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DO INTEREST RATE RESTRICTIONS AFFECT INCOME DISTRIBUTION