

## DEMAND FOR FINANCIAL ASSETS IN THE PHILIPPINES IN THE 1980S: THE IMPACT OF LIBERALIZATION TO DATE AND FUTURE ISSUES

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### *Abstract*

Financial liberalization in the early 1980s freed Philippine domestic interest rates to market determination. During the subsequent eight years, financial deepening proceeded with the ratio of financial asset holdings to GNP climbing to 40%. However, the structure of demand for financial assets underwent considerable change over this period. A regression analysis of demand for principal financial assets in the Philippines since liberalization reveals the following: Change in the ratio of financial assets to GNP can be explained by domestic inflation rates and two foreign-related factors, the rate of change in the foreign exchange rate and overseas interest rates. Change in nominal interest rates on various domestic financial instruments, along with the rate of inflation, are important in explaining the structure of financial asset holdings. Accordingly, further progress in accumulation of domestic financial assets for capital mobilization requires that inflation be restrained and, even more importantly, that the exchange rate be stabilized.

### *Introduction*

According to financial liberalization theory,<sup>1</sup> various excessive financial regulations as seen in many developing countries reduces the mobilization of domestic savings. In order to promote domestic savings, those excessive regulations should be eliminated. In the early 1980s, the Philippine government started a series of financial liberalization policies. Recently, scholars such as Lamberte and Relanpagos (1990), Lim (1990), and Kosaka (1991) have conducted the comprehensive studies of Philippine financial liberalization. However, in these works the mobilization of domestic savings has not been studied deeply enough. The purpose of this paper is to examine precisely what influence the Philippine financial reform policies had on the mobilization of domestic savings in the 1980s, by conducting the simple regression analysis of the demand functions for several financial assets.

This paper is organized as follows. Section I reviews the shift in the demand for financial assets in the Philippines in the 1980s. The next two sections examine the impact of financial reform policies on the financial resource mobilization, using the method of simple

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<sup>1</sup> For the pioneering works of financial liberalization theory, see McKinnon (1973) and Shaw (1973).

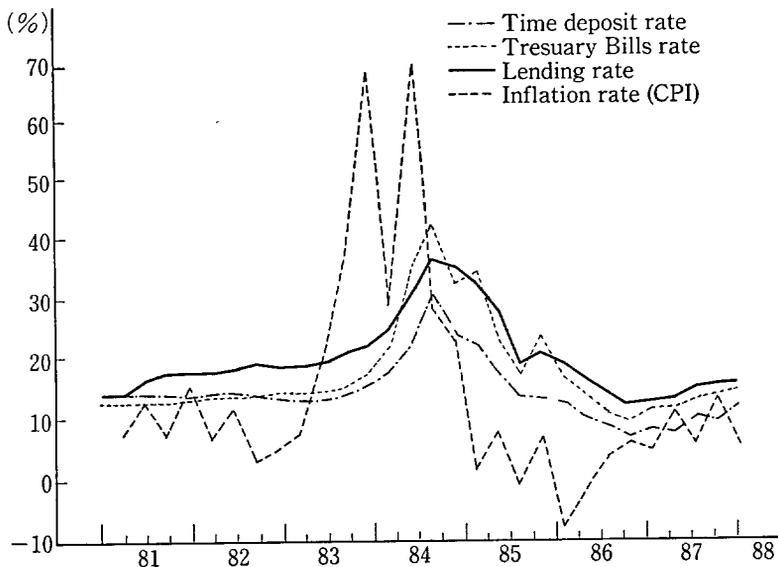
regression analysis. Section II examines the determining factors of the demand for individual financial assets. Section III analyzes the ratio of total financial asset holdings to GNP which is often used as an indicator of the level of financial resource mobilization. Section IV contains summary and policy implications.

### I. *Changes in the Financial System and Shifting Demand for Financial Assets in the 1980s*

The Philippine economy in the 1980s can be divided into three chronological periods: the period of deregulation (1980–1982), the period of economic crisis (1983–1985), and the period of recovery (1986–1989). The analysis undertaken for this paper suggests the following characteristics of demand for financial assets in the Philippines over the period since financial liberalization.<sup>2</sup> (Refer to Figures 1–4 and Tables 1–2 for data.)

(i) With the gradual implementation of domestic financial liberalization in the Philippines after 1981, domestic interest rates and foreign exchange rates became fundamentally market determined. The outstanding balance of principal financial assets as a percentage of GNP rose to approximately 40% during the eight year period from 1981–1988; that is, financial deepening advanced in the Philippine economy.

