

Informal Finance in Developing Countries: Lessons for the Development of Formal Financial Intermediaries*

Paul Burkett**

This paper surveys three areas in which informal finance may offer important lessons for the efficient evolution of formal financial intermediaries (FFIs) in developing countries. First, analysis of the services provided by informal financial networks may help determine the regulatory constraints which must be removed if FFIs are to provide savings and credit services more efficiently and equitably. Second, informal finance may ease the transition to a financially liberal regime by providing competition with FFIs and by lowering the risks and costs which FFIs incur in extending their savings and credit services to non-traditional clientele. Third, informal finance may help to maintain the flexibility and adaptability of the financial system after the transition to a more efficient regulatory regime.

I. Introduction

In developing countries many financial transactions occur informally, i.e., via face-to-face contacts among savers and borrowers which lie outside the scope of government controls. By contrast, formal financial intermediaries (FFIs) mobilize and allocate funds by indirectly linking savers with borrowers and are subject to regulatory constraints. The present survey suggests that there are three broad areas in which informal finance may offer important lessons for the efficient evolution of financial systems (including FFIs) in developing countries. First, informal finance is in part a response by economic agents to certain regulatory constraints placed on FFIs and the inefficiencies which result from these controls. Informal

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** Professor of Economics at the Department of Economics, P.O. Box 248126, University of Miami, Coral Gables, Florida, U.S.A. 33124.

financial markets may therefore help policymakers distinguish inefficient and inequitable regulations from those government interventions which improve both the mobilization and allocation of funds and the quality of financial services offered by FFI's.

Second, informal finance may play an important role in the transition to a liberalized financial system. Once policymakers have formulated a more efficient regulatory strategy for FFI's — entailing primarily the removal of inefficient controls — informal finance may be utilized to improve the flexibility and adaptability of the financial system and thus to lower the short run costs which may be incurred when the regulatory environment for FFI's is altered. The flexibility and adaptability of finance is particularly crucial in cases where financial liberalization occurs along-side other regulatory and macroeconomic policy changes (such as trade liberalization or devaluation of the exchange rate) which further alter the sources and uses of funds among economic agents.

Third, informal finance may help to maintain the flexibility and adaptability of the financial system even after the transition to a more efficient regulatory regime. Due to transaction costs (including information costs), informal finance is likely to have a comparative advantage over FFI's in some savings and credit transactions even after the removal of inefficient controls on FFI's. Further, the development of linkages between informal finance and FFI's may improve the savings and credit services offered in both sectors — both by lowering the risks and transaction costs incurred by FFI's and by allowing informal financial transactors to tap into the scale, specialization, and scope economies offered by FFI's.

Sections 2 and 3 survey the analyses of financial development and policy upon which the above arguments are based. Since the seminal works of McKinnon (1973) and Shaw (1973), financial development theory has become increasingly concerned with transaction costs and with the provision of savings and credit services at the microeconomic level in addition to the aggregate growth of financial savings and credit. This increased concern with the microeconomic effects of financial regulations has supported the view that informal finance may play a constructive role in the financial development process before, during and after the removal of inefficient regulations on FFI's. Section 3 also surveys the advantages of informal finance over FFI's operating under inefficient regulatory constraints. The focus here is on the operations of rotating savings and credit associations (ROSCAs) and individual money lenders in developing countries.

Section 4 outlines how informal finance may ease the transition to a financially liberal regime. The key issue here is how to lower the short run

costs of altering flows of funds in response to the changed regulatory environment. Informal finance may lower the transaction costs and risks entailed in this alteration of FFIs' portfolios while simultaneously placing competitive pressure on FFIs to lower the spreads between deposit and loan interest rates which should decrease as regulatory constraints are dismantled. Some basic principles for developing an efficient long run division of labor between informal finance and FFIs are sketched in Section 5. The main lessons of the survey are drawn out in the conclusion.

II. Financial Development, Financial Repression, and Informal Finance

A. *Finance and Development*

As described by McKinnon (1973) and Shaw (1973), financial intermediation can promote economic development through a more efficient mobilization of funds and through the allocation of funds among investments on the basis of their risk-adjusted rates of return. FFIs can decrease the resource cost of channeling funds from savers to investors through economies of scale, obtained most importantly from the centralization of funds and from the pooling of risks incurred in lending for different investments. Economies of specialization in the mobilization and allocation of funds, as well as economies of financial scope (e.g., the recording of prior deposit behavior so as to lower the risk and information costs incurred in lending) also may decrease the resource cost of matching savings with productive investments.

In competitive financial markets, decreases in the resource cost of financial intermediation (due to scale, specialization or scope economies or financial innovations by FFIs) lead to lower transaction costs for savers and borrowers. Some indicators of this process are presented in Table 1, which shows some figures indicating the time costs of financial transactions in the relatively underdeveloped financial system of Lagos, Nigeria and in three developed countries. These figures indicate a sizeable differential in the time costs of depositor transactions between Nigeria and the developed countries. Based on the figures for Lagos, Elegalam (1978) estimates an annual loss of roughly 50,000 man-hours in Nigeria due to the time differentials shown in Table 1.

The development of financial intermediation involves increases in the scale, scope, complexity, and efficiency of the institutions and markets through which funds are transferred from savers to investors. Table 2 provides some indicators of this process by comparing selected developed and developing countries. The higher level of financial development in the

Table 1
AVERAGE TIME TAKEN FOR FINANCIAL TRANSACTIONS IN LAGOS,
NIGERIA AND THREE DEVELOPED COUNTRIES (in minutes)

Transactions	U.K.	U.S.A.	Germany	Nigeria
Depositing in saving accounts	5	5	5	41
Depositing in current accounts	5	1-5	5	24
Withdrawing from saving accounts	5	5	5	52
Cashing owners cheques	5	5	5	53
Casing other people's cheques	5	5	5	50

Source: Elegalam (1978, p. 444).

developed countries is reflected in their generally lower population/bank branch ratios and higher M_2 /GDP ratios relative to those for the developing countries shown. The relevance of inflation stems from the fact that in an inflationary environment with interest rate controls, banks may compete for deposits by expanding their branch office networks. The relatively low population/branch ratios in Argentina and Turkey may be partly a reflection of this process. Indeed, Hanson and Rocha (1986, p. 40) found a significant negative correlation between the population/branch ratio and inflation for the countries shown in Table 2.

