

ANALYSIS OF SAVINGS BEHAVIOUR IN PAKISTAN

Ashfaq H. Khan

Pakistan Institute of Development Economics, Islamabad

1. Introduction

Many developing countries are faced with the dilemma that on the one hand the state of underdevelopment requires larger investment to accelerate the pace of economic development and on the other hand limited financial resources restrict them to undertake such ambitious development program. Pakistan is no exception to this state of affair. Although Pakistan's economy has been experiencing a respectable growth rate of 6.5 percent per annum during the last couple of years its performance with regards to savings has been poor. Infact, saving as a fraction of GNP are one of the lowest among the developing countries. The current saving rate of about 14 percent of GNP fares badly with 23 percent of low developing countries¹. If this trend is allowed to continue, about one third of the required investment will have to be financed through foreign borrowing, raising the already high outstanding debt liability.

What are the reasons for such a poor performance of savings in Pakistan? It is "generally argued that with respect to private savings the insatiable urge for consumption prompted by liberal baggage rules, smuggling and above all social tolerance for conspicuous use of illegitimately acquired resources" while in the case of public savings the "ever-rising public expenditure and stagnation in revenue realization" are considered as the chief reasons for low savings in Pakistan². What is surprising to note is that no mention has been made about the proper reward for savings. A society when postpone their present consumption for future expect a proper reward. Ignoring this factor is tantamount to ignoring the reality.

The purpose of this paper is to provide some explanations as to the causes of low savings in Pakistan and suggests short-term and long-term measures to increase its level.

In recent years, two school of thought have emerged, namely the "financial repressionist"³, and the "financial structuralist" that have provided some insights into the causes of low savings, investment and growth in developing countries. The former led by McKinnon (1973, 1976) and Shaw (1973) argues that the low (or negative) real interest rates caused by arbitrarily set ceilings on nominal interest rates and high and

1. See Government of Pakistan, *Pakistan Economic Survey 1986-87*, Ministry of Finance, 1987.

2. Ibid pp. 7.

3. Financial repression has been generally identified with low nominal interest rates and high and variable rates of inflation, or alternatively with the existence of negative real rates of interest.

variable inflation rates are the major impediments to savings, financial deepening, capital formation and growth. The solution, therefore lies in freeing the interest rates to find their equilibrium levels in a free market environment. The latter school of thought led by Goldsmith (1969) attributes the low savings, investment, and growth in developing countries to the relatively less developed financial structures in terms of financial assets, institutions, and markets. He asserts that a widespread network of financial institutions and a diversified array of financial instruments will have a beneficial effect on the saving-investment process and hence, on growth.

Prior to the emergence of "financial repressionist" school led by McKinnon (1973) and Shaw (1973) the economic policy makers in developing countries frequently adopted policies of low interest rates as a way of promoting economic growth in accordance with the Keynesian and neoclassical theories. McKinnon and Shaw were the first to challenge seriously this conventional wisdom. They argued that higher nominal interest rates, or in other words positive real interest rates will act as an inducement to save in financially repressed economies and these savings will serve as a "conduit" for capital formation⁴. In other words, McKinnon and Shaw made savings (deposits) and capital complementary assets. Here, an increase rather than a reduction in real returns on financial assets stimulates savings and investment.

Keeping in view its importance for developing countries, considerable effort has been made to test empirically the model of financial repression developed by McKinnon and Shaw⁵. All these studies have found considerable support for financial repression in developing countries. With respect to Pakistan, however, only Abe et al. (1977) and Qureshi (1981) have tested empirically the McKinnon-Shaw model and found that financial repression holds domestic saving below the level which would occur under a policy of financial liberalization.

In this paper beside testing empirically the view points of two schools of thought mentioned above we also examine the impact of income (or permanent and transitory income), unanticipated inflation and price uncertainty on the savings behaviour in Pakistan covering a time period from 1959-60 to 1987-88. It has been argued in the literature [for example, see Gupta (1984)] that for purpose of capital formation what is important

4. For further detail on this issue see Roe (1982), IMF (1983) and Molho (1986).

5. For an extensive list of papers on this topic see Gupta (1984), Eckus (1977), Fry (1978, 1980, 1982), Galbis (1977, 1979), DeMelo and Tybout (1986) and Abe et al. (1977).

is not only an increase in aggregate savings but also increase in financial savings. It has also been recognized that aggregate savings may not be quite sensitive to change in real interest rate compared with financial savings and savings in physical assets⁶. Thus, we also estimate a disaggregated saving function i.e. we divide the total savings (national savings) into financial savings and physical savings and examine the impact of various factors listed above on these two types of savings separately.

The plan of the paper is as follows. The methodology and data are discussed in section 2 while the results are reported and discussed in section 3. The policy implications that arise from the analysis are presented in section 4 while the concluding remarks are contained in section 5.

2. Methodology and Data

To achieve the objectives of this study we use the following general model in line with Khan (1984) and Gupta (1984)

$$S = \alpha_0 + \alpha_1 Y_p + \alpha_2 Y_T + \alpha_3 \dot{P}^e + \alpha_4 \dot{P}^u + \alpha_5 i + \alpha_6 F_r + \alpha_7 VE \quad \dots(1)$$

where S is saving [aggregate (or national), financial, and physical savings], Y_p is permanent income, Y_T is transitory income, \dot{P}^e is expected inflation, (\dot{P}^u) is unanticipated inflation, i is nominal return on deposits, F_r is financial intermediation ratio, and VE is inflation variability or price uncertainty.

Equation (1) can also be specified as

$$S = \beta_0 + \beta_1 Y_p + \beta_2 Y_T + \beta_3 r + \beta_4 \dot{P}^u + \beta_5 F_r + \beta_6 VE \quad \dots(2)$$

where r is the real return on deposits defined as

$$r = i - \dot{P}^e \quad \dots(3)$$

6. See Gupta (1984)

The theoretical justification of different variables included in equations (1) and (2) are as follows. The inclusion of permanent and transitory income hardly needs any explanation. Following Friedman's permanent income hypothesis we expect $\alpha_2 = 1$ and $0 < \alpha_1 < \alpha_2$. The empirical research do not provide a clear consensus regarding the direction of relationship between aggregate (national) savings and nominal return on deposits and expected inflation. The inconclusiveness emerges basically from the two opposing influences, i.e., income and substitution effects that return on deposits and expected inflation exercise on savings. The direction of relationship is an empirical issue depending upon the relative strength of income and substitution effects. However, if the "financial repressionist" view is correct then we would expect $\alpha_3 < 0$ and $\alpha_5 > 0$ and in the case of eq. (2) β_3 to be positive.