FIG. 1. PRINCIPAL NOMINAL INTEREST RATES

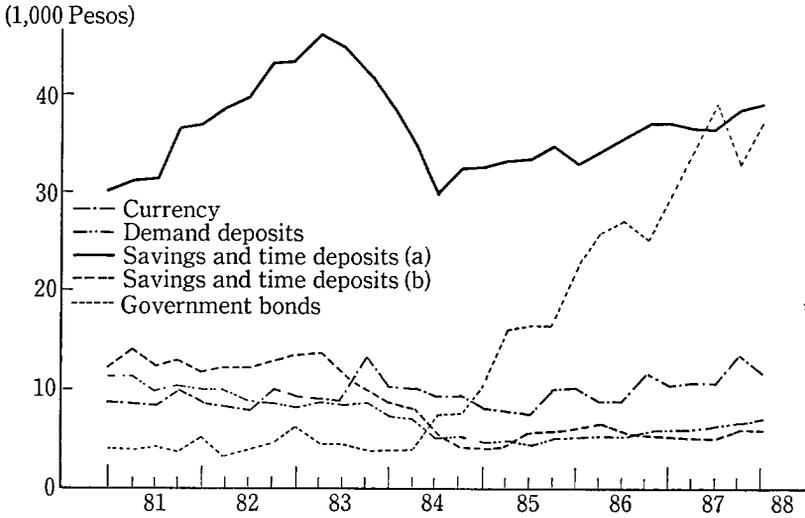


Source: IMF, *International Financial Statistics*.

Note: Annual rate.

<sup>2</sup> For the evaluation of Philippine financial liberalization, see Lamberte and Relampagos (1990), Lim (1990), Okuda (1990), Rosario (1989), Usigan (1989), and World Bank (1989).

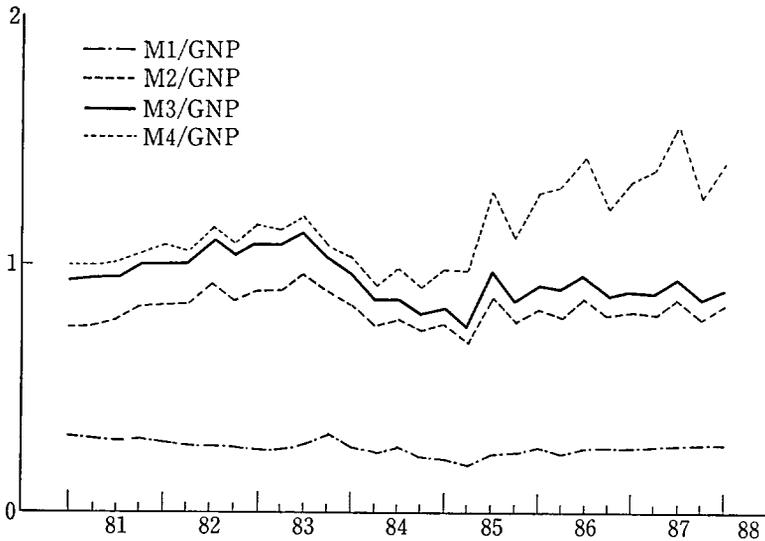
FIG. 2. REAL OUSTANDING BALANCE OF PRINCIPAL FINANCIAL ASSETS



Source: IMF, *International Financial Statistics*, and Central Bank of the Philippines, *Annual Report: Statistical Bulletin*, various issues.

Notes: Outstanding amount is denominated by CPI  
 (a) With deposit banks, (b) With non-deposit banks.

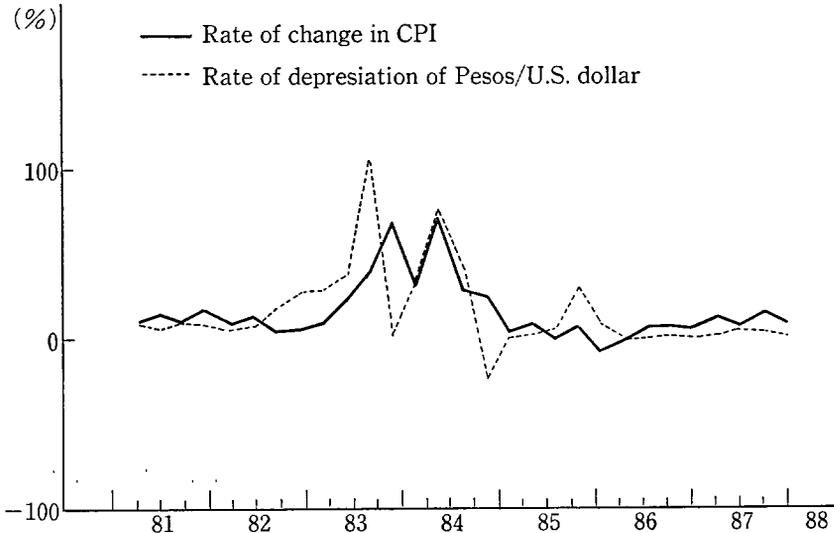
FIG. 3. RATIOS OF FINANCIAL ASSETS TO NOMINAL GNP



Source: Same as Fig. 2.

Note: GNP is measured in the quarterly base.  
 For M1, M2, M3, and M4, see section III.

