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Rural Savings and  
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by

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I INTRODUCTION

The assumption that rural people have very little voluntary savings capacity is widely held in the development profession. Low incomes and/or lack of economic sophistication among rural residents are commonly cited as reasons. Many economists have also concluded, largely on the basis of macro studies in developed countries, that adjustments in interest rates paid on deposits have little impact on savings activities [53].\*\*\* At the same time it also has been widely held that agriculture in less developed countries (LDC's) is credit starved. World-wide attention has been paid to increasing the flow of concessionally priced credit to agriculture in general and to small farmers in particular. The lack of concern with mobilizing voluntary savings in LDC's, coupled with the rapid

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\*\*\* Numbers in brackets refer to references listed in the appended Bibliography.

(2)

increase in credit, has resulted in a lopsided growth of rural capital markets.

In the discussion which follows I attempt to argue for a more balanced approach to the development of rural capital markets via additional emphasis on voluntary savings. By necessity my arguments are speculative in nature; there is very little research available which addresses rural consumption-savings behavior in LDC's. I attempt to focus on two questions in the discussion: (1) Are significant voluntary rural savings capacities emerging in LDC's? (2) If these capacities are present, what types of incentive systems might be used to mobilize a major part of these savings into rural capital markets?

The paper opens with an overview of the savings activities reported in papers prepared as background for the "Spring Review". This is followed by comments on the role of savings in rural capital markets and a critique of widely held assumptions about rural savings. The next section of the paper attempts to identify the principal relationships among the rural firm-households' decisions to consume-save, invest, and use credit. The aim of this section is to illustrate the complexities of the farm family's decision-making process as well as to identify those parts of the consumption-savings process which need further research. This micro discussion is followed by a brief section which outlines some of the advantages which balanced capital market growth may have for small farmers' service organization. The final section of the paper presents a few policy oriented observations regarding savings activities in

conjunction with small farmer credit programs.

## II Savings Activities in Small Farmer Credit Programs

A reading of the 70 plus papers prepared as background material for the Spring Review shows that only modest attention has been given to savings activities in conjunction with small farmer credit programs. Only a handful of countries and/or programs have seriously addressed the possibilities of mobilizing savings into rural capital markets. Papers prepared on Bangladesh, Uganda, Korea, Taiwan, Zambia, Ecuador, and Vietnam were exceptions [51, 13, 38, 2, 45, 28, 3]. Almost all of the credit programs reported on in other countries assumed that little-or-no savings capacity exists in the rural areas. Likewise, little attention has been given to providing incentives which would induce rural people to save in a financial form. Only in the Korean and Taiwan cases were attractive interest rates offered as a means of mobilizing savings [10,22]. In most cases interest rates on savings deposits, when reported in the country papers, appeared to provide little savings incentive.

### Voluntary and Forced Savings

Where savings have received attention both voluntary and forced methods have been used. Far and away the most common techniques used have been forced or involuntary in nature. Almost all of the cooperative or credit union programs include some type of forced savings; individuals are required to purchase share-capital

in the organization on becoming members. If the organization also grants credit, a borrower may be required to own stock equal to a given percentage of his loan. In a few cases cooperatives also forced savings by withholding part of sales proceeds from members' market transactions. The Comilla program in Bangladesh provided an additional twist to forced savings by requiring participants to make minimal, periodic savings deposits in order to remain eligible for the program [51].

Voluntary savings were heavily stressed only in the Korean, Taiwan, and South Vietnamese cases [38, 2, 3]. Some preliminary attention to voluntary savings possibilities are also emerging in Uganda, Tunisia, Morocco, Malaysia, Thailand, and Ethiopia. As was the case earlier in Japan, the Taiwan and Korea cases illustrate the use of strong financial incentive as a technique for mobilizing rural savings [27, 2, 22]. That is, attractive interest rates plus widespread availability of savings institutions in rural areas were used.

Several interesting voluntary savings innovations are mentioned in the country studies. In South Vietnam a rural private bank hired attractive young ladies as cashiers and receptionists [3]. They have achieved remarkable success in encouraging bank users to open savings deposit accounts. In Uganda, savings deposits are insured at point of deposit [13]. In several countries including Costa Rica, Thailand and Uganda mobile banks make it easier for rural people to deposit savings.