The financial intermediation ratio (F_r) is used to represent financial deepening or financial development and is defined in the literature as the ratio of broad money (M_2) to GNP or the ratio of broadest money (M_3) to GNP [See for example, McKinnon (1973), Roe (1982)]. For our purpose we use M_3/GNP to represent financial development⁷. The effect of F_r on aggregate savings is expected to be positive on the ground that the availability of wide array of financial assets will facilitate savings.

As regards unanticipated inflation (P^u) and its effect on savings, very little empirical evidence is available for developing countries⁸. It is generally argued that there is a positive relationship with (P^u) and savings. This argument is based on the fact that economic agents do not possess complete information about market prices, that is, they cannot distinguish between the change in relative prices and absolute prices. As a result, they misinterpret unanticipated inflation as a change in relative prices and reduce aggregate consumption, hence increases savings⁹.

Finally, the impact of inflation variability has been examined by various authors in the context of demand for money [see for example Klein (1977) and Khan (1982a)]. The high rate of inflation and sometime its erratic behaviour gives rise to price uncertainty¹⁰

7. There is no unique indicator to represent the extent of financial development of a country. Goldsmith (1969) has discussed a variety of useful indicators. The common practice in the literature, however, has been to use M_1 or M_2 or M_3 as a ratio of GNP or GDP to measure financial development. More on this issue see Gupta (1984).

8. Khan (1984) and Gupta (1982, 1984).

9. See Deaton (1977).

10. Khan and Abbas (1983) has found a significant positive relationship between inflation and its variability for Pakistan.

which makes the future stream of real income uncertain and economic agents cope with this problem by increasing aggregate savings¹¹.

It may be noted that five independent variables (Y_p , Y_T , P^e , P^u) and (VE) in eq. (1) are unobservable and therefore, they must be transformed into observable form. We propose to overcome this problem by using three different expectations schemes—namely, perfect foresight, static expectations, and adaptive expectations. The rationale for using three expectations schemes is to check for the sensitivity of our results to alternative estimates of the unobservable variables. We assume that expectations are formed according to the adaptive expectations model

$$\dot{P}_t^e - \dot{P}_{t-1}^e = \Theta(\dot{P}_t - \dot{P}_{t-1}^e) \quad \dots(4)$$

$$y_t^p - y_{t-1}^p = \lambda - (y_t - y_{t-1}^p) \quad \dots(5)$$

where \dot{P}_t^e represents the expected annual rate of inflation at time t formed during the proceeding year; \dot{P}_t represents the actual rate of inflation during year t and Θ is the coefficient of expectations which is $0 \leq \Theta \leq 1$. Similarly y_t^p and y_t are respectively real permanent income and measured income at time t and $0 \leq \lambda \leq 1$. The other two expectations schemes—namely, perfect foresight and static expectations are the special cases of the adaptive expectations model. For example, if $\Theta = 1$ and $\lambda = 1$ then eqs. (4) and (5) reduce to perfect foresight

$$\dot{P}_t^e = \dot{P}_t \quad \dots(6)$$

$$y_t^p = y_t \quad \dots(7)$$

i.e. expected inflation is equal to actual inflation and permanent income is equal to measured income. Similarly, if $\Theta = 0$ and $\lambda = 0$ then eqs. (4) and (5) reduce to static expectations.

$$\dot{P}_t^e = \dot{P}_{t-1}^e = \dot{P}_{t-1} \quad \dots(8)$$

11. See Juster and Wachtel (1972).

$$y_t^p = y_{t-1}^p = y_{t-1} \quad \dots(9)$$

i.e. expectations do not change from one period to the next.

The adaptive expectations model can be expressed as the weighted sum of past (actual) inflation rates and income by recursive substitution of eqs. (4) and (5)

$$\dot{p}_t^e = \Theta p_t + \Theta(1 - \Theta)\dot{p}_{t-1} + \Theta(1 - \Theta)^2\dot{p}_{t-2} + \dots(10)$$

or

$$\dot{p}_t^e = \Theta \sum_{i=0}^{\infty} (1 - \Theta)^i L^i \dot{p}_t$$

and

$$y_t^p = \lambda y_t + \lambda(1 - \lambda)y_{t-1} + \lambda(1 - \lambda)^2 y_{t-2} + \dots(11)$$

or

$$y_t^p = \lambda \sum_{i=0}^{\infty} (1 - \lambda)^i L^i y_t$$

where L is the lag operator.

To generate a time-series for the unobservable variables \dot{p}_t^e and y_t^e it is necessary to estimate the weights of eqs. (10) and (11). We compute these weights by using the quadratic-loss function proposed by Nugent and Glezakos (1979).

$$Z_1 = \sum_{i=1}^n (\dot{p}_i - \dot{p}_i^e)^2 = \sum_{i=1}^n \left(\dot{p}_i - \Theta \sum_{j=0}^{\infty} (1 - \Theta)^j L^j \dot{p}_i \right)^2 \quad \dots(12)$$

$$Z_2 = \sum_{i=1}^n (y_i - y_i^p)^2 = \sum_{i=1}^n \left(y_i - \lambda \sum_{j=0}^{\infty} (1 - \lambda)^j L^j y_i \right)^2 \quad \dots(13)$$

In estimating the weights we have selected those values of Θ and λ that minimize the average losses from forecasting errors in the quadratic-loss function. The values of Θ and λ that minimize the loss function is chosen by restricting the number of terms in eqs. (10) and (11) to three (including the current period) to economize on degree of freedom¹².

12. In an empirical study, Toyoda (1972) found that price expectations are formed on the basis of the most recent actual price movement.

The transitory income (y_t^T) and unanticipated inflation (\dot{p}_t^u) under static and adaptive expectation models are defined respectively as

$$y_t^T = y_t - y_{t-1} \quad \dots(14)$$

$$\dot{p}_t^u = \dot{p} - \dot{p}_{t-1} \quad \dots(15)$$

and

$$y_t^T = y_t - y_t^p \quad \dots(16)$$

$$\dot{p}_t^u = \dot{p} - \dot{p}_t^e \quad \dots(17)$$

Finally, the variability of the rate of inflation is defined as;

$$V_t = \frac{1}{n} \sum_{i=0}^n |\dot{p}_{t-i} - \dot{p}_{t-i-1}| \quad \dots(18)$$

where p_t is the annual rate of inflation and n is the number of years considered¹³.