FIG. 4. FOREIGN EXCHANGE RATE AND INFLATION RATE



Source: IMF, *International Financial Statistics*, various issues

Notes: Rate of change is measured in the quarterly base.

(ii) However, the structure of demand for financial assets underwent marked change as a result of the 1983–85 economic crisis. Prior to the crisis period, rising real market interest rates produced a striking increase in return on financial assets. Thus, the share of such assets, most notably savings and time deposits, increased remarkably. But during the 1983–85 crisis, these assets experienced a sharp decline in demand because of their low liquidity. With economic recovery, demand for savings and time deposits recovered somewhat then flattened. The greatest gain in both demand share and outstanding balance was shown in government bonds.

(iii) For this reason, the post-crisis ratio of M3 to GNP remained lower than early 1980s levels, failing to reach even 25%. This level is rather low compared to levels attained during high growth by Japan in the 1960s (60–70%) or Korea in the 1970s (roughly 30%). Even adding government bonds to M3, the ratio of financial assets to GNP fails to reach 40%, indicating that significant financial deepening remains to be achieved in the Philippines.

(iv) Examining asset holdings by financial intermediary, interest rate liberalization brought on a rise in the share of savings banks and other non-commercial bank institutions until the economic crisis set in when commercial banks, with their perceived greater reliability, increased their share.

(v) As to the maturity structure of assets, the crisis years again signal a shift. Prior to 1983, the maturity structure lengthened as savings and time assets grew in popularity. During the crisis, however, the overall term structure of assets shortened as the share of savings and time deposits in total holdings decreased and government bonds shortened in maturity. Since economic recovery, the share of longer term assets has continued to recover but is flattening; at the same time government bonds, which sharply increased

TABLE 1. TOTAL DEPOSIT LIABILITIES OF BANKS, 1981-1990

(In Million Pesos)

Period	Grand total (1+5+ 9+13+ 17+21)	Commercial Banks				Saving Banks			
		Total (1)	Demand (2)	Savings (3)	Time (4)	Total (5)	Demand (6)	Savings (7)	Time (8)
1981	99053.2	81654.0	14431.6	28390.1	38832.3	4565.2	112.8	2577.8	1874.6
1982	116661.5	95284.7	12081.2	34501.2	48702.3	5101.0	89.3	2791.6	2220.1
1983	140048.2	119033.0	19597.0	42268.0	57168.0	5957.8	124.3	3168.6	2664.9
1984	152236.6	137216.0	15747.0	48452.0	73017.0	3138.9	67.2	1771.2	1300.5
1985	167372.3	148673.0	14935.0	58437.0	75301.0	5734.8	98.3	3137.3	2499.2
1986	165927.2	146027.0	23217.0	74204.0	48606.0	7021.9	166.8	4538.4	2316.7
1987	179386.4	156908.0	23013.0	84439.0	49456.0	9170.7	218.2	7717.6	2234.9
1988	226808.1	198748.0	23555.0	110039.0	65154.0	12196.1	266.4	8898.9	3030.9
1989	286652.2	252391.0	29525.0	136714.0	86152.0	16542.7	397.5	11933.7	4211.5
1990	349419.4	310743.0	32607.0	181070.0	97066.0	17264.4	398.2	11539.1	5327.1

Period	Private Development Banks				Stocks Savings and Loan Associations			
	Total (9)	Demand (10)	Savings (11)	Time (12)	Total (13)	Demand (14)	Savings (15)	Time (16)
1981	1191.5	11.2	660.2	520.1	1466.3	—	875.1	591.2
1982	2025.5	105.4	922.8	997.3	2187.2	5.6	1112.6	1069.0
1983	2464.7	85.6	1059.6	1319.5	2760.7	20.5	1228.9	1511.3
1984	2185.3	134.0	939.5	1111.8	1734.9	13.0	994.8	727.1
1985	2765.4	130.1	1249.8	1385.5	1978.5	9.9	1085.4	883.2
1986	3315.5	213.2	1583.4	1518.9	2627.3	31.0	1517.2	1079.1
1987	3596.8	177.7	1918.6	1500.5	2279.6	—	1290.8	988.8
1988	4469.9	221.4	2331.2	1917.3	2440.8	—	1390.0	1050.8
1989	5738.9	260.5	2994.8	2483.6	2992.2	—	1672.3	1319.9
1990	6270.9	159.4	3533.0	2578.5	3041.0	—	1675.3	1365.7