Institutional and Non-Institutional Savings

A large part of the savings activities reported in the country papers are carried out in conjunction with banks, formally recognized cooperatives or credit unions, savings and loan associations, and postal savings: institutional savings. Only the Korean, South Vietnamese, Taiwanese, and Zambian cases, plus several papers prepared on rotating credit associations reported on non-institutional forms of savings. These savings are found in informal, small group situation, and are not directly affected by national monetary and banking policies.

Especially with regard to rotating credit associations, there is a good deal of information available in the literature as to how they are organized, motivations for people to participate, and some ideas about their economic functions [5, 12, 15, 17, 26, 40]. Very little is available in the literature, or in the country study papers, which gives insights into the magnitudes of rural non-institutional savings activities versus institutional forms, the competitiveness of non-institutional savings with institutional sources, and the relative changes over time in volume of savings handled through both systems. The Korean, Taiwanese, and South Vietnamese cases hint, however, that non-institutional forms of rural savings may have expanded rapidly during the last few decades. The Brazil case suggests the reverse [36]. Clearly, more research is needed on the interrelationships over time of institutional and non-institutional rural

savings activities, relative changes in magnitudes, and services provided by each.

#### Assumptions About Rural Savings

A number of the papers prepared for the Spring Review explicitly and/or implicitly assumed that little or no financial savings capacity exists among small farmers. In some cases it was suggested that small farmer incomes are overwhelmed by pressing consumption needs. That is, all increases in income and even additional credit use are directly translated into more consumption. Small farmers were assumed to be too poor to save and to have no voluntary savings capacity. Some papers also included assumptions about perverse economic behavior of small farmers. This was expressed in various ways. Some authors felt small farmers did not have the savings habit. Other authors suggested that many small farmers were not motivated by economic considerations and that increases in income, and/or credit, would largely result in increased expenditures on weddings, funerals, or other social ceremonies. A few authors concluded that adverse savings behavior, plus very low incomes among small farmers resulted in marginal propensities to save (MPS's) which were essentially zero.

Only two of the country papers, Zambia and Taiwan, provided empirical evidence to directly test the zero-marginal-propensity-to-save hypothesis [2, 42, 45]. In both cases savings among small farmers were surprisingly high. In Taiwan, where rural incomes

increased rapidly over the 1960-1970 period, farmers' MPS's ranged from approximately one-third to two-thirds of increases in income [2, 42]. The average propensity to save averaged about one-fifth of income over the same period [2, 42]. In Zambia under conditions of slower changes in rural incomes, Roberts reports average propensities to save for small farmers of .16 to .35 during the 1967-1969 period [45]. The amounts of savings mobilized from small farmers in Bangladesh, Korea, Uganda, and South Vietnam provide circumstantial evidence that significant savings capacities may exist among small farmers in other less developed countries.

### III Functions of Rural Capital Markets

As has already been pointed out, most of the papers prepared for the Spring Review mainly focused on the credit aspects of capital markets. There are at least four ways, however, in which savings and credit activities are directly related. In most cases financial savings are or could be received by the same agencies which provide agricultural credit. Voluntary and/or involuntary savings may also supply a significant proportion of the funds for the credit portfolio. In addition, administered interest rates on credit may set a ceiling on rates which can be offered for savings deposits. <sup>1/</sup> Finally, at the firm-household level private savings

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The recent Korean experience is an exception to this. For a short time following 1965 the government adopted interest rates on savings which were higher than the rates charged on credit. A direct subsidy was paid to the financial agencies to implement this policy [38].

and credit may substitute for each other.

In simplest terms capital markets have two major functions: (1) they mobilize and/or channel financial resources from savers and (2) reallocate these resources among creditors. As the degree of monetization increases, needs for capital market services are expanded. In a relatively free-enterprise economy economic growth is often an uneven process. At any one time some firm-households may have a savings capacity in excess of attractive internal investment opportunities. At the same time other firm-households may face capital constraints on their production processes and require credit. Capital markets emerge to broker these capacities and needs. As the growth process accelerates the degree of monetization increases. Because of differences in investment opportunities and consumer tastes, some farmers find they have too little, while others find they have too much financial capital. In relatively traditional societies non-institutional systems typically handle a large bulk of the capital market transactions. This includes loans to friends and relatives, borrowings from moneylenders and merchants, and participating in rotating credit associations. Additional "near financial savings" are held in gold or jewelry, hidden under the mattress, or in cans in the backyard, or invested in livestock. Non-institutional capital market activities are usually very geographically restricted, atomized, and only indirectly influenced by national credit-savings policies. In later stages of development institutional portions of the rural capital market

begin to handle a major part of the financial transactions.<sup>2/</sup> These credit-savings activities are usually under direct national policy control and cover a broad geographic area.

