reforms were introduced resulted in the depletion of international reserves.

The interest rate liberalization has a far-reaching implication on bank operation. Results of the study indicate that the higher interest rates on deposits and borrowed funds induced by the financial reforms and the low returns on loans and investments carried over from the period of repressed interest rates combined to put a squeeze on bank profits. This had made banks more vulnerable to the balance-of-payments crisis. When the external crisis struck, the banking system experienced deposit runs which partly financed the capital flight. The ensuing increase in interest rates on new loans and deposits had prevented further capital flight and bank disintermediation. But this has further squeezed bank profits. In particular, the results of the study show that the increase in the interest rate on new loans contracted during the crisis period was not enough to compensate for the loss incurred in medium- and long-term loans contracted in the previous years, not to mention the losses incurred due to numerous loan defaults. Indeed, those banks which heeded the Central Bank's call to engage in term transformation must have experienced greater financial difficulty during the crisis period.

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## REMOLONA AND LAMBERTE

## Annex I -- Selected Economic Indicators

Indicators	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
1. Real GNP Growth Rate (%)	5.9	6.1	6.9	6.2	7.5	4.4	3.7	2.8	1.3	-5.5
2. Inflation Rate (1978 = 100)	6.9	9.7	9.4	7.5	17.5	18.2	13.1	10.2	10.2	50.3
Consumer Price Index (%)	8.0	9.5	9.4	7.4	15.2	15.5	11.1	8.4	11.8	50.0
GDP Deflator (%)										
3. BOP Indicators										
Current Account (US\$M)	-892	-1,050	-752	-1,102	-1,497	-1,904	-2,061	-3,200	-2,757	
As % of GNP	5.7	5.9	3.6	4.6	5.0	5.4	5.4	7.9	8.0	
Overall BOP Position (US\$M)	-521	-161	164	-54	-570	-381	-560	-1,621	-2,068	258
International Reserves (Months of imports)	4.7	5.4	4.7	4.8	4.7	4.9	4.1	3.8	1.8	
4. Trade and Exchange Market										
Net Terms of Trade (1972=100)	87.8	77.7	71.0	78.8	81.6	68.6	60.4	58.7	65.0	
Exchange Rate (Real Effective: 1973=100)	92.3	89.0	86.9	88.3	85.8	87.2	87.2	88.2	92.7	112.90
5. External Debts <sup>b</sup>										
Total (US\$M)	3,402	5,099	6,563	8,195	9,733	12,187	14,826	17,475	18,864 <sup>a</sup>	
Short-Term (%)	12.9	14.0	15.4	16.6	18.6	20.9	24.1	25.6	22.4	
Long-Term (%)	87.1	86.0	84.6	83.4	81.4	79.1	75.9	74.4	77.6	
Debt Service Ratio <sup>c</sup>	21.7	33.3	23.1	29.4	27.2	25.4	30.7	44.7		
6. Public Finance Indicator										
Deficits/GNP (%)	1.2	1.8	1.9	1.2	0.6	1.3	4.0	4.3	1.7	1.6

## Annex I (Continued)

Indicators	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
7. Investment-Saving Gap (as % of GNP)	-7.1	-7.4	-4.3	-5.8	-6.3	-5.9	-6.0	-8.2	-7.5	
8. Liquidity Growth Liquidity Growth Less GNP Growth	19.2	24.3	22.4	18.0	10.9	18.2	21.1	16.1	18.6	6.6
9. Incremental Capital — Output Ratio	3.6	3.5	3.4	4.3	5.2	6.72	8.2	22.6		

<sup>a</sup> Preliminary.

<sup>b</sup> Refers to the external debt of the non-monetary sector only. The recently cited \$25 B external debt includes the debt of the monetary sector.

<sup>c</sup> Debt service burden including IMF loans divided by the total of foreign exchange from exports of goods.

Sources: Remolona *et al.* (1985) and Lamberte *et al.* (1985).