Period	Specialized Government Banks				Rural Banks			
	Total (17)	Demand (18)	Savings (19)	Time (20)	Total (22)	Demand (22)	Savings (23)	Time (24)
1981	7748.9	21.9	6124.2	1602.3	2427.3	25.0	1471.3	931.0
1982	9067.3	16.3	6504.6	2546.4	2995.8	21.4	1886.7	1197.7
1983	6240.6	21.8	4307.9	1910.9	3591.4	23.5	2063.1	1504.8
1984	4645.3	22.9	658.1	3964.3	3316.2	17.6	1939.2	1359.4
1985	5201.9	17.7	716.9	4467.3	3018.7	17.1	1966.9	1034.7
1986	3168.4	26.8	314.4	2827.2	3767.1	20.5	2407.2	1339.4
1987	2915.0	29.7	251.3	2634.0	4516.3	22.7	3011.4	1482.2
1988	3684.3	41.4	1486.3	2156.6	5269.0	31.3	3519.1	1718.6
1989	2733.6	23.1	546.1	2164.4	6253.9	31.9	4224.6	1997.4
1990	5217.6	932.8	1950.2	2334.6	6882.5	33.1	4512.0	2337.4

Source: Central Bank of the Philippines, *Annual Report: Statistical Bulletin*, various issues.

TABLE 2. OUTSTANDING PUBLIC INTERNAL DEBT CLASSIFIED BY MATURITY, 1981-1990

(In Million Pesos)

End of Period	Total (2 to 4) (1)	Long-Term (2)	Middle-Term (3)	Short-Term (4)
1981	49364.6	16476.6	17616.7	15271.3
1982	57563.4	20085.1	19579.0	17896.3
1983	61114.4	21727.7	24971.9	14414.8
1984	84146.2	21086.5	24153.6	38906.1
1985	116286.5	26278.2	20427.4	69580.9
1986	144351.6	27595.8	16976.2	99779.6
1987	161100.3	24252.2	22997.2	113850.9
1988	207178.9	22077.9	26703.0	158398.0
1989	237249.6	20910.3	29906.7	186432.6
1990	254447.5	20634.2	23129.2	210684.1

Source: Central Bank of Philippines, *Annual Report: Statistical Bulletin*, various issues.

their share in total holdings, continue with short maturities.

## II. Estimation of Demand Function for Principal Financial Assets in the Philippines

The ratio of total financial asset holdings to GNP in the Philippines has increased since liberalization of the financial market in the early 1980s, despite a temporary drop during the years of economic crisis. At the same time, the structure of financial asset holdings has undergone marked shift.

In order to understand the causes behind this shift and to gain a better sense of the impact of financial liberalization policy on Philippine resource mobilization policy in the future, it is necessary to understand how demand for individual financial assets is determined. With this in mind, we conduct a simple regression analysis of the demand functions for several individual financial assets using the method of least squares.

### (1) Asset Demand Function Results

Using portfolio selection theory, we assume that the demand for a financial asset  $i$ ,  $D_i$ , is represented by the following equation:

$$\ln(D_i/Y) = C_0 + C_1 \cdot \ln(y) + C_2 \cdot \ln(Rtd) + C_3 \cdot \ln(Rtb) + C_4 \cdot \ln(Rus) + C_5 \cdot \ln(P) \\ + C_6 \cdot \ln(D_i/Y)_{-1} + C_7 \cdot D_1 + C_8 \cdot D_2 + C_9 \cdot D_3$$

where  $Y$  is nominal GNP,  $y$  is real GNP,  $Rtd$  is the nominal interest rate of time deposits with maturity of 60 through 90 days,  $Rtb$  is the nominal rate of return on Philippine treasury bills with maturity of 91 days,  $Rus$  is the nominal rate of return on US treasury bills with maturity of 91 days,  $P$  is the rate of inflation,  $(D_i/Y)_{-1}$  is  $(D_i/Y)$  with one period lag, and  $D_1$ ,  $D_2$ ,  $D_3$  are dummy variables for seasonal adjustment. Here,  $C_0$  is the constant

term and C1 through C9 are co-efficients for explanatory variables.

Using quarterly data covering the period between the first quarter of 1981 and the first quarter of 1988, we derived the following regressions of the demand functions of principal financial assets. Here,  $R$ ,  $DW$ , and  $S$  respectively represent the coefficient of determinants, the Darwin-Watson ratio, and standard deviation. The value indices in parentheses represent the  $t$ -values for each of the figures C0 through C9:

(a) demand function of currency ( $CU$ )

$$\begin{aligned} \ln(CU/Y) = & 5.156 - 0.545 \ln(y) - 2.340 \ln(Rtd) - 0.819 \ln(Rus) + 0.494 \ln(P) \\ & (1.309) \quad (-1.550) \quad (-2.836) \quad (-1.029) \quad (1.912) \\ & + 0.312 \ln(CU/Y)_{-1} - 0.126D1 - 0.182D2 - 0.148D3 \\ & (1.693) \quad (-2.780) \quad (-4.269) \quad (-2.071) \\ & \bar{R}^2 = 0.755, DW = 2.423, S = 0.074 \end{aligned}$$