The question of how to make rural capital markets more adequately service small farmer needs can be divided into three separate topics. First, what factors determine credit use and saving capacity at the firm-household level? Second, what role do credit and savings activities play in developing service institutions which work with and for small farmers? Thirdly, how do various national policies affect credit-savings activities at the firm-household as well as the institutional level? An attempt is made in the following sections to outline major issues related to each of these topics.

#### IV Savings and Firm-household Decisions<sup>3/</sup>

During the last four decades Western economists have paid a good deal of attention to consumption-savings questions. This has included two general concerns: (1) the relationship between short run consumption-savings behavior and economic stability,

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Savings may be mobilized in contractual forms, voluntary as well as forced (insurance, retirement funds, social security), or in discretionary forms (savings accounts, stocks, bonds, etc.) [24]. Major emphasis in this paper is placed on discretionary forms.

<sup>3/</sup>

Much of the discussion included in this section was abstracted from [1].

and (2) the long run relationship among consumption-savings, capital formation, and overall economic growth. <sup>4/</sup> Much of the consumption-savings work done to date has been at the aggregate, national level. Emphasis has also been given to the urban-industrial capital formation process, and techniques for mobilizing involuntary savings. Surprisingly little attention has been given to explaining rural firm-household consumption-savings behavior.

In many economic studies savings are considered to be a passive residual left after all immediate consumption needs are satisfied. This is only partly true, however. After basic survival needs are met, family consumption levels depend on a number of different factors. Limited research results suggest that when rural incomes are increasing, the availability of attractive rates of return to various types of savings-investment activities may result in trade-offs between savings and consumption. Policies which significantly affect the rates of return to various types of savings activities may as a result, play an important part in determining the amount saved. An adequate understanding of how different policies affect rural savings requires an intimate knowledge of the factors which influence rural firm-households consumption, production, and

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Several excellent reviews of consumption-savings studies and economic stability are presented in [11, 53]. No single review article draws together the literature on consumption-savings behavior and economic growth. Portions of Bruton's book [7, Chapters 8, 9, 10] do, however, summarize most of the major issues. Additional historical perspective on the growth issue can be gained from [8, 31, 34, 35, 41].

investment decisions.

### Firm-household Consumption Decisions

The rural firm-household decision-making process is complex and includes economic as well as non-economic dimensions. On the economic side current consumption decisions appear to play a central role. Keynesian macro consumption analysis initially focused on the relationship between current income and consumption [30]. Later Dusenberry, Modigliani, Friedman, Ando, Brumberg, Watts, and others extended consumption analysis by suggesting that the relative income position of the family, permanent income, previous consumption experience, and relative and desired wealth levels were also important determinants of consumption [11, 14, 53]. These studies largely assumed that decisions to consume and save-invest were independently made. Furthermore, traditional consumption analysis assumes a stable bundle of consumption goods and relatively modest rates of economic growth; consumption and production surfaces were assumed to change only gradually over time.

Several modifications must be made in traditional consumption analysis to make it appropriate for a diagnosis of rural firm-household decisions in LDC's. The first major addition is including rates-of-return to on-farm investment alternatives in the consumption function. This assumes that high rates-of-return to investments in fixed farm capital and/or operating expenses will encourage the farm family to defer consumption. The reverse is also true. In addition, family consumption may be affected by the

rates-of-return offered savers through various financial savings instruments, and/or off-farm investment opportunities.

In rural areas experiencing rapid change much more attention must be paid to the impact on consumption decisions of alterations in production investment incentives, as well as rapidly changing consumption bundles. High yielding rice and wheat varieties may make on-farm investment very attractive in one time period, while availability of television sets, motor bikes, refrigerators, and sewing machines may make rural consumption relatively more attractive in a later time period.

Other considerations which might be included in the consumption function analysis are the age composition of the family, the age of the operator, the presence of heirs, and the composition and sources of income [19, 25, 29, 32, 33, 37, 50, 54].

#### Firm-household Production Decisions

Farm level production and consumption decisions are closely related. Production functions provide the major analytic tool for analyzing production-investment decisions. In large measure, the production activities provide the firm-household with resource-use possibilities. They provide the economic incentive which stimulates the on-farm capital formation process. They also partially provide the signals which indicate the forms of savings which are most economically desirable, and they grind out the additional product which can provide part of the resources necessary to make further investments.