McKinnon and Shaw stressed the positive impact of improved financial intermediation on the growth and productivity of the capital stock in developing economies. In addition to allocating funds toward sectors where rates of return on investment are relatively high, FFIs can engage in term transformation, that is, the use of a pool of small, short term deposits as a fund for larger, longer term loans for physical capital investments. To the extent that technological advances are embodied in lumpy fixed capital investment, such term transformation indirectly increases the productivity of investment. Reductions in transaction costs and interest rate spreads not only decrease the cost of loans as a source of investment funds, but also increase the capability of firms to self-finance investments via the prior accumulation of funds. At the same time, the increased use of deposit holdings (rather than cash or inflation hedges) as investment funds increases the amount of savings mobilized by FFIs —

Table 2
NUMBER OF BANK BRANCHES, POPULATION PER BRANCH, M_2 /GDP,
INFLATION AND INCOME PER CAPITA IN SELECTED COUNTRIES

Country	Year	Banks Covered	Number of Branches	Population Branch	M_2 /GDP (in %)	Inflation (Yearly geometric of the variation in the CPI in the previous 15 yrs.) (in %)	Income Per Capita (in US\$)
Belgium	1977	All Commercial	3,579	2,750	47.18	5.72	8,280
Denmark	1977	All Banks	2,018	2,442	43.75	7.60	9,160
France	1977	All Banks	9,946	5,331	51.69	6.38	7,500
Ger... Rep. of	1977	All Banks	37,764	1,626	55.44	3.93	8,620
Italy	1977	All Banks	11,720	4,818	91.05	8.13	3,530
Netherlands	1977	All Commercial	2,322	5,971	58.23	6.51	7,710
Norway	1977	All Commercial	540	7,470	58.56	6.47	8,570
Sweden	1977	All Commercial	1,544	5,352	53.08	6.31	9,340
Argentina	1983	All Commercial	4,336	6,833	31.33	111.56	2,070
Argentina	1983	Private Commercial	2,581	11,480	31.33	111.56	2,070
Brazil	1981	All Commercial	10,681	11,283	11.17	36.03	2,220
Brazil	1981	Private Commercial	6,922	17,409	11.17	36.03	2,220
Colombia	1980	All Banks	2,619	9,886	20.29	17.22	1,280
Colombia	1980	All Commercial	1,771	14,620	20.29	17.22	1,260
Colombia	1980	Private Commercial	1,209	21,416	20.29	17.22	1,260
Colombia	1981	Private Commercial	285	30,193	21.71	10.51	1,180
Ecuador	1983	Private Commercial	664	22,382	60.55	5.02	1,840
Malaysia	1981	All Banks	1,485	11,468	24.91	26.93	1,170
Peru	1981	All Commercial	896	19,008	24.91	26.93	1,170
Peru	1981	Private Commercial	449	37,979	24.91	26.93	1,170
Thailand	1980	Private Commercial	1,493	31,445	36.76	6.30	670
Tunisia	1981	Private Commercial	298	21,906	42.62	5.37	1,420
Turkey	1981	All Banks	6,265	7,287	26.60	24.36	1,540
Turkey	1981	Private Commercial	3,668	12,412	26.60	24.36	1,540
Venezuela	1981	Private Commercial	1,234	12,498	36.14	6.43	4,220

Source: Hanson and Rocha (1986, p. 38), except for M_2 /GDP which was calculated from International Monetary Fund, *International Financial Statistics* (various issues).

thus increasing the credit available for investments by other production units.

Recent empirical studies have tended to verify the positive impact of improved financial intermediation on economic growth and development. Jung (1984), for example, analyzes time series data for 19 developed countries and 37 developing countries and finds a significant and positive correlation between real GDP growth and two measures of financial deepening.¹ Employing temporal causality analysis, Jung finds that financial deepening leads economic growth for the developing countries, with the reverse being true for the developed countries. A similar finding is reported by Fritz (1984) in his analysis of the Philippines. Using quarterly data for the period 1969-81, Fritz finds that an index of financial development has a positive causal effect on an economic development index during the first half of the sample period (with no significant temporal causality running from economic development to financial development), while during the second half of the sample period causality runs from economic development to financial development. These studies support the hypothesis developed by Patrick (1966) and Drake (1980): that financial development plays a growth-inducing ("supply leading") role in the early stages of economic development, while in the later stages of economic development financial intermediation plays a more passive ("demand following") role in the economic growth process.

B. Financial Repression and Informal Finance

Although empirical evidence on the dominant direction of causality between economic growth and financial development is incomplete, the main point of the analysis in McKinnon (1973) and Shaw (1973) is that economic growth may be impeded if financial intermediation is "repressed" by government regulations. For example, in most developing countries the government has placed legal ceilings on nominal loan and/or deposit interest rates at FFIs which result in below equilibrium real interest rates.² Often, ceiling rates for loans to "priority sectors" are set lower than the general maximum. In many cases, the real interest rates implied by legal ceilings and inflation are less than zero (Galbis (1979), Leite (1982)). Some examples are shown in Table 3.

¹ The measures employed are the M_2 /GDP ratio and ratio of M_1 to currency in circulation.

² The present discussion focuses on interest rate controls because of the focus on this type of financial repression in McKinnon (1973) and Shaw (1973) as well as in the subsequent literature. The discussion could easily be extended to cover other methods of financial repression such as selective credit controls, high reserve requirements, or central bank rediscount policy (Burkett (1986b)).

Table 3
AVERAGE REAL INTEREST RATES (annual %)^a

Country	Years	Savings Deposit Rate	Lending Rate	Representative Preferential Rate ^d
Pakistan	1970-82	0.1	2.2	1.5
Morocco	1974-82	-1.7	2.7	-1.8
Korea	1970-82	-4.1	-1.1	-8.3
Thailand	1970-82	-4.1	2.9	-4.6
Bangladesh	1971-82	-5.4	-1.3	-3.4
Kenya	1970-82	-6.8	-1.0 ^b	-4.4
Turkey	1974-82	-16.2	-13.6	-20.5
Nigeria	1970-82	-16.5	-11.8	-7.8 ^c
Peru	1970-82	-18.6	-9.1	-24.8

^aAverage refers to the average compound real interest rate over the period, i.e.,

$$\text{Antilog} \frac{1}{n} [\sum_t (\ln(1 + r_t) - \ln(1 + p_t))] - 1$$

where r_t = nominal rate of interest at end of year t ,

P_t = annualized inflation rate from end of year t to the following June, as measured by the Consumer Price Index,

n = number of years.