(b) demand function of demand deposits ( $DD$ )

$$\begin{aligned} \ln(DD/Y) = & -3.939 - 0.277 \ln(y) - 0.131 \ln(Rtd) + 2.115 \ln(Rus) - 0.382 \ln(P) \\ & (-0.595) \quad (-0.496) \quad (-0.176) \quad (1.260) \quad (-1.711) \\ & + 0.719 \ln(DD/Y)_{-1} + 0.092D1 + 0.062D2 + 0.145D3 \\ & (4.090) \quad (2.010) \quad (1.36) \quad (1.720) \\ & \bar{R}^2 = 0.943, DW = 2.83, S = 0.078 \end{aligned}$$

(c) demand function of savings and time deposits ( $TS$ ) (1)

$$\begin{aligned} \ln(TS/Y) = & 0.496 - 0.075 \ln(y) + 3.200 \ln(Rtd) - 1.475 \ln(Rtb) - 1.544 \ln(Rus) \\ & (0.157) \quad (-0.270) \quad (3.713) \quad (-2.400) \quad (-2.135) \\ & - 0.392 \ln(P) + 0.564 \ln(TS/Y)_{-1} + 0.128D1 + 0.050D2 + 0.176D3 \\ & (-2.670) \quad (4.612) \quad (4.401) \quad (1.808) \quad (3.757) \\ & \bar{R}^2 = 0.847, DW = 2.319, S = 0.048 \end{aligned}$$

(d) demand function of savings and time deposits ( $QTS$ ) (2)

$$\begin{aligned} \ln(QTS/Y) = & 5.263 - 0.549 \ln(y) + 4.893 \ln(Rtd) - 2.995 \ln(Rtb) + 0.977 \ln(Rus) \\ & (0.562) \quad (-0.670) \quad (1.985) \quad (-1.727) \quad (0.528) \\ & - 0.740 \ln(P) + 0.744 \ln(QTS/Y)_{-1} + 0.172D1 + 0.140D2 + 0.131D3 \\ & (-1.834) \quad (5.394) \quad (2.239) \quad (1.851) \quad (0.957) \\ & \bar{R}^2 = 0.930, DW = 2.140, S = 0.130 \end{aligned}$$

(e) demand function of treasury bills ( $TB$ )

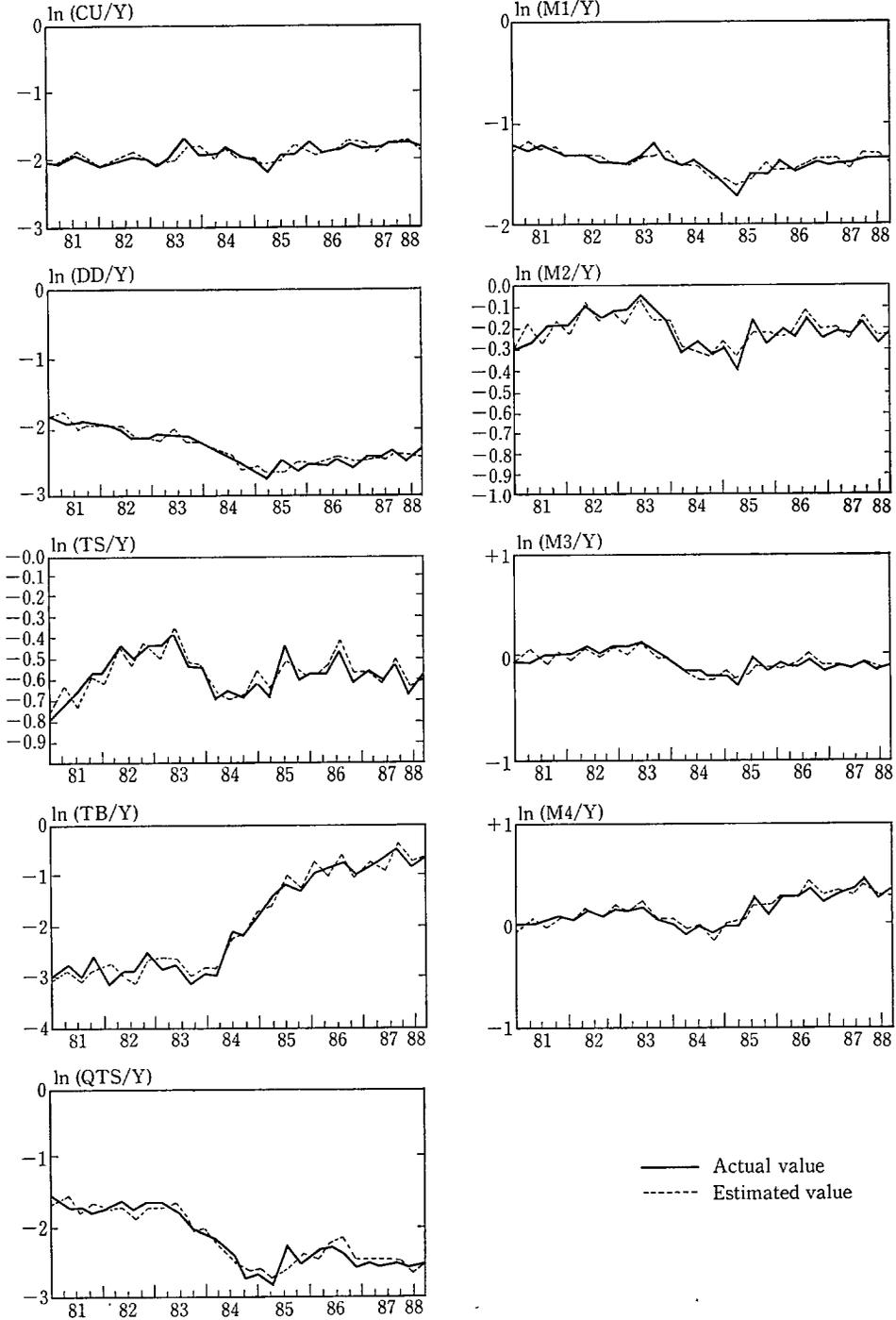
$$\begin{aligned} \ln(TB/Y) = & 8.662 - 0.807 \ln(y) - 7.250 \ln(Rtd) + 5.704 \ln(Rtb) - 0.796 \ln(Rus) \\ & (0.729) \quad (-0.763) \quad (-1.971) \quad (2.280) \quad (-0.318) \\ & - 0.083 \ln(P) + 0.849 \ln(TB/Y)_{-1} + 0.409D1 + 0.092D2 + 0.290D3 \\ & (-0.146) \quad (10.052) \quad (3.507) \quad (0.868) \quad (1.524) \\ & \bar{R}^2 = 0.977, DW = 2.229, S = 0.181 \end{aligned}$$