Before we close this section a few words regarding data and its sources are in order. The data corresponding to national (Aggregate) savings¹⁴ for the period 1969-70 to 1987-88 are taken from *Pakistan Economic Survey, 1984-85 and 1988-89* while for the period 1959-60 to 1968-69 these are taken from Fatima (1983). Financial savings are defined as the change in liquid assets (M_3 definition of money) that includes M_2 plus various saving schemes, deposits with cooperative banks and NDFC bearer certificates. These data for the period 1970-71 to 1987-88 are taken from *Pakistan Economic Survey, 1984-85 and 1988-89*. Data prior to 1970-71 are taken from Kemal et al. (1980). Physical savings are the difference between national and financial savings. Data pertaining to Gross National Product (GNP) are taken from *Pakistan Economic Survey, 1988-89* while for the rate of return on 6 months to one year and one year and over but less than two year time deposits are taken from various issues of monthly *Bulletin* of the State Bank of Pakistan. The rate of change of GNP deflator represents rate of inflation and these are calculated from *Pakistan Economic Survey, 1988-89*.

13. For further details on this issue see Khan (1982a) and Khan and Abbas (1983).

14. For detailed methodology of saving estimate, see *Pakistan Economic Survey, 1984-85* pp. 55.

3. Results

The results of equation (2) under different expectations schemes corresponding to aggregate (or national), financial, and physical savings are reported in Tables 1, 2 and 3 respectively. Before we delve into the details, a few words regarding the quadratic-loss function [eq. (12) and (13)] are in order. In order to construct series for expected inflation \dot{p}^e and permanent income (y_p) we needed the value of Θ and λ . The optimal value of Θ and λ that minimizes the average loss from forecasting error in the quadratic-loss function is found to be 0.9¹⁵.

We now turn to Table 1 where results corresponding to aggregate (or national) savings under different expectations schemes are reported. A cursory look at the result is sufficient to see that the marginal propensity to save (MPS) out of measured (y) and permanent income (y_p) under alternative expectations schemes are close to each other. In order to shed more light on the saving behaviour in Pakistan we re-estimated equation (2) for the period 1969-70 to 1987-88 and the results are also reported in Table 1. It can be seen that the MPS under different expectations schemes are almost the same, though these are higher (0.16 and 0.17) compared with full sample estimates (0.13 and 0.14). The strong hypothesis about the MPS from transitory income (Y_T) being unity is not confirmed under both static and adaptive expectations schemes. However, the basic hypothesis that MPS out of Y_T be greater than out of Y_p is confirmed.

As regards the impact of real return on deposits on aggregate savings, the coefficients are statistically significant at the 5 percent level of significance and bear a positive sign under all the three expectations schemes. The positive and significant impact of real return on deposits on aggregate savings confirms the "financial repressionist" hypothesis propounded by McKinnon and Shaw. The result indicates that an increase in real interest rate will stimulate aggregate savings in Pakistan.

With respect to the unanticipated inflation (\dot{p}^u) it is found that this variable has a significant negative impact on aggregate savings in the case of static expectations only. This is however, contrary to our a priori expectations. This result suggests that substitution effect dominates income effect and as such we get a negative sign for the coefficient of (\dot{p}^u).

15. For reasons as to why the optimal value of Θ and λ should be close to unity, see Khan (1982 b).

Table 1

ESTIMATES OF NATIONAL SAVINGS UNDER ALTERNATIVE EXPECTATIONS SCHEMES

Variables	Perfect Foresight		Static Expectations		Adaptive Expectations	
	1959-60 to 1987-88	1969-70 to 1987-88	1959-69 to 1987-88	1969-70 to 1987-88	1959-60 to 1987-88	1969-70 to 1987-88
Constant	-2152.70 (1.41)	-16066.75 (2.67)*	-1650.87 (0.88)	-15359.93 (2.33)*	-1212.88 (0.55)	-15743.58 (2.53)*
\bar{y}	0.14 (12.47)*	0.16 (11.94)*				
Y_p			0.14 (6.25)*	0.17 (6.36)*	0.13 (5.05)*	0.16 (6.42)*
Y_T			0.28 (1.33)	0.16 (0.66)	0.58 (0.64)	0.39 (0.17)
r_1	83.66 (2.63)*	148.21 (2.47)*	98.07 (2.36)*	174.90 (1.96)*	102.98 (2.21)*	160.15 (2.33)*
P^u			-59.31 (1.38)	-136.90 (2.02)*	319.53 (0.58)	
F_T	3858.03 (0.83)	27587.87 (2.40)*	2440.60 (0.43)	25441.71 (1.96)*	1344.17 (0.21)	26707.46 (2.27)*
VE		816.45 (2.14)*		825.29 (1.99)*		829.65 (2.04)*
R^2	0.93	0.94	0.92	0.93	0.92	0.93
DW	1.41	1.91	1.34	1.77	1.39	1.85
F	124.11	64.97	65.54	37.69	58.19	48.61

Note: The t-values are given in parentheses and a star (*) indicates that coefficients are statistically significant at the 95 percent confidence level.

The financial intermediation ratio (F_t) has a significantly positive effect on aggregate savings with all the three expectations schemes corresponding to shorter sample (i.e. from 1969-70 to 1987-88) only. The positive impact of F_t supports the "financial structuralist" view point propounded by Goldsmith. Thus, in the case of Pakistan, the view points of both schools of thought namely, "financial repression" and "financial structuralist" are firmly supported. This has an interesting policy implication and will be discussed in the next section.

Finally, with respect to inflation variability it is found in accordance with the a priori expectations that this variable has a significantly positive impact on aggregate savings under alternative expectations schemes with shorter sample period. The overall ex-