^b1977-82; the corresponding average real deposit rate was -4.7% and the average preferential lending rate was -3.8%.

^c1978-82; the corresponding average real deposit rate was -10.8% and the average real general lending rate was -6.0%.

^dSpecifically, the preferential rates were as follows: loans against jute, jute goods and tea, Bangladesh; loans from the Agricultural Finance Corp., Kenya; preferred sector maximum, Nigeria; rediscounts from the Banco Agrario, Peru; export credits, Thailand; and agricultural credits, Turkey.

Source: Hanson and Neal (1986, p. 7).

This repression of real interest rates inhibits the mobilization of savings by FFIs. Even if interest rate ceilings apply only to loans, their downward impact on loan revenues constrains the yield and liquidity of the deposits which FFIs can profitably offer to savers. As a result, the supply of credit from FFIs tends to decrease relative to the situation without interest rate controls, which constrains the ability of firms to finance physical and working capital investments — thus lowering the overall rate of economic growth. Fry (1980), in a study of seven Asian developing countries, found that the cost of interest rate controls was roughly one half a percentage point in economic growth foregone for every one percentage point by which the real deposit rate was below its equilibrium level.

Even if subsidized credit is used for investment, the capital stock is likely to be less productive and more biased in favor of larger scale enterprises than would be the case if FFIs were allowed to allocate funds on the basis of relative risk-adjusted rates of return. This argument has been supported for the case of Colombia by Tybout (1983), who found that interest rate restrictions and other controls caused significant borrowing constraints for smaller scale industrial enterprises and widened differences among firms in terms of the marginal efficiencies of investments.

Given the above perspective on financial development and financial repression, the attitude of McKinnon (1973), Shaw (1973), and much of the subsequent literature toward informal finance has been somewhat ambivalent. On the one hand, informal finance may be viewed as a rational response by self-interested economic agents to the repression of formal finance. For example, firms may turn to the so-called "curb markets" for loans in response to the inability of FFIs to satisfy the excess demand for formal credit which results from disequilibrium interest rate ceilings. The widespread operation of informal savings groups in many developing countries may also be viewed in part as a rational response to the repression of deposit opportunities at FFIs by interest rate controls (Bouman (1977)).

On the other hand, precisely to the extent that informal finance is a function of the repression of formal finance, then growth of the former at the expense of the latter may lower the overall efficiency of the mobilization and allocation of funds compared with the situation under a more liberal regime of regulations on FFIs. This presumes, of course, that FFIs have significant scale, scope, and/or specialization economies relative to the moneylenders and groups operating in the informal financial sector. From this perspective, financial liberalization is desirable precisely because it would increase the share of FFIs (and decrease the share of informal finance) in the overall mobilization and allocation of funds.³

However, McKinnon (1973, 77-78) and Shaw (1973, 135-38) also argued that informal moneylenders may play a useful role in promoting competition in the financial sector both during and after the removal of restrictive controls on FFIs. Although the size, spatial scope, and term transformations of informal credit transactions are limited in comparison with FFIs, the relatively cheap production functions and knowledge of local information on the credit-worthiness of borrowers utilized by informal moneylenders may allow them to compete with FFIs in certain localized credit transactions and thus help to enforce the decreased spreads be-

³ This position is more or less implicit in McKinnon (1973) and Shaw (1973), but was earlier stated explicitly by Khatkhate (1972).

tween deposit and loan interest rates at FFIs which should result from the removal of interest rate controls and other restrictive regulations. Note that this analysis covers only informal moneylenders (and not informal savings groups, for example) and is focused on the competitive pressure which informal finance may exert on FFIs. The broader question of an efficient division of labor and possible linkages between informal finance and FFIs during and after financial liberalization is thus left unaddressed.

III. Advantages of Informal Finance over FFIs under Financial Repression

The limited role of informal finance in the McKinnon/Shaw view of financial development and policy is due to a focus on the aggregate mobilization and allocation of funds — rather than transaction costs and the financial services offered by FFIs and informal finance on the microeconomic level. As a basis for more fully analyzing the potential role of informal finance during and after financial liberalization, the present section surveys microeconomic analyses of the effects of financial repression on the savings and credit operations of individual FFIs and the corresponding advantages of informal moneylenders and ROSCAs.

A. Effects of Financial Repression on the Services Offered by FFIs

The effects of inefficient controls on the services available through FFIs can be divided into four categories: (1) accessibility, (2) dependability, (3) flexibility, and (4) adaptability. For brevity, the present discussion focuses on the effects of interest rate controls.

From a microeconomic perspective, access to savings and credit services is important not only as a means of funding capital investments, but also for the maintenance of liquidity for household enterprises and other firms in developing countries. The availability of loans, and of liquid deposits of reasonable yield may be crucial for the funding of operating costs associated with capital goods, as has been demonstrated theoretically by Burkett and Vogel (1987). The use of retained earnings as a source of investment funds for rural enterprises can be made more efficient by improvement in the yield and liquidity of deposits.⁴ Discontinuous and uncertain revenues and expenditures make liquid savings instruments par-

⁴ In their survey of rural non-farm enterprises, Kilby et al. (1981, p. 16) found that in Sierra Leone, 90% of the expansion funds of such enterprises were accumulated from "depreciation and profit not already committed to servicing debt." The corresponding figure for Haiti was 81%.

ticularly important for activities such as agriculture.⁵ This is supported by a recent study of rural deposits in four South Asian countries, which found that deposit demand was positively affected by the real deposit rate and negatively related to deposit transaction costs as proxied by the density of rural bank branch networks (Srinivasan and Meyer (1986)).