## (2) Implications of Results

The results of our analysis are presented in Figure 5. We derive the following implications about cause from these results. Real GNP showed a statistically significant correlation only with demand for currency/GNP. The correlation was actually negative, revealing the tendency to curtail currency holdings as income levels increase and suggesting that financial market development would strengthen this tendency. The ratio of other financial assets to GNP showed no clear correlation with income level.

Inflation showed a strong statistical significance in correlation with the asset demand/

FIG. 5. ESTIMATION OF DEMAND FOR FINANCIAL ASSETS



GNP ratio (excluding demand for government bonds). The correlation between inflation and demand, savings, and time deposits is a negative one; on the other hand, a positive correlation is seen between inflation and demand for currency. Thus when inflation worsens, demand for savings, demand and time deposits decreases. If inflation accelerates, demand for currency will increase. The influence of inflation on demand for government bonds, is, however, limited.

Regarding changes in domestic interest rates, the data reveal a highly statistically significant level of correlation; indeed, the regression shows a strong substitution relationship among financial assets. Substitutability is especially striking for savings and time deposits and government bonds. The structure of demand for financial assets in the Philippines thus seems to shift readily in response to movement in market interest rates. Furthermore, substitutability can also be seen in the relationship between demand for US Treasury bills and demand for domestic financial assets, although the correlations between savings and time deposits are statistically much higher. Thus the influence of US interest rates on demand for individual financial assets is not large.

### III. *Financial Liberalization and Resource Mobilization*

In order for economic growth to proceed smoothly over the long term, capital formation must continuously take place. For smooth and continuous capital formation to occur, sufficient savings must first be available. The ratio of financial asset holdings to GNP is often used as an indicator of the level of accumulated capital available for use in a given economy. Thus, in this section we analyze this ratio, building on the above results to better understanding developments in financial asset accumulation in the Philippines in the 1980s.

#### (1) Estimation of Ratio of Financial Asset Holdings to GNP

Using the same regression analysis as in the previous section, we derived the following results. M1 is the sum of the amount of currency in circulation and demand deposits outstanding; M2 is the sum of M1 and savings and time deposits outstanding at deposit banks; M3 is the sum of M2 and savings and time deposits outstanding at non-deposit banks, and M4 is the sum of M3 and treasury bills held by the non-bank private sector.

##### (a) demand function of M1

$$\begin{aligned} \ln(M1/Y) = & -1.816 + 0.068 \ln(y) - 1.469 \ln(Rtd) + 1.963 \ln(Rus) \\ & (-0.432)(0.246) \quad (-2.155) \quad (2.424) \\ & + 0.067 \ln(P) + 0.365 \ln(M1/Y)_{-1} - 0.042D1 - 0.088D2 - 0.093D3 \\ & (0.344) \quad (1.788) \quad (-1.109) \quad (-2.391) \quad (-0.015) \\ \bar{R}^2 = & 0.790, DW = 2.722, S = 0.063 \end{aligned}$$