Table 3

ESTIMATES OF PHYSICAL SAVINGS UNDER ALTERNATIVE EXPECTATIONS SCHEMES

Variables	Perfect Foresight		Static Expectations		Adaptive Expectations	
	1959-60 to 1987-88	1969-70 to 1987-88	1959-60 to 1987-88	1969-70 to 1987-88	1959-60 to 1987-88	1969-70 to 1987-88
Constant	6350.14 (2.77)*	5310.12 (1.22)	5566.27 (2.58)*	5242.19 (1.30)	6722.61 (2.75)*	6821.61 (1.61)**
y	0.16 (5.54)*	0.16 (4.51)*				
Y_p			0.15 (3.84)*	0.19 (3.61)*	0.17 (3.55)*	0.21 (3.50)
Y_T			-0.02 (0.06)	-0.20 (0.52)	-2.80 (0.78)	-4.52 (1.03)
i	-295.46 (1.94)*	-239.51 (1.14)				
r			114.51 (2.07)*	118.58 (1.32)	146.49 (2.31)*	70.94 (0.60)
p	-14.56 (0.26)	16.76 (0.16)				
p^{12}				55.55 (0.62)	1317.79 (1.74)*	1793.82 (1.66)**
F_T	-18048.74 (2.94)*	-16898.70 (1.90)*	-19614.41 (2.87)*	-22299.21 (2.14)*	-22766.82 (2.95)*	-24832.13 (2.34)*
VE	-114.82 (0.70)	-205.55 (0.76)				-243.34 (0.94)
R^2	0.66	0.64	0.62	0.65	0.62	0.65
DW	1.79	1.99	1.75	2.24	1.78	2.05
F	10.55	7.04	11.80	7.32	9.09	6.39

Note: The t-values are given in parentheses. A star (*) and a double star (**) indicate that coefficients are statistically significant at the 95 percent and 90 percent confidence level respectively.

The findings of this paper clearly point out the existence of financial repression on the one hand and lack of financial development on the other hand in Pakistan. The existence of financial repression has multidimensional adverse effect on the economy. As pointed out at the outset, financial repression is generally identified with low nominal interest rates and high and variable inflation, or alternatively with the existence of negative real return on deposits. The negative real return on deposits instead of encouraging, actually discourages people to save because this is a tax rather than the reward for saving. This results into a precipitous flight from banking deposits and monetary authori-

ties are then forced to curtail their lending operation to the private sector of the economy. "The resulting shortage of credit prompts the authorities to adopt policies of credit rationing and to regulate the allocation of credit by selective credit policies"¹⁷. Furthermore, under financial repression there is a tendency for various forms of quasi-financial intermediation, such as unofficial finance companies to develop. Yet another adverse effect of financial repression is the flight of capital from the country. This problem becomes especially acute when returns on deposits abroad are high. The large outflow of capital which aggravates the current account problems arising from reduced domestic saving, forces the authorities to impose severe restrictions on capital movements. Nevertheless, flight of capital continues through a variety of clandestine channels¹⁸.

In the light of the findings of this study it is suggested that the solution lies in freeing the return on deposits to find their equilibrium levels in a free market environment. In particular, the authorities should strive to make real return on deposit positive either by raising nominal return or by reducing inflation. The policy of maintaining low return on deposit in many developing countries is based on the inverse relationship between the interest rate and the desired investment. However, this policy ignores two important facts — first, that it implicitly assumes that additional resources for investment will somehow be obtained, while there is a good reason to believe that investments in many developing countries are constrained by the availability of savings. Second, it ignores the distinction between the desired and actual investment. There will be some reduction in desired investment as interest rates rise, actual investment will increase as long as the elasticity of saving is greater than zero¹⁹. Thus, it is suggested that the elimination of interest rate repression will increase savings and hence the long-run capacity of the economy to finance domestic investment.

As regards the lack of financial development it is found that there is a significant positive association between financial intermediation ratio and aggregate and financial savings. In the light of this finding it is suggested that a widespread network of financial institutions and a diversified array of financial instruments will have a beneficial effect on the saving-investment process and hence, on growth. The diversified array of financial instruments along with the positive real return on deposits are bound to increase savings in Pakistan.

17. See IMF (1983), pp. 14.

18. For further details on the adverse effects of financial repression, see IMF (1983).

19. Ibid.

5. Concluding Remarks

The purpose of this paper has been to provide some explanations regarding the low savings in Pakistan in the light of recent theoretical development. It is found that there exists a significant positive association between the real rate of return on deposits and aggregate savings. The interest elasticity of national savings ranges from 0.01 to 0.03 depending upon the choice of sample size. This suggests that given the existing real return on deposits (3.78) if it is increased by one percentage point then increase in aggregate (or national) savings will range from 0.3 to 0.8 percent depending upon the choice of sample size. The aggregate real income (measured or permanent) is also found to be a key determinant of national, financial and physical savings. The MPS out of real income under various expectations schemes for three types of saving functions range from 0.06 to 0.21. Financial development measured by financial intermediation ratio is also found to have significant positive influence on national and financial savings while negative influence on physical savings. Thus, the view points of two schools of thought, namely "financial repressionist" and "financial structuralist" are fully supported in the case of Pakistan.

Besides real income (measured or permanent) and real return on deposits there are other factors such as unanticipated inflation and variability of inflation are found to have significant impact on these saving functions. Finally, various expectations schemes were used to transform the unobservable variables into observable form. It is found that our results are not sensitive to the alternative expectations schemes.

References

- Abe, S., M.J. Fry, B.K. Min, P. Vongvipanond, and T.Y. (1977), "Financial Liberalization and Domestic Saving in Economic Development: An Empirical Test for Six Countries", *The Pakistani Development Review*, Vol. XVI, No. 3, Autumn.
- Deaton, A. (1977), "Involuntary Saving Through Unanticipated Inflation", *American Economic Review*, Vol. 67, No. 5, December.
- DeMelo, J., and J. Tybout (1986), "The Effects of Financial Liberalization on Savings and Investment in Uruguay", *Economic Development and Cultural Change*, Vol. 34, No. 3, April.
- Eckaus, R.S. (1977), "A Program of Research on Finance and Development", *Domestic Finance Studies No. 34*, Development Economics Department, World Bank, March.
- Fatima, Asmat (1983), "Estimates of Private and Public Savings and Consumption for [West] Pakistan (1959-60 to 1979-80)", *Statistical Papers Series No. 4*, Islamabad: Pakistan Institute of Development Economics.
- Fry, Maxwell J. (1978), "Money and Capital or Financial Deepening in Economic Development", *Journal of Money, Credit and Banking*, Vol. 10, No. 4, November.
- Fry, Maxwell J. (1980), "Savings, Investment, Growth and the Cost of Financial Repression", *World Development*, Vol. 8, No. 4, April.
- Fry, Maxwell J. (1982), "Models of Financially Repressed Developing Economies", *World Development*, Vol. 10, No. 9, September.
- Galbis, Vicente (1977), "Financial Intermediation and Economic Growth in Less-Developed Countries: a Theoretical Approach", *Journal of Development Studies*, Vol. 13, No. 2, January.
- Galbis, Vicente (1979), "Money, Investment and Growth in Latin America, 1961-1973", *Economic Development and Cultural Change*, Vol. 27, No. 3, April.
- Goldsmith, R.W. (1969), *Financial Structure and Development*, New Haven: Yale University Press.
- Gupta, K.L. (1982), "Inflation, Its Variability and Consumption in Selected Latin American Countries", *Economics Letters*, Vol. 9, No. 1.
- Gupta, K.L. (1984), *Finance and Economic Growth in Developing Countries*, London: Croom Helm.
- International Monetary Fund (1983), "Interest Rate Policies in Developing Countries", *Occasional Paper No. 22*, Washington D.C.: International Monetary Fund.
- Juster, F. and P. Wachtel (1972), "Inflation and the Consumer", *Brookings Papers on Economic Activity*, No. 1.
- Kemal A.R. Faiz Bilquees, and Ashfaq H. Khan (1980), "Estimates of Money Supply in Pakistan: 1959-60 to 1978-79", *Statistical Papers Series No. 1*, Islamabad: Pakistan Institute of Development Economics.
- Khan, Ashfaq H. (1982a), "The Demand for Money and the Variability of the Rate of Inflation: An Empirical Note", *Economics Letters*, Vol. 10, No. 3-4.
- Khan, Ashfaq H. (1982b), "Permanent Income Inflation Expectations and the Money Demand Function in Developing Countries", *The Pakistan Development Review*, Vol. XXVI, No. 4, Winter.
- Khan, Ashfaq H. Khan (1984), "Inflation, Its Variability and Consumption: Additional Evidence from Asian Countries", (mimeo.), Pakistan Institute of Development Economics, Islamabad.
-