On the credit side, interest rate controls lower the accessibility of formal credit by forcing FFI's to substitute implicit interest for explicit interest charges, and by inducing FFI's to tighten the margins of their loan portfolios. To the extent that implicit interest charges involve the transfer of transaction costs to borrowers, the extra time and paperwork entailed may effectively lower access to loans, especially for non-wealthy borrowers (Adams and Nehman (1979)).⁶ Interest rate controls cause a regressive tightening of loan portfolios when they prevent FFI's from covering the risks and transaction costs (including information costs) associated with loans to non-wealthy borrowers such as small farmers (Gonzales-Vega (1984)). Case studies of subsidized agricultural loan programs in Costa Rica, Colombia, Brazil, and Bolivia all suggest that the distribution of credit is more regressive than the underlying distribution of wealth and income (Aroujo and Meyer (1977), Ladman and Tinnermeier (1981), Vogel and Larsen (1980), Vogel (1984)).⁷

On the savings side, interest rate controls not only lower the overall rate of savings mobilization by FFI's, but may also lead to a regressive redistribution of reasonable deposit opportunities. Although FFI's may respond to deposit rate controls by substituting implicit interest for explicit interest,⁸ such a substitution is likely to be costly for FFI's relative to the payment of monetary interest without controls — especially for small savers and particularly those in rural areas. As a result, the real (explicit

⁵ Where liquid savings instruments are readily available, rural households may save a large fraction of temporary increases in income. Employing the permanent income approach, Hyun et al. (1979) found propensities to save out of transitory income of about 80% among a sample of Korean rural households.

⁶ In an analysis of agricultural loans in Honduras, Cuevas and Graham (1982) found that for the entire loan sample, transaction costs and explicit interest charges were perfect substitutes. Further, decreases in the regulated interest rate had a greater impact on transaction costs for smaller loans.

⁷ The redistributive effects of credit subsidies can be quite sizeable. Vogel (1984) calculated that in Costa Rica the 30% interest subsidy on formal agricultural credit in 1974 translated into \$US 56 million, which was equal to 4% of total GDP or about 20% of agricultural value added in Costa Rica. Roughly 80% of this subsidy went to borrowers within the top 10% of the household income distribution in Costa Rica.

⁸ To the extent that ceilings on loan interest rates constrain the total revenues of FFI's, such substitution will be made more difficult (Burkett (1986a)).

plus implicit) deposit rates tends to decrease, which occurs partly through the higher transaction costs incurred by small savers (Burkett (1986a)).

Interest rate controls tend to decrease the dependability of FFI's savings and credit services. By lowering the rate of savings mobilization and stimulating an excess demand for subsidized credit, interest rate controls make FFI's more dependent on external funds from the government, central bank rediscount facilities, or international donors. Such inflows of external funds may be quite erratic and may result in large, periodic, and risky extensions of FFI's loan portfolios (as FFI's must often rush to disperse external funds to meet the performance criteria of governments or international donors) — which in turn may instigate delinquency and default problems which threaten the institutional viability of FFI's (Vogel (1983)). This may help explain why the measured ratio of delinquent loans to total loans outstanding is often over 50% in subsidized agricultural credit programs (Fry (1988), 278-79). At the same time, household enterprises and other saver/borrowers are less likely to place savings in, or repay loans from, FFI's from whom future access to credit is highly uncertain and whose viability is questionable to a dependence on erratic inflows of external funds (Von Pischke (1980)).⁹

Interest rate controls also tend to decrease the flexibility of FFI's loan and deposit portfolios. Often, when new lending opportunities appear — e.g., in industrial or agricultural sectors which are in early stages of development — the risks and transaction costs (including information costs) associated with such new loans are greater than for previously contracted loans. Interest rate controls may prevent FFI's from covering these risks and costs, and hence impede the provision of what Bennett (1963) terms "innovation finance" for such dynamic, newly developing sectors. In addition, interest rate controls constrain FFI's from taking advantage of the new sources of mobilizable funds which appear as an economy develops. This is particularly costly under policies such as trade liberalization which greatly alter the sources and uses of funds. Here, the rigidity of FFI's loan and deposit portfolios may prevent the full realization of the potential gains from trade liberalization.

Interest rate controls reduce the ability of FFI's and their customers to adapt to macroeconomic shocks. A particularly important case is an increased inflation rate. Under a regime of rigid interest rate ceilings, higher inflation accentuates disequilibria in formal financial markets, further threatening the institutional viability of FFI's while lowering the rate of

⁹ In some cases, borrowers come to view subsidized loans from externally-funded lenders basically as gifts, and default rates may approach 100%. For a case study, see Illy (1978).

return on the savings of household enterprises and other wealth-holders.¹⁰ Increases in foreign interest rates result in a greater disintermediation of funds from the domestic financial system under a regime of interest rate controls — which decreases the availability of credit, especially for those borrowers (often the non-wealthy) who lack access to foreign loans.

B. Services Offered by Informal Moneylenders

As indicated in the classic surveys by Bottomley (1975) and Wai (1957, 1977), one reason why informal moneylenders provide a large share of total credit in many developing countries (particularly in rural areas) is the easier access to loans which they provide relative to FFIs.¹¹ This easier access to credit appears to be due, first, to the relatively low administrative costs incurred by informal moneylenders. Since informal moneylenders often live in the same community as their customers, loans may be contracted verbally and with a minimum of time and paperwork costs. This is especially true if the lender and borrower conduct other exchanges with one another (such as landlord-tenant relations, or when the lender purchases the output of a borrower who is a small farmer) which may lower the time and other costs associated with contracting loans relative to what would occur at FFIs.¹² Miller and Ladman (1983), in an analysis of survey responses by 699 Bolivian farm households, find that the main reason given for not borrowing from formal sources was the relative low transaction costs for informal loans.

Second, informal moneylenders may be better equipped to deal with lending risk than are FFIs in localized credit transactions — especially when interest rate controls prevent FFIs from freely charging risk premia. In addition to being unconstrained by interest rate ceilings, informal moneylenders may utilize first-hand knowledge as a substitute for costly administrative procedures in the determination of risk premia (Bottomley (1975)). Saito and Villanueva (1981) provide data on transaction costs for

¹⁰ In their analysis of interest rate policy in ten developing countries during the period from 1970 to 1982, Hanson and Neal (1986) find that where real deposit and loan rates became negative, this was most often caused by an acceleration of inflation combined with a failure to raise legal ceilings on interest rates. A survey of 19 Latin American countries for the years 1967-76 yielded a similar result (Galbis (1979)).

¹¹ On the basis of data for 17 developing countries during the 1970s, Wai (1980, p. 261) estimates that informal loans finance about 20% of agricultural investments in these countries.