The production function facilitates an analysis of the contribution of various types of inputs to the production process. This includes the impact of changes in forms of inputs as well as introduction of new inputs (read technological change). The capacity to finance capital inputs, the ability to absorb additional capital, (read credit and savings) and incentives to do so, are all related to the production function.

#### Firm-household Investment Decisions

As already suggested, the decision to invest is intimately related to the consumption and production decisions at the firm-household level. Four types of investment-savings alternatives may be available to the farm family. The first and probably the most important alternative is to invest in the on-farm production process. These on-farm investments can take three general forms: (A) Investment of family labor in activities which directly enhance the capital stock of the farm: e.g. land clearing, building irrigation ditches, putting up fences, and digging wells, (B) Additional productive capacity is created by the farmer when he increases the amount of his operating expenses. The expanded operating capital allows farmers to call upon productive capacity owned by others. This may be done through the use of the farmers' own discretionary liquid assets, or through use of additional credit. It is at this point that credit and savings are substitutes for each other. (C) The farmer may also purchase with owned or borrowed funds various forms of fixed capital which provide productive services over various

time periods.

A second set of investment alternatives open to the farm family is through rural capital markets. In these markets a farmer may seek a financial rate of return on his savings. This includes deposits in banks, savings and loan associations, credit unions, farmers associations, and cooperatives. It also includes private loans made to other individuals, and participation in rotating credit associations.

A third form of investment activity faced by farmers is off-farm business investments. This may include putting money into local retail stores, investments in urban property, and investments in various types of marketing activities, etc.

The fourth set of investment activities relates to formation of human capital within the household. This includes investments made in furthering the formal education of the operator and his family. It also includes time and resources spent in improving the quality of child rearing in the home and investments made in improving family health.

In a recently completed study Ong argues that, at least in the Taiwan case, attractive rates of return to on-farm investments plus incentive interest rates on financial savings played a key role in inducing substantial rural savings over the 1960-1970 period [42]. Her analysis showed a negative relationship between consumption and various rates of return to firm-household investments. That is, as rates of return to investment increased, current consumption decreased. Her analysis also hinted that Taiwanese farmers may have followed

a "U" shaped marginal propensity to consume (MPC) schedule over the past two decades. <sup>5/</sup> In the early 1950's the MPC's may have been quite high, but gradually dropped during the next 10-15 years. In the late 1960's the MPC may have increased somewhat, though probably still at a lower level than in the early 1950's. Initially, farmers were apparently slow to adjust consumption patterns despite increases in income. Strong rates-of-return to on-farm investment and attractive rates of interest on voluntary financial savings deposits provided additional incentives for rural families to hold back consumption. In the latter part of the 1960's rates-of-return to on-farm investments may have been relatively less attractive, and much more alluring consumption items were available for purchase in the rural areas: sewing machines, radios, television sets, refrigerators, motor bikes, etc. The interaction of these two factors may have raised MPC's in the latter period.

#### V Savings and Capital Market Institutions

In most LDC's a large portion of the funds in small farmer credit programs are provided by the public sector or through foreign assistance. Only in a handful of cases do voluntary or involuntary savings by rural residence play a significant role in the supply of credit. In part this is due to the heavily administered

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<sup>5/</sup> This point was initially raised by I. J. Singh.

interest rates which are typically applied to the formal portions of rural capital markets. <sup>6/</sup> Interest rates on voluntary savings deposits are usually well below rates placed on agricultural credit. In turn, this credit is often lent at concessional rates below the opportunity costs of capital. Aside from the Korean case, previously mentioned, concessional interest rates on credit usually place a low ceiling on rates which can be offered for savings deposits.

The extent of a credit institution's concern with mobilizing voluntary savings depends on the interest-rate-point-spread between deposits and loans, as well as the volume of savings which can be generated. One might conclude that interest rate policies in LDC's have resulted in a self-fulfilling prophecy. Typically, rural savings are assumed not to exist. Interest rate policies are then set so that farmers are not induced to deposit savings. As a result, credit agencies find it more profitable to draw money from the Central Bank etc., rather than go through the costs of handling a trickle of deposits. This, plus the generally limited supplies of funds, may sharply restrict the realization of significant economies of scale by lending agencies [43, p. 85]. The overall lack of savings mobilization may hinder a lending agency from earning a profit and/or remaining financially solvent. In the Taiwan case, at least, surpluses generated from credit-savings activities have provided a

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A similar argument can be applied to involuntary savings such as share capital in cooperatives or credit unions. Seldom is a significant dividend or rate-of-return, paid on these shares.

a solid financial foundation on which other service activities of Farmers Associations were built [2]. Might this also be true in other countries under appropriate interest rate policies?