-
- Khan, Ashfaq H. and Kalbe Abbas (1983), "Additional Evidence of Inflation Variability: The Experience of Asian Countries", *Economics Letters*, Vol. 12, No. 2.
- Klein, B. (1977), "The Demand for Quality-Adjusted Cash Balances: Price Uncertainty in the U.S. Demand for Money Function", *Journal of Political Economy*, Vol. 85, No. 4, August.
- McKinnon, Ronald I. (1973), *Money and Capital in Economic Development*, Washington, D.C.: The Brookings Institution.
- McKinnon, Ronald I. (1976), *Money and Finance in Economic Growth*, New York: Marcel Dekker Inc.
- Molho, Lazaros E. (1986), "Interest Rates, Saving, and Investment in Developing countries: A Re-examination of the McKinnon-Shaw Hypotheses", *IMF Staff Papers*, Vol. 33, No. 1, March.
- Nugent, Jaffery B., and C. Glezakos (1979), "A Model of Inflation and Expectations in Latin America", *Journal of Development Economics*, Vol. 6, No. 3, September.
- Roe, Alan R. (1982), "High Interest Rates: A New Conventional Wisdom for Development Policy? Some Conclusions from Sri Lankan Experience", *World Development*, Vol. 10, No. 3, March.
- Shaw, Edward S. (1973), *Financial Deepening in Economic Development*, New York: Oxford University Press.
- Toyoda, T. (1972), "Price Expectations and the Short-Run and Long-Run Phillips Curves in Japan, 1956-1968", *Review of Economics and Statistics*, Vol. 54, No. 3, August.
-

Abstract

Most of the developing countries face resource constraint during the process of their economic development and Pakistan is no exception. The savings rate in Pakistan is one of the lowest in developing countries and as such the policy makers are faced with the problem of harnessing sufficient resources for financing economic development. This paper attempts to provide some answers to the causes of low savings in Pakistan in the light of recent theoretical development in this area. Two schools of thought have emerged, namely the "financial repressionist" and the "financial structuralist" that have provided some insights into the causes of low savings in developing countries. The former argues that the low (or negative) real interest rates caused by arbitrarily set ceilings on nominal interest rates and high and variable inflation rates are the major impediments to savings, financial deepening, capital formation and growth. The latter asserts that a widespread network of financial institutions and a diversified array of financial instruments will have a beneficial effect on the saving-investment process and hence, on growth. This paper finds overwhelming supports for the view points of both the schools. Savings in Pakistan is found sensitive to the changes in real return on deposits. Financial development is also found to have significant positive influence on national and financial savings while negative influence on physical savings.

Book reviews

Revue bibliographique

BOUMAN F.J.A., **Small, Short and Unsecured, Informal Rural Finance in India**. Oxford University Press, 1989

In this book, Frits Bouman has provided students of development a very readable description of the rural financial market in one corner of India. It joins a growing body of literature documenting the workings and the distribution of alternative financial arrangements in LDCs. While the book is not highly analytical, it does develop a cogent argument for how development specialists might profitably view informal finance. And, what it lacks in elegant equations, it makes up in systematic presentation of the way in which economic agents (in particular small-scale agents) obtain and provide financial services when the formal system does not perform. In this, the book informs the debate on how financial intermediation proceeds in certain economic contexts and how it might best be supported.

Bouman starts by engaging the reader with a paradigmatic anomaly. Conventional development theory leads us to expect increased economic development to be associated with growth in the volume of funds intermediated through formal financial institutions and a concomitant decline in intermediation through informal financial arrangements. Why then, the author asks, did he find in Sangli Town — the capital of an Indian district that had experienced rapid growth in agricultural investment and incomes — an apparent expansion of informal financial intermediation?

Bouman sets out to describe the relationship between agricultural investment and formal financial institution (in the Indian example read for formal "state-dominated") on the one hand and between economic opportunity and the self-interested response of informal agents on the other. He prefaces this description with a summary of the conventional approach taken toward financial market development and of the foundations for the more recent interest in informal financial arrangements. In both the summary of conventional approaches to financial sector development and in the history of Indian financial sector policy that follows, Bouman avoids the appearance of "policy-bashing" by being extremely summary. One waits in vain for him to report the price tag for policies that resulted in the politicization of credit allocation, formal financial institutions dogged with loan repayment problems, and, in the end, a system that did not go very far toward the goal of providing affordable finance to the broad masses of Indian peasants; but Bouman is more gentle than that, leaving the conclusions to his readers. It is, after all, a book about informal finance.

It is not until chapter four that Bouman starts in earnest his description of informal finance in rural India. Here, he establishes one of the defining characteristics of informal finance by distinguishing between two types of cooperatives (one of which is top-down in its constitution, the other of which is more organically constituted) in the rural financial system. The dominant type in terms of number of societies is the Primary Agricultural Credit Society (PACS). These societies were mandated under Indian rural development policy and were therefore typically initiated by village level government officials. Moreover, since they are used as a channel for government credit programs, they have little autonomy with respect to lending policies. The other type of credit cooperative found in Sangli is the Urban Credit Society (UCS), which, despite their name, are found in villages throughout the district and accept savings deposits. These societies were more spontaneous in development and since they mobilize their own funds, are more independent of official control in their policies. Underlining the question that motivates the study, the more autonomous UCS enjoyed much higher growth during the period when agricultural investment was increasing.