¹² Unnevehr and Zain (1986), in an analysis of cassava traders in Indonesia, observe the provision of informal credit by large scale traders to smaller scale traders as a source of working capital, in order to maintain market networks in the absence of formal credit. Other variations of linked credit transactions are surveyed in Bardhan (1980).

loans to small scale agriculture in the Philippines (see Table 4). They argue that "(one) reason for the relatively low administrative costs of rural banks may be the fact that many of them are owned and managed by those who were originally the local moneylenders" (p. 638). In interpreting the figures in Table 4, it should also be kept in mind that the rural banks provide loans to many borrowers who are rationed out of the portfolios of the development banks.¹³

Table 4
TRANSACTION COSTS AS A PERCENT OF OUTSTANDING
LOANS TO SMALL SCALE AGRICULTURE IN THE PHILIPPINES

Lender	Administrative Costs	Default Risk Expenses	Total Transaction Costs
Rural Banks	3.5	2.0	5.5
Development Bank of the Philippines	3.9	3.4	7.3
Private Development Banks	3.0	3.2	6.2

Source: Saito and Villanueva (1981, p. 634).

The access to credit provided by informal moneylenders is likely to be more dependable than loans from FFIs operating under interest rate controls. In contrast with the dependence of FFIs on erratic inflows of external funds, informal moneylenders normally utilize lending profits or other internally generated income (e.g., land rents or merchant profits) as a source of funds for their loans. Mbaru (1977), in his observations on informal credit in Kenya, finds that some moneylenders mobilize savings from individuals and pay interest to these savers out of loan revenues, thus operating as informal financial intermediaries. It appears that informal moneylenders may provide a more stable source of credit than FFIs under financial repression.

¹³ Saito and Villanueva (1981, p. 639) provide international data for small farmer credit programs showing that the transaction costs of the Philippine rural banks are significantly less than (in many cases less than half of) the transactions costs of formal agricultural lenders in other developing countries.

The relatively low administrative costs and the capacity to determine and charge risk premia enjoyed by informal moneylenders may make their loan portfolios more flexible than those at FFIs which are constrained by interest rate ceilings. At least on a limited scale and on the local level, informal moneylenders can easily seek out (and cover the risks incurred in) finding new customers. In addition, government-imposed interest rate controls on FFIs are often associated with rigid stipulations on the uses of loans — which may entail significant administrative and enforcement costs for FFIs (Von Pischke and Adams (1980)). By contrast, informal moneylenders are not normally concerned with the specific use of credit, but rather with the overall repayment capacity of the borrower (Wai (1980)). Drawing upon interviews with 145 farm household heads in Nigeria, Okonjo-Iweala (1982, p. 187) reports that the reasons most often given for using informal credit sources were: (1) the accessibility of informal loans, and (2) the flexibility of informal sources with respect to loan use, loan size, and loan repayment.

Finally, the operations of informal moneylenders may be more adaptable to macroeconomic shocks than are FFIs. Under rapid inflation or exchange rate depreciation, for example, the ability of informal moneylenders to accept a variety of forms of collateral (e.g., commodity stocks or labor time) may be crucial for maintaining credit flows. In cases where the lender and borrower regularly conduct other business transactions, the loan repayments may themselves be recontracted in terms of future labor time or commodities if rapid inflation or the limited liquidity of the borrower (due, for example, to a bad crop) precludes the use of cash balances. In contrast, interest rate controls often prevent FFIs from covering the administrative costs entailed in the valuation and acceptance of non-financial forms of collateral — especially for non-traditional customers like small farmers. Such customers may also have little incentive to establish a formal credit rating by placing wealth in deposits featuring low or even negative real interest rates due to rigid deposit rate ceilings and rapid inflation.

C. Services Generated by ROSCAs

The operations of ROSCAs have been examined in detail in surveys by Geertz (1962), Ardener (1964), Bouman (1977), and Bonnett (1981) in a number of developing countries. A number of individuals (usually between 10 and 40) each contributes a fixed sum (usually in money but occasionally in goods or services) periodically, and this sum is given to one of the individuals at each turn until all the individuals have had a turn. The order of the individuals' turns is decided by auction, by lottery or

sometimes by socio-economic status. The amount to be contributed and the period between turns is usually decided by the participants according to their preferences; given this, the amount received at each turn and the total duration of the ROSCA is determined by the number of participants. Alternatively, there may be a dominant organizer or manager who has the main role in deciding about amounts, periods and numbers of participants. This individual is often responsible for seeing that each participant makes the appropriate contribution or covering any missing contribution and usually receives the first turn or some other form of compensation. The main risk to the participants is that an early recipient will subsequently fail to contribute. The main protection against this is having a relatively small homogenous group of participants, putting less credit-worthy members at the end of the rotation, or having a strong organizer who can either collect or cover for non-contributors.

Although ROSCAs are often viewed as gambling and discouraged by governments, their widespread existence suggests that they provide some significant services. In addition to the above-mentioned surveys, they have been described by Anderson (1966) in India, Begashaw (1978) in Ethiopia, and Miracle et al (1980) in various African countries, to give only a few examples. ROSCAs seem to be less evident in Latin America where they appear mainly to serve as an alternative to installment credit in financing the purchase of consumer durables, but they have been reported as quite important in Jamaica (Manhertz and Marston (1979)), Mexico (Velez-Ibanez (1983)) and Bolivia (Adams and Canavesi de Sahoneto (1987)). In a study of informal finance in the Cameroons, Haggblade (1978) has shown that ROSCAs can evolve into financial intermediaries of considerable importance.¹⁴

One reason for the widespread existence of ROSCAs is their accessibility, especially for the nonwealthy saver/borrowers rationed out of the services of FFIs under interest rate controls. Any group of individuals can form a ROSCA,¹⁵ and ROSCA meetings can conveniently coincide with the workplace, religious, or cultural gatherings of group members so as to lower the time costs involved. ROSCA's operating costs tend to be quite low. In Liberia, officers of ROSCAs are typically paid 1% or 2% of the total ROSCA fund (Osuntogun and Adeyemo (1981), p. 248). This com-

¹⁴ Haggblade (1978, p. 35) reports that ROSCAs "in the urban areas play a major role in the financing of local African enterprises. A large urban savings society can generate up to \$200,000 worth of credit per month, enough to purchase a truck, build a house, or establish a moderate-sized restaurant."