##### (b) demand function of M2

$$\begin{aligned} \ln(M2/Y) = & -0.430 - 0.051 \ln(y) + 1.872 \ln(Rtd) - 1.023 \ln(Rtb) - 0.067 \ln(Rns) \\ & (0.134) \quad (-0.179) \quad (2.213) \quad (-1.641) \quad (-1.031) \\ & - 0.274 \ln(P) + 0.523 \ln(M2/Y)_{-1} + 0.072D1 + 0.097D2 - 0.122D3 \\ & (-1.852) \quad (2.972) \quad (2.561) \quad (0.352) \quad (-2.626) \\ \bar{R}^2 = & 0.760, DW = 2.543, S = 0.047 \end{aligned}$$

## (c) demand function of M3

$$\begin{aligned} \ln(M3/Y) = & 0.848 - 0.088 \ln(y) + 2.329 \ln(Rtd) - 1.275 \ln(Rtb) - 0.206 \ln(Rus) \\ & (0.227) \quad (-0.263) \quad (2.396) \quad (-1.80) \quad (-0.214) \\ & - 0.359 \ln(P) + 0.588 \ln(M3/Y)_{-1} + 0.086D1 + 0.028D2 - 0.128D3 \\ & (-2.218) \quad (3.527) \quad (2.742) \quad (0.907) \quad (-2.402) \\ \bar{R}^2 = & 0.831, DW = 2.686, S = 0.053 \end{aligned}$$

## (d) demand function of M4

$$\begin{aligned} \ln(M4/Y) = & 2.292 - 0.182 \ln(y) - 0.751 \ln(Rtd) - 0.362 \ln(Rtb) - 1.688 \ln(Rus) \\ & (0.680) \quad (-0.599) \quad (-0.732) \quad (-0.558) \quad (-2.053) \\ & - 0.434 \ln(P) + 0.318 \ln(M4/Y)_{-1} + 0.087D1 + 0.042D2 - 0.119D3 \\ & (-2.739) \quad (1.607) \quad (2.356) \quad (1.333) \quad (-2.337) \\ \bar{R}^2 = & 0.918, DW = 1.986, S = 0.052 \end{aligned}$$

## (2) Implications of Results

If we examine the above results in terms of resource mobilization, several points are noteworthy. First, movement in (M4/Y) is influenced little by interest rates on time deposits or government bonds; instead, foreign interest rates and inflation are the decisive factors. This indicates that inflation and foreign interest rates sway the overall level of capital accumulation available for capital formation in the Philippines. Having said this, it is necessary to keep in mind when comparing the relative importance of these two factors that the exchange and inflation rates are intimately linked through changes in import price levels. In other words, the effect of exchange rate shifts is incorporated in changing price levels, indicating that the impact of the overseas factor may be even larger than it appears in the estimation results. Thus, achieving stable price levels and a stable exchange rate are the most important steps in advancing financial deepening.

Next, the importance of foreign factors in the financial asset ratio highlights the risk of capital flight.<sup>3</sup> It suggests that a rise in overseas interests or devaluation of the exchange rate will be negatively correlated to (M4/Y) and that overseas financial assets are substitutable for Philippine assets. Thus, one would imagine that if the gap between domestic and foreign expected (real) interests widens, Philippine domestic assets will switch to foreign assets, resulting in capital flight. In point of fact, it is widely known that large scale capital flight occurred during the 1983-85 economic crisis. While there are different estimations of the volume of funds that left the country, capital flight is recognized as an important cause of the decline in the real outstanding balance of domestic financial assets.

Third, looking at movement in (M3/Y), we see the decisive importance of price levels, along with interest rates on time deposits and government bonds. M3 and government bonds show a strong substitution relationship. A rise in interests on time deposits leads to an increase in (M3/Y) whereas a jump in government bond rates causes (M3/Y) to decline. Relative interest levels on time deposits and government bonds exert little influence on the total balance of domestic financial assets, but they have considerable effect on the asset structure ratio.

Usually, money broadly defined (here, M3) as a percentage of GNP is used as an indi-

<sup>3</sup> For the capital flight from the Philippines, see Morgan Guaranty Trust Company (1986).

cator of resource mobilization, but if this indicator were appropriate, it would suggest that a rise in government bond yields would not be desirable from the point of view of financial deepening. Fundamentally, resource mobilization should be examined in relation to demand for *all* financial assets; government bonds should not be treated separately from other assets.

If we consider resource mobilization in terms of  $(M4/Y)$ , we confront the problem of how to evaluate the impact of the sharp increase in government bond holdings after 1983. In other words, did the rise in government bonds facilitate the accumulation of financial assets or act as a barrier to it? According to our analysis in Part II, when interests on treasury bills or time deposits rise, the total outstanding balance of government bonds, savings deposits and time deposits always increases. Also, the analysis in the previous section shows that  $(M4/Y)$  (the total outstanding balance of currency, savings and time deposits, and government bonds over GNP) rises in accordance with an increase in real interest rates on treasury bills or time deposits. This means that in the 1985–89 period when real interests on both rose together, the total outstanding balance of real financial assets rose faster than the rate of growth in GNP. Therefore, our estimation results suggest that the rise in government bond holdings promoted financial asset accumulation.