In the following chapter, Bouman goes on to develop in further detail the structure and performance of the cooperative credit system in India, describing a financial system that defines top-down, targeted credit policies. In terms of performance, he documents the poor loan recovery performance of both the State Co-operative Banks and of the Land Development Banks. He then leaves it to the reader to connect these two phenomena. But, toward the end of this chapter (page 41), Bouman makes an uncharacteristically bold proposition:

"Such a sorry state of affairs undoubtedly creates a climate that is ultimately conducive to the introduction and acceptance of an alternative financial institution. In a sense, PACS in Sangli have paved the way for the popularity of Bishi (...informal savings and credit societies...) and UCS."

In this proposition, Bouman seems to answer his question about the growth of informal finance in the context of increased agricultural investment. Given that the formal system — predicated as it was on the assumption

that state control could compensate for the perceived inappropriateness of a more spontaneous, market-based system of financial intermediation — did not work, then a spontaneous, market-based system arose to fill the gap. Economies abhor a financial vacuum. To the extent that the formal financial system was synonymous with state-supported institutions, then the alternative arrangements that developed would, by implication, be informal. Doubtlessly, this goes a long way toward answering the question why informal finance has boomed in Sangli in the face of increased agricultural investment and productivity.

Following his description of the quasi-formal cooperative credit system, Bouman then moves on to the more purely informal financial arrangements found in the Sangli district, starting with the "bishi mandal", a form of rotating savings and credit society. For this reviewer, it was this discussion that provided the greatest reward. The debate about government and donor support for financial sector development which pits indigenous, organic responses to financial opportunities and needs against the more fundable imported model has raged for so long that one hardly expects that much that is new can be found to say about it. So many Alexanders have already cut the knot and yet, amazingly, there is still a knot there. One despairs of ever resolving this debate. Yet in his description of the workings of bishi, Bouman captures a compelling image of people gathering together to satisfy an economic want (savings and credit services) and of their doing so in a way that is internally sustainable, flexible according to changing circumstances, and patently serving the participants' own self-interests. If he could have found some way to tie more closely this description of a nascent financial institution to his apocryphal quote regarding formal finance through the PACS ("Surely the PACS charge a lower interest rate... but that is because farming is risky") he might have made more clear the cause for optimism inspired by bishi and similar informal innovations.

Another cause for optimism provided by the description of bishi and the other informal financial mechanisms in that it undercuts one of the more depressing criticisms leveled against the political allocation of credit and credit forgiveness in India — e.g., that it was producing a generation of farmers who thought that credit means free money. It is implied by the development and spread of these informal innovations that farmers and small scale producers distinguish between state-supported credit which may not need to be repaid and "real credit" originating through real institutions which of course must be repaid. One must appreciate such silver-linings in the realm of financial market development.

In his evaluation and summary, Bouman pays his respects to the successes of formal credit in the economic development of agriculture in Sangli district. He notes that formal credit was instrumental in the transition to a more productive agricultural sector, though he does not attempt to analyze this contribution in terms of returns on investment. But this is a book about informal finance, primarily, and he quickly moves on to this topic. He notes the benefits of organic financial intermediation — higher returns for savers, quicker access for borrowers, sustainability, to name a few — and he notes the dismay which these innovations inspire in government policy makers. Arguments are reported that, for the good of the peasants, only formal finance should be allowed. The sense of foreboding that this inspires is offset by consideration of the fact that earlier arguments along this line and the policies they engendered seem to have been one of the preconditions for the expansion of informal finance that Bouman reports.

People have an uncanny ability to succeed in spite of the plans and agendas of development policy makers, and that is the strong sense that one carries away from this book. One may wish that people be allowed to get on with serving their interests in regard to financial intermediation, but that outcome seems improbable. As a consolation one can at least recognize through the stories told in this book that even in the face of the considerable resources that governments are able to bring to bear, they are able to effect outcomes only partially, and often in ways that lead in unexpected directions. It serves as a reminder that sometimes people are able to work around governments' best laid intentions and achieve satisfactory solutions in the end.

Robert C. Wieland
IMCC
Arlington, Virginia
USA



**INTERNATIONAL CENTER
FOR PUBLIC ENTERPRISES
IN DEVELOPING COUNTRIES**

EFFICIENCY THROUGH COMPETITION IN PUBLIC UTILITIES – POLICIES FOR RESTRUCTURING

edited by Geeta Gouri, R. Jayashankar and Olu Fadahunsi

This book is published jointly by the International Center for Public Enterprises (ICPE) and the Commonwealth Secretariat (COMSEC) and is the outcome of the workshop organised in June 1991 on Efficiency through Competition in Public Utilities.

Public utilities often have mixed mandates: to employ more workers than needed, to report to several ministries, to operate under politically appointed chiefs, to render services at financially unsustainable prices.

Unwinding these distortions requires tough decisions based on a thorough analysis. Governments may be unwilling to open sectors to competition, if that would result in closing government-owned utilities.

This book is a collection of cases pertaining to the utility sectors of power, port, telecommunications and transport. Also included are the issues, challenges, organisational and institutional dimensions of generating competition in utilities. The country case studies give an insight into the efficiency measures and the restructuring policies, to be adopted for public utilities.

1993 182 p

USD 30
ISBN 92-9038-052-7

Publication can be ordered direct from ICPE, P.O.Box 92, 61109 Ljubljana, Slovenia.
Make cheque payable to ICPE.