¹⁵ Osuntogun and Adeyemo (1981, p. 248) report a 1974 survey indicating that 63% of adults in Eastern Nigeria are ROSCA members.

pare favorably with the operating cost/total asset ratios of FFIs in developing countries, which often exceed 4% (Hason and Rocha (1986), p. 25). ROSCAs thus provide a convenient outlet for savings, while ensuring individual group members periodic access to a large pool of savings which may provide enough resources to achieve important economies of scale in some investment project.¹⁶ In some countries the savings mobilized by ROSCAs are significant even compared to macro-aggregates. For example, Begashaw (1978, p.249) estimates that in Ethiopia annual ROSCA savings are about 8-10% of GDP.

As for the dependability of ROSCA services, most studies suggest that default is not a significant problem. However, this may be due to the fact that most such studies deal with ROSCAs that continue in existence by forming themselves again rather than with those that have disappeared after a single or partial cycle. Nonetheless, even in the absence of a strong manager, members of ROSCAs organized in a single locality may use social sanctions against defaulters (such as shunning such defaulters socially or eliminating the access of defaulters to community services) to lower default incentives. More generally, potential defaulters run the risk of not having access to ROSCA membership in the future if word of their default gets around. Thus, mechanisms exist which can maintain the dependability of ROSCA services relative to those at FFIs which are dependent on erratic inflows of external funds.

Their existence in urban and rural areas and in a wide variety of socio-economic and class settings, as well as the large number of specific variants of the basic ROSCA set-up, indicates that ROSCAs provide a quite flexible institutional framework for the provision of savings and credit services. The number of participants can vary as a function of transaction costs, or according to the cost of hiring a manager, while individuals may join more than one ROSCA (thus spreading their risks and increasing the number of lump sum payments received) or even share membership in a single ROSCA with another individual if savings installments are beyond the capacity of the individual saver/borrowers. As with informal money-lenders, the use to which ROSCA credit is put is at the discretion of the borrower, while ROSCA payments may be in money or in kind depending on the degree of monetization of the local economy or the extent to which ROSCA members also conduct labor or commodity exchanges with one another.

¹⁶ Alternatively, ROSCA payments may be used as a source of working capital. In Southwest Nigeria, for example, over 60% of 1009 agricultural marketers interviewed in 1981 reported using *Esusu* funds to finance their working capital requirements (Olufokunbi (1981), p. 192).

Since payments may be in money or in kind, many ROSCAs can adapt to an increased cost of holding cash balances due to accelerating inflation by demonetizing themselves. Bouman (1977, p. 186) reports that Korean ROSCAs ("keyes") have responded to increased inflation by paying more interest to late-receivers of the fund, while the Bamilike groups in East Cameroon reduced the number of group-members so as to shorten the Bamilike cycle as inflation accelerated.

To the extent that ROSCAs are operated in conjunction with cultural, religious, or other community activities, they may provide a useful conduit between past and present and thus help communities adapt to economic modernization while maintaining ties of reciprocity among community members (Geertz (1962)). As pointed out by Bonnett (1981), the services provided by ROSCAs have often survived the movement of groups from rural to urban areas or even the migration of groups from developing countries to urban centers in the developed countries. Thus, ROSCAs appear adaptable to severe socioeconomic dislocations as well as to macroeconomic shocks.

IV. Informal Finance and Financial Liberalization

The short run growth of output and employment during financial liberalization is in part determined by the speed and resource cost with which the financial system can alter the sources and uses of funds. Changes in the optimal sectoral flows of funds will be larger in cases where financial liberalization occurs alongside other policy changes — such as liberalization of trade or devaluation of the exchange rate — which further alter the relative profitability of investments in different sectors. Thus, the growth-inducing impacts of financial liberalization entail not only increases in aggregate savings mobilization by and supplies of credit from FFIs, but also an expansion of the *clientele* of FFIs to include savers and borrowers previously rationed out of FFIs' services.¹⁷ The present section discusses the role of informal finance in this process, focusing on three aspects: (1) linkages between informal finance and FFIs, (2) informal finance as a competitive pressure on FFIs, and (3) issues related to flows of funds from informal finance into FFIs under financial liberalization.

17 A slower extension of FFI loan portfolios to non-traditional clientele under interest rate liberalization would appear empirically as a low elasticity of loan supply with respect to the interest rate. In his analysis of financial liberalization in Argentina and Chile, Mathieson (1982, 1983) cites such a low supply elasticity as one of the factors contributing to the large increases of real interest rates which inhibited growth under these reforms.

A. *Financial Liberalization and Linkages Between Informal Finance and FFI's*

The removal of interest rate ceilings and other controls itself makes it easier for FFIs to cover the risks and transaction costs (including information costs) associated with the extension of assets and liabilities to non-traditional clientele. However, informal finance may play a useful role in lowering these risks and costs. For example, FFIs can avoid some of the costs entailed in mobilizing funds from individual savers by attracting deposits from ROSCAs. This would give ROSCA members access to the liberalized rates of return available at FFIs, while maintaining the quality of savings and credit services which ROSCA members enjoy at the local level.

Similarly, FFIs could avoid some of the risks and costs incurred in extending loan portfolios to non-traditional borrowers by contracting loans with informal moneylenders or ROSCAs. As previously noted, informal moneylenders often possess local information which can lower the cost of determining risk premia and may enjoy lower administrative costs than FFIs, at least for localized credit transactions. Loans to ROSCAs would allow FFIs to avoid some of the risks and costs of contracting loans with individual borrowers. To the extent that interest rate liberalization causes ROSCAs and informal moneylenders to hold formal deposits, this information can be utilized by FFIs as a criteria for the determination of credit-worthiness. FFIs may lower lending risk by stipulating that compensating deposit balances be maintained as a condition for access to credit.

The potential viability of linkages between informal finance and FFIs, and of linking savings with credit, is supported by a successful "pygmy deposit" scheme operated by the Syndicate Bank in India (Bhatt (1988), Vogel and Burkett (1986b)). In this scheme, outside agents are hired to collect deposits at the homes of small savers on a regular, periodic schedule. Maintenance of scheduled deposit balances over a certain period is rewarded with access to credit. Bhatt (1988, p. 289) reports that the unit cost of pygmy deposits "has varied between 3 and 5% per annum, significantly lower than the cost of a three- to five-year fixed deposit." Elsewhere, Oludimu (1982) analyzes data on deposit mobilization and credit allocation by cooperatives in Southwest Nigeria and finds not only that these cooperatives mobilize substantial deposits but also that their financial viability (as measured by realized surplus) is significantly correlated with member-savings. Vogel and Burkett (1986a) argue that access to credit may be an important determinant in the selection of deposit institutions by savers, and especially by non-wealthy households, in developing countries. This is supported by the decline of deposits in

postal savings units (which do not offer loans) relative to time and savings deposits in other FFIs in 10 out of 13 developing countries surveyed for the years 1970-83 (Vogel and Burkett (1986a), p. 429).