Low interest rates also seriously affect the way credit institutions allocate funds [36]. <sup>7/</sup> At low interest rate levels, credit demand often exceeds the supply of loanable funds. Lending agencies, therefore, select only those borrowers who have excellent credit ratings. In this environment small farmers are often denied access to regular channels of credit. Denied participation in credit, small farmers find it less attractive to make savings deposits with credit agencies; farmers have one less reason to go into the bank or cooperative. Low interest rates on credit-savings, therefore, penalize farmers two ways: They sharply limit his access to regular channels of credit, and also deny him access to financial saving instruments which would pay a significant rate-of-return.

In addition to higher interest rates, there are other gimmicks which might be used to make financial savings more attractive to small farmers. In several countries including France and El Salvador, savings depositors are regularly and automatically entered into a lottery. The chances of winning the lottery provide a return to depositors above and beyond the interest rates paid on the deposits. Deposit insurance against bank default is also provided in a few

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<sup>7/</sup> The analytic paper prepared for the "Spring Review" by Claudio Gonzales-Vega expands on this point.

countries [13]. Preferential treatment of savers who request loans is an even more widespread practice. It appears that these additional incentives are useful in mobilizing savings if interest rates are at attractive levels.

## VI Potential Policy Implications

Materials assembled for the "Spring Review" provide useful insights into rural savings questions. The fragmentary nature of the information, however, though consistent with economic logic, requires that any policy recommendations regarding rural savings be more suggestive than conclusive. With this caveat in mind, I suggest that policy makers should direct more attention to the possibilities of mobilizing voluntary rural savings in conjunction with small farmer credit programs; a more balanced approach to rural capital market development should be followed. Substantial rural savings capacities may emerge early in the development process where rural incomes have been stimulated by technological change, by adjustments in pricing policies, or by increases in off-farm earnings. In setting up credit programs, aggressive saving policies also should be included which (1) provide attractive incentives for rural people to save in a financial form, and (2) establish readily available, secure places for rural residents to deposit savings. Because of the heterogeneous nature of farms and farm families, saving capacities and credit requirements in different units may increase rapidly side-by-side. Because of the lagged

adjustments in consumption it may be easier to mobilize voluntary rural saving in early stages of development than in later stages when more attractive consumption items become available.

A balanced development of rural capital markets has several potential advantages. Initially, additional incentives to save would provide rural residents with consumption and savings signals which are more in line with social objectives. Savings and not consumption should be rewarded. Secondly, voluntarily mobilized savings could help rural capital markets move toward self-sufficiency, as well as expand the volume of loanable funds. Thirdly, profitable credit-savings activities in farmers' service organizations (credit-unions, cooperatives, farmers associations etc.) may provide the financial cornerstone on which these organizations can be built. Lastly, balanced growth would also mean that both formal and informal positions of the rural capital market would be encouraged to grow.

The specific set of policies appropriate for mobilizing savings will vary from country to country. Various combinations of voluntary and/or involuntary techniques may be appropriate at any given time. Lotteries, deposit insurance, mobile banks, etc. might be used in some cases to supplement savings incentives. A prerequisite in any substantial saving mobilization program, nevertheless, is an attractive rate of interest on voluntary savings deposits.

T. W. Schultz and others did the development profession a major service when they successfully argued in the early 1960's

that peasant farmers were rational economic actors. It is relatively easy in the 1970's to find development economists agreeing with the Schultzian position that farmers in LDC's know how to "play economics" in factor and product markets. I would argue that these same farmers also react rationally in rural capital markets. Perverse small farmer behavior is not the main problem in rural capital markets. Rather, the culprit is the widely used "cheap" credit-saving pricing signals (interest rates). Because of varying country conditions no hard-and-fast rule on levels of interest rates can be put forward here. It is clear to me, at least, that current rural interest rate policies used in most LDC's should be stood-on-their-heads. Interest rates plus other incentives to save should be raised to levels sufficient to elicit substantial amounts of voluntary financial savings. Interest rates on credit should be set enough above the rates on savings to provide the financial institutions strong incentives to mobilize and lend funds in a socially desirable manner. Altering the "interest rate illusions" which policy makers have may be one of the most important issues which comes out of this "Spring Review".

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