VOLUME XIV N°1 May/Mai 1993

ARTICLES

- | | |
|---|--|
| V. Montecinos
J. Markoff | Democrats and Technocrats: Professional Economists
and Regime Transitions in Latin America |
| G. Ducatenzeiler
P. Faucher, J. Castro Rea | Amérique-latine: les échecs du libéral-populisme |
| R.E. Looney | Government Expenditures and Third World
Economic Growth in the 1980s: The Impact of
Defense Expenditures |
| J. Ahmad | The Impact of Trade and Industrial Policies on Small
and Medium Scale Manufacturing Industry |

REFLECTIONS ON DEVELOPMENT PRACTICES/

RÉFLEXIONS SUR LA PRATIQUE DU DÉVELOPPEMENT

- | | |
|-------------------------------|---|
| M. Genné | Introduction |
| A.V. Catanese
R.D. Perlack | Reforestation in Haiti |
| A. Lemelin
M. Polèse | La localisation de l'emploi est-elle si différente dans les
pays en développement: modèles d'urbanisation et
analyses comparatives des systèmes urbains canadien
et mexicain |

REVIEW ARTICLE

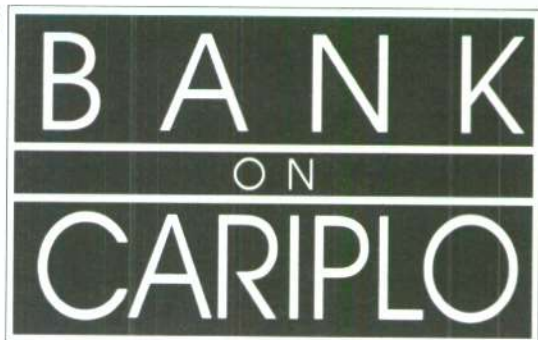
- | | |
|------------|---|
| A.B. Bakan | The Caribbean: Transitional Societies and Perspectives
on Transition |
|------------|---|

BOOK REVIEWS

Edition, Sales and Management / Édition, vente et gestion
Canadian Journal of Development Studies, University of Ottawa
550 Cumberland, Room 160B
Ottawa (Ontario) Canada K1N 6N5
Tel.: (613) 564-5459 - FAX: (613) 564-9518



FOR YOUR BUSINESS



Count on Cariplo for speed and efficiency for all your banking needs. Whether it's financial, commercial or overall assistance. Count on the great experience of a bank born and bred in Milan, linked in real-time to 600 branches throughout Italy. Count on a sound capital base of 5,099 million dollars. Count on the professionalism of a group represented in Beijing, Berlin, Brussels, Budapest, Chicago, Frankfurt, Grand Cayman, Hong Kong, London, Luxembourg, Madrid, Moscow, New York, Paris, Seoul, Tokyo and over 1,800 correspondent banks. If you have a problem or just want advice, you can always count on Cariplo.

 **CARIPLO**
CASSA DI RISPARMIO DELLE PROVINCE LOMBARDE S.p.A.
SINCE 1823 WE KNOW HOW.



CARIPLO IN THE WORLD

Cariplo and Cariplo Group: a large and diversified organisation of companies, experiences and resources to operate in all banking and near banking sectors (merchant banking, leasing, factoring, insurance, etc.). With more than 600 branches in Italy and in the most important financial markets, Cariplo provides a full range of top banking services all over the world.

INTERNATIONAL NETWORK

Branches:

LONDON

6 Lombard Street - London EC3V 9AA

MADRID

Calle Alcalá 44 - 28014 Madrid

NEW YORK

650 Fifth Avenue - 25th floor - New York N.Y. 10019

GRAND CAYMAN

c/o New York Branch - 650 Fifth Avenue
New York N.Y. 10019

HONG KONG

Bank of America Tower - 18th floor
12 Harcourt Road - Central Hong Kong

Shareholdings:

- **BANKHAUS LÖBBECKE & CO.**
Fasanenstrasse 5 - 1000 Berlin 12
(2 city branches in Berlin, and branches in Frankfurt, Braunschweig, Magdeburg).
- **CARIPLO BANK INTERNATIONAL S.A.**
12 Rue Goethe - 1637 Luxembourg
- **COMPAGNIE INTERNATIONALE DE BANQUE**
42 Rue la Boétie - 75008 Paris (branch in Lyon)
- **EUROPAI KERESKEDELMI BANK Rt. EKB**
7/13 U. Hegyalja - 1016 Budapest

* Controlling interest

Representative offices:

ATHENS

13, Panepistimiou Str. - 105 64 Athens

BEIJING

811 Scite Tower - 22 Jianguomenwai Da Jie
100004 Beijing

BRUSSELS

Avenue Louise 250 - B.te 63 - 1050 Brussels

CHICAGO

190 South La Salle Street, Suite 2890
Chicago, IL 60603

FRANKFURT/MAIN

Gutleutstrasse 32 - 6000 Frankfurt/Main 1

MOSCOW

Pereulok Bolshoy Gnezdnikovskiy 7
4th floor - 103009 Moscow

PARIS

10 Rue de la Paix - 75002 Paris

SEOUL

Oriental Chemical Building - 3rd floor
50 Sokong-Dong Chung-Ku - 100070 Seoul

TOKYO

Enokizaka Building - 3rd floor
12-12 Akasaka 1 - Chome - Minato-Ku, Tokyo 107



CARIPLO

CASSA DI RISPARMIO DELLE PROVINCE LOMBARDE S.p.A.

HEAD OFFICE: 8, VIA MONTE DI PIETA' - 20121 MILAN - ITALY

The contents appearing in
this publication are indexed by



For further information, please contact:
Dr. Munawar A. Anees, Editor-in-Chief, Periodica Islamica



BERITA PUBLISHING

22 Jalan Liku, 59100 Kuala Lumpur, Malaysia
Tel (+60-3)282-5286 Fax (+60-3)282-1605

INTERNATIONAL REVIEW OF ECONOMICS AND BUSINESS

Rivista Internazionale di Scienze Economiche e Commerciali

January 1993

F. DONZELLI: Friedrich August von Hayek (1899-1992) - T.V.S.R. RAO: Memory in Dynamic Principal-Agent Problems - T. ANDERSSON and K. BRANNAS: Explaining Cross-Country Variation in Nationalization Frequencies - M. DI MATTEO: Forms of Trade Control in an Equilibrium North-South Model: A Comparative Evaluation - C. HUNG: Budget Deficits and the Financial Services Industry in the United States: An Empirical Note - C.L.J. SIEMANN and J. DE HAAN: On Sustainability and Political Determinants of Government Debt in Developing Countries

February 1993

V.S. VARTIKAR: Optimum Rate of Inflation - M.S. CATALANI and G.F. CLERICO: Team Cooperation or Independent Assessment? - E.I. BAIRAM: Autoregressive Conditional Heteroscedasticity and Theories of Inflation - P. KUGLER and C. LENZ: Chaos, ARCH, and the Foreign Exchange Market: Empirical Results from Weekly Data - H.L. BREWER: Diversification Measures for Conglomerate Firms - S.I. IKHIDE: Financial Liberalisation and the Inflationary Process: Is There a Link in Adjusting Developing Countries? - V. ANAGNOSTAKIS: Growth, Profitability, Financial Risk and Firm Size in Greek Manufacturing: A Simultaneous Equation Model