B. Informal Finance as a Competitive Pressure on FFIs

As previously noted, competition from informal finance may help enforce the decreases in interest rate spreads and transaction costs at FFIs which should result from the removal of interest rate ceilings and other restrictive controls. This competition is particularly important because the formal financial markets inherited from the repressive regime are often highly fragmented — and individual FFIs may initially enjoy considerable market power over rigidly segmented compartments in the credit market.¹⁸ Residues of such imperfect competition can prevent full realization of the potential gains from financial liberalization (in terms of greater supplies of formal credit and an improved quality of FFI services).

Some analysts have argued in favor of regulations such as *minimum* deposit rates in cases where the financial system is initially dominated by oligopolies or monopolies (see, for example, Galbis (1982), pp. 159-60). Such minimum deposit rates would presumably be based on a close monitoring of spreads between deposit and loan interest rates, and would be enacted only in cases where these spreads are obviously inconsistent with the risks and costs incurred by FFIs in the mobilization and allocation of funds and in the light of profit margins in other, non-financial sectors so as to avoid discriminating against FFIs.

However, proposals for minimum deposit rates should be viewed with caution. Minimum deposit rates may be difficult to enforce, especially given the ability of FFIs to substitute decreases in implicit interest for increased explicit interest on deposits, e.g., via higher service charges and other transaction costs on deposits. The enforcement of minimum deposit rates and the choice of an efficient minimum (see above) are likely to involve significant information costs and draw heavily upon skilled labor which is in short supply in most developing economies.¹⁹

¹⁸ To the extent that the substitution of implicit, nonmonetary interest for explicit interest under interest rate controls stimulated product differentiation by FFIs, the inherited financial market structure may be even more inefficient and imperfectly competitive (Burkett (1986a)).

¹⁹ An alternative method of increasing competition is the removal of regulations which restrict entry of foreign FFIs. However, if foreign banks are allowed to enter when the domestic financial system is suffering from an inefficient cost structure and high arrears, then the foreign banks may earn high profits while domestic FFIs may have to be taken over by the government. In addition, removal of entry barriers to foreign FFIs may be difficult politically.

Given the difficulty of regulating interest rate spreads, the competitive pressure emanating from informal finance may play a crucial role in improving the efficiency of FFIs' operations under financial liberalization. Reliance on informal finance as a source of competitive pressure would entail utilization of the *existing* entrepreneurial skills of informal transactors — in contrast with the enforcement of minimum deposit rates which would tax the developing economy's scarce supplies of skilled labor and the limited administrative capacity of the government. In addition to providing an alternative source of localized saving and credit services, some informal financial arrangements may evolve to the point where they are able to compete directly with FFIs in large scale operations once domestic barriers to entry are removed. Timberg and Aiyar (1984, p. 53), for example, estimated that in India, loans from informal finance companies provide 50% of the working capital utilized by the wholesale cloth trade in Calcutta and 20% for the grain trade. Nayar (1982, p. 29) provides data for 114 informal finance companies and 136 commercial banks in India, which indicates that the finance companies have an administrative cost/deposit ratio of 1.94% compared to 3.51% for the commercial banks.

V. The Role of Informal Finance after Liberalization

This section considers the role of informal finance after the transition to a more efficient regime of regulations on FFIs. The section first develops the idea of a division of labor between informal finance and FFIs and the key role of financial innovations in improving this division of labor. One specific area where innovations may improve the efficiency of the financial division of labor — group lending by FFIs — is then discussed.

A. *Division of Labor Between Formal and Informal Finance*

According to Gurley and Shaw (1967), an optimal division of labor among different methods of finance occurs when there is a zero net yield to further inputs of resources into each of the alternative methods of finance. The net yield to a method of finance is equal to the capital value of the increases in future consumption which result from additional inputs of resources, *minus* the capital value of the final goods which could have been produced if the resources had not been used to expand the method of finance. This criterion thus incorporates not only the benefits of financial development in terms of greater saving and investment (hence future consumption), but also the opportunity cost of expanding any method of finance as conditioned by the overall production possibilities of

the developing economy.

The viewpoint of Gurley and Shaw (1967) has important implications for the role of informal finance after liberalization. As previously noted, informal finance is likely to account for a large share of savings mobilization and credit allocation in the inherited financial structure — due to the growth of informal finance in the previous era of repression as well as the important role of informal finance *during* liberalization. Immediate replacement of informal finance by the extension of FFIs' services is likely to be inefficient by the Gurley/Shaw criterion due to the high opportunity cost involved — especially in developing economies with limited production possibilities (Rozenal 1967)).

The role of informal finance after liberalization is to provide an alternative source of savings and credit services at the local level while helping to lower the risks and costs incurred when FFIs extend loan and deposit opportunities to non-traditional clientele. The job of FFIs in this division of labor is to undertake those term transformations and other operations which are beyond the scale practical for informal finance, while giving informal transactors access to the deposit yields and other formal services available on the basis of scale, scope, or specialization economies.

In the long run, the linkages between formal and informal finance can be improved by changes in financial technologies, i.e., through *innovations* by FFIs (Mauri (1985)). Financial innovations entail technological changes by FFIs which lower the resource cost of providing a given quality of savings and credit services to non-traditional clientele — including informal financial transactors. By improving the quality of services which FFIs can profitably provide, such innovations indirectly raise the incomes — hence the savings potentials — of informal transactors dealing with FFIs. This creates the basis for customer relations which are more viable in the long run because of the greater debt capacity of the informal transactors. While not directly addressing the topic of innovations, Gregory and Adams (1987, p. 10) nonetheless provide a useful statement of the type of relation between FFIs and non-traditional clientele which innovations can promote:

A single loan or deposit has relatively little value to most individuals. What is valuable is a flow of dependable financial services. The relationship between intermediary and client should evolve over time and not be a single event. The end result of this process is a client with greater debt capacity than when the relationship began.... While the volume of loans handled by intermediaries is the most commonly cited measure of the products created by financial markets, the increase in debt capacity among borrowers is the true measure of a financial market's contribution to development.

In summary, the long run goal of financial policy should not be to displace or to regulate informal finance.²⁰ Rather, the goal should be to improve the quality of formal *and* informal financial services through innovative linkages between the two sectors.

B. Group Lending Programs

Some insights into the requirements for efficient integration of formal and informal finance can be obtained from the experience of various "group lending" programs enacted by development banks in developing countries (Adams (1978)). Such programs are designed to lower both borrower transaction costs and FFI lending costs by making it unnecessary for the FFI to set separate terms for individual borrowers. In addition, the enforcement of repayment may be partly informal if the borrower group is liable for the arrears of individual group members.

However, some group lending programs have experienced stagnating loan revenues and an underemphasis on savings mobilization due to restrictive interest rate regulations. Such problems can be particularly acute when the borrower groups are organized from above, which drives up the costs of the participating FFI.

The importance of these factors is supported by the results of a group lending program undertaken by the Dominican Development Foundation (DDF) during the period 1966-79 (Adams and Romero (1981)). During 1977-78, the DDF's administrative costs amounted to 6.2 percent of the value of new loans. With inflation at roughly 10 percent, commercial interest rates of about 7 percent, and a (conservative) debt write-off figure of 10 percent of new loans, a loan interest rate in excess of 30 percent would have been in order. The DDF's actual interest charges were only 10 percent. This left the DDF dependent upon external funds from international donors. At the same time, the inability of the DDF to cover its lending costs eventually led to a shrinkage in the number of groups to which it allocated loans and to a sharp increase in the average loan size per group from \$1,400 per loan (with 393 groups) in 1973-74 to \$12,926 per

²⁰ Indeed, Mauri (1985, p. 995) points out that "many attempts to regulate or innovate the non-institutional sector by law as well as efforts made to replace informal finance with chartered financial institutions, all based on the deep-rooted assumption that financial intermediation performed in the organized sector works with greater efficiency and social openness, have failed because of the contradiction involved. When regulated, informal finance ceases to be 'informal' and loses its economic rationale, i.e., the vitality and flexibility due to its very nature."

loan (with 124 groups) in 1978-79.²¹

The costs of group lending tend to be lower in programs that deal with smaller groups that have been formed for purposes other than simply gaining access to cheap formal credit. As per group size, Egger (1986, p. 457) states: "Experience has shown that those which have lasted longest are homogenous groups of no more than 20 members with common origins, outlooks and interests." Similarly, Bratton (1986, p. 118), in his analysis of a successful group lending scheme operated by the Agricultural Finance Corporation (AFC) of Zimbabwe, emphasizes the importance of "a closer connection between the use of credit and other group activities the strength of the group rather than the farming record of the individual member is the criterion for loan eligibility." According to Bratton (1986, p. 129) the AFC's administrative cost per farmer for the group scheme (with joint default liability) was less than 10% of that incurred in the AFC's loans to individual farmers, while default costs (delinquent loans as a percent of loan capital) were 15% for the group scheme compared to 46% for the individual loan program.

Similarly, Schaefer-Kehnert (1983), in his description of a group lending scheme enacted by the Lilongwe Land Development Program (LLDP) in Malawi, argues that the LLDP's default costs were low due to the fact that the borrower groups were farmers' clubs formed along kinship and communal lines in connection with agricultural extension work. The smallness of the groups (10-30 members) may also have facilitated the enforcement of repayment rates in the range of 96-100 percent during the period 1972-78. However, Von Pischke and Rouse (1983, p. 32), in their discussion of the same program, point out that administrative costs were between 20-29 percent of loan volume in 1976. In light of the 10% interest rate on group loans, the LLDP program would "require continued substantial subsidy unless interest charges are raised" (Ibid.).

In general, the experience of group lending programs seems to offer two important lessons for financial policymakers. First, the ability of such programs to promote competition and to reach non-traditional clientele with financial services appears to be a function of their ability to provide both savings and credit services, which in turn depends on a realistic interest rate policy. Second, organization of groups from above is likely to be costly relative to the extension of FFIs' services to existing informal

21 Similarly, in their analysis of a small farmer group lending program in Ghana, Owusu and Tetteh (1982, p. 79) find that "the interest rate of 13% charged under the programme falls short of the cost of administering a loan," which "has been a limitation in making more credit accessible to small scale farmers."

groups such as ROSCAs. However, if interest charges are negative in real terms, it may become impossible to sort out viable borrower-groups from those which form on a temporary basis merely to gain access to cheap formal credit. Along with a realistic interest rate policy, there is a need for additional research oriented toward discovering innovations which could improve FFIs' ability to gather and evaluate information on the savings capacities and credit-worthiness of existing informal groups.

VI. Conclusion

Informal financial transactions offer important lessons on the savings and credit services which are most valuable to household and firms precisely because they are set up and operated by and for the savers and borrowers involved. To the extent that informal financial markets are a form of regulatory avoidance, analysis of the services available in such markets may help determine the regulatory constraints which must be removed if FFIs are to do a more efficient and equitable job in the mobilization and allocation of funds. A particularly important lesson here is the significant capacity for voluntary financial savings which appears to be supported by informal groups such as ROSCAs. Such savings could represent an important source of funds for the formal financial sector if regulations which impede deposit mobilization — especially interest rate controls — are removed.

Informal finance can make an important contribution to improving the flexibility and adaptability of the financial system both during and after the transition to a more efficient regime of regulations on FFIs. Flexibility and adaptability entail the financial system's capacity to alter flows of funds in the face of changes both in financial regulations and in the overall macroeconomic environment — while maintaining the quality of savings and credit services. Linkages with the informal sector may lower the transaction costs and risks incurred by FFIs when their assets and liabilities must be altered under such exogenous shocks. At the same time, the savings and credit services provided by informal operations such as ROSCAs can help economic agents maintain their liquidity in the unstable economic environments common in developing countries. The job of FFIs is not merely to *displace* informal finance. Rather, FFIs should provide informal transactors access to scale, scope, and specialization economies in order to improve the quality of financial services available to firms and households, while simultaneously raising the level of formal financial savings and improving the overall allocation of funds.

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