Looking at the actual movement in  $(M4/Y)$ , the total real outstanding balance of financial assets after 1985 shows faster growth than GNP. Even admitting that government bond issuance began as a means of coping with difficulties in borrowing overseas rather than of promoting financial deepening, in fact the latter emerged as a positive side effect; demand for all financial assets expanded as a result of the sharp rise in government bonds issuance.

#### IV. *Conclusions*

The ratio of financial asset holdings to GMP in the 1980s plunged with the outbreak of the economic and financial crisis of 1983–85; nevertheless, it has shown an overall tendency to increase. Portfolio structure, however, has changed markedly. In the 1981–83 period financial asset accumulation centered on demand for savings and time deposits; by contrast, demand for government bonds has driven the accumulation process in the post-1985 era. In addition, because of flattening demand for time deposits and the shortening maturity structure of government bonds, demand for long term assets in total financial asset demand has remained low throughout the 1980s.

Finally, let us review what the above analysis has revealed and consider policy implications.

##### (1) Contributions of Factual Understanding

(i) Despite severe economic and financial confusion in the middle of our estimation period (1983–85), the financial asset selection behavior that can be inferred from the demand function fits well with predictions in the theoretical literature.

(ii) Changes in total holdings of principal financial assets in the Philippines can be explained not by nominal interests on domestic financial assets but by change in the inflation rate, foreign exchange rate, and foreign interest rates.

(iii) On the other hand, the portfolio structure of financial asset holdings in the Philippines is mainly explained by changes in nominal interest rates on those same domestic financial assets. Specifically, a rise in government bond rates will raise demand for government bonds on the one hand and decrease demand for time deposits on the other. At the same time, the *total* demand for time deposits and government bonds as a whole will increase. Another point which must be noted in this regard relates to the term structure of assets. Time deposits are an important Philippine mid- to long-term asset while government bonds have come to have shorter-term maturities over the past decade. For this reason, a rise in government bond yields has the effect of promoting demand for short-term assets.

## (2) Policy Implications

In order to support, further Philippine economic growth and reduction of the country's foreign debt, mobilization of domestic capital through domestic asset accumulation is strongly required.

(i) Domestic capital mobilization: Since inflation began to moderate in 1986, real interest rates have climbed and the proportion of financial asset holdings to GNP in the Philippines has risen steadily. How long this process can continue is an important question, the answer to which depends on the extent to which Philippine domestic financing capability can be raised. Our analysis indicates that the most significant factors determining the ratio of financial assets holdings to GNP are the overseas factors, exchange rates and the domestic-foreign interest rate gap, and the domestic factor, inflation. In other words, exchange rate stabilization and inflation control ought to be the central policy objectives in supporting the accumulation of financial assets. Inflation and exchange rate shifts are fundamentally caused by excess liquidity and payments imbalances resulting from excess domestic credit. This means that in order to promote domestic financial asset accumulation, it is critical that domestic credit be managed appropriately.

(ii) Preventing capital flight: In our analysis, demand for individual assets was greatly influenced by change in nominal interest rates on domestic assets. But because the impact of interest rate changes is offset in the totals by shift in demand among domestic assets, the influence of various domestic interest rates as it appears in the total demand for domestic financial assets is small while the impact of foreign interest rates and movement in price levels is extremely important. This indicates that demand for Philippine finance assets has a strong relationship of substitutability with overseas assets and suggests that capital flight will emerge from worsening inflation. Thus, inflation control is indispensable to preventing capital flight. As indicated above, this is intimately linked to credit policy.

(iii) Long-term capital procurement: A shortage of long-term capital has been a problem in Philippine capital markets for many years. The ineffectiveness of specialized government banks established to supply long term capital and the small scale of the stock market are frequently pointed to as reasons why Philippine long term finance became dependent on foreign borrowing. Long term capital is inseparable from the realization of economic growth. Since a stable economy is the number one prerequisite of long term capital supply—or the demand for long term assets that lies behind it, a return of crisis-like economic conditions must be avoided. If we look at the characteristics of the Philip-

pine economy since the 1960s, we see a continuously repeating cycle of “expansionary policy and strong economic performance”→“inflation and break down of international balance of payments”→“belt-tightening and large scale economic collapse”→“moderating inflation and improvement in the balance of payments.”

Economic policy driven by a more consistent set of guidelines would go a long way toward promoting economic stability and growth. In particular, our estimation results suggest that, given the high sensitivity of long term assets such as time deposits to inflation, the “stop and go” approach that characterized Philippine economic policy until recently must be avoided if demand for long term assets is to be increased. It goes without saying that this, too, requires apt management of domestic credit.

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