March 1993

L. JIA: An Examination of the Prerequisites for Implementing an Economic Self-Reliance Policy in China - D.A. GEORGIOUS and G.P. KOURTAS: Maximum Likelihood Estimation of Cointegration Vectors: Testing for the Existence of Purchasing Power Parity - G.W. BENG: Interest Rates Adjustment in the Money and Credit Markets in Malaysia - P. GHIRARDATO: Non-Additive Measures of Uncertainty: A Survey of Some Recent Developments in Decision Theory - A. BALDISSERA: Concezioni classiche e concezioni alla Williamson nell'interpretazione dei gruppi aziendali

A monthly journal. Subscription rate: Lire 190.000 (Italy), Lire 260.000 (abroad) - Bound back volumes available at special prices - Address: R I S E C - Via Teulie 1 - 20136 Milano (Italy) - Tel. & Fax: 0039-2-58317434

The authors:

Dr. Monica S. Fong is the Coordinator on Women in Development for the Europe, Middle East and North Africa region in the World Bank. Her long standing interest in the provision of financial services for poor rural women stems from her analysis and evaluation of development projects and programmes directed to the rural poor with the International Fund for Agricultural Development and the Food and Agriculture Organization of the United Nations. She has also written extensively on women in the agricultural labour force in the developing world.

Dr. Heli Perrett is an independent consultant, specializing in social aspects of development planning and implementation. She is the author of numerous books and reports on communication, education and behavioural considerations in rural development planning. In addition to her extensive writing, she has continued to pursue a career as educator and has taught at the Catholic University of Peru in Lima, and the American University in Washington, D.C. among others.

163 pp.

Lit. 20.000

ISBN 88-85955-02-9

Summary

Rural women have been one of the most consistently neglected groups in development planning and programming, and, paradoxically, one of the groups with the greatest unrealized potential. Direct access to credit, accompanied by savings, can become a catalyst for change that brings benefits to rural women, as well as to their families and communities. The book will address this issue as follows:

— In the introductory chapter, the reasons for direct, lending to rural women in developing countries are highlighted and women's creditworthiness is reviewed.

— A review of women's informal practices of borrowing and saving, their advantages and disadvantages is given in Chapter 2.

— This is followed by an overview of women's limited use of formal financial markets for borrowing and savings, and existing constraints on the supply of credit to women in Chapter 3.

— Chapter 4 discusses women's demand for credit, its assessment and promotion, with reference to both institutional credit and to savings.

— Chapter 5 provides an overview of institutional strategies for providing financial services to rural women, either separately or together with men, with extensive case illustrations; the variety of operational linkages that are being tried between credit and savings.

— The role, development and functioning of grassroots credit and savings groups, and the factors that determine its effectiveness in practice are discussed in Chapter 6.

— The concluding chapter summarizes what we have learned about the planning of appropriate financial services for women and the related policy implications.

ORDER FORM:

WOMEN AND CREDIT

The Experience of Providing Financial Services
to Rural Women in Developing Countries

Please send me _____ copy (ies) of the above mentioned volume.

Name _____

Address _____

City _____ Country _____

Date _____

Signature _____

Please, make cheques payable to:

FINAFRICA FOUNDATION

Via San Vigilio, 10

20142 MILAN - Italy

Tel. 8135341, telex 313223, Fax 8137481

While not implying acceptance, payment of fees, responsibility for loss or return, the Editor encourages the submission of manuscripts concerning money, financial intermediaries, financial techniques, and experiments in savings mobilization in developing countries. Manuscripts submitted for publication (two copies) should be in English or French, 4,000 - 10,000 words in length with a 200-400 word summary, typed on one side only of the sheet and double-spaced. Footnotes should be indicated by consecutive numbers throughout the paper. References in the text should be quoted by the author's last name and year of publication, e.g. Shaw (1973) or (Shaw, 1973). The title should be as compact as possible. Submission of the paper implies that it is an unpublished work, not yet submitted for publication elsewhere. Sections and subsections of the paper should be indicated in cardinal numbers (e.g. 1.; 1.1.; 1.2.; etc.). Mathematical formulas should be numbered consecutively as [1], [2] etc. Figures should be limited in number and submitted in a form ready for the printer. References at the end should be listed alphabetically and quoted as follows:

- for articles: Galbis Vicente, "Monetary and Related Policies in Ministates", *Savings and Development* Vol. VIII, No. 4, 1984, pp. 291-350;
- for books: McKinnon Ronald, *Money and Capital in Economic Development*, The Brookings Institution, Washington D.C., 1973. All communications should be sent to the Editor.

FINAFRICA - Via S. Vigilio, 10 - 20142 MILANO (Italy) - Tel. 8135341 - Telex 313223 - Fax 8137481

Signed articles do not necessarily reflect the opinion of Savings and Development or of its Editor and no responsibility is accepted for them.

Bien que cela ne signifie pas l'acceptation ou le paiement de frais, et que toute responsabilité soit déclinée pour la perte ou la restitution, la Rédaction souhaite l'envoi de manuscrits concernant la monnaie, l'intermédiation et les techniques financières, et les essais pour la mobilisation de l'épargne dans les pays en voie de développement. Les articles (deux copies) devraient être rédigés en Français ou en Anglais, d'une longueur de 4.000 à 10.000 mots avec un résumé de 200 - 400 mots. Toute communication devra être adressée à la Rédaction:

FINAFRICA - Via S. Vigilio, 10 - 20142 MILANO (Italie) - Tel. 8135341 - Telex 313223 - Fax 8137481

Les articles portant signature ne reflètent pas nécessairement l'opinion de Savings and Development ou bien de la Rédaction et toute responsabilité est déclinée par ceux-ci.

1993 Subscription Rates:

- Italy EEC and ACP Countries Lit. 95.000
- Rest of the World (air mail) Lit. 122.000

RASSEGNA TRIMESTRALE

REGISTRATA PRESSO IL TRIBUNALE DI MILANO AL N. 102 DEL 27.3.1974

DIREZIONE, REDAZIONE, AMMINISTRAZIONE

FINAFRICA CARIPLO - VIA S. VIGILIO, 10 - 20142 MILANO - TEL. 8135341 - TELEX 313223 - FAX 8137481

Direttore Responsabile

FELICE TAMBUSI

Arti Grafiche FRIMA s.r.l. - Milano



ISSN 0393 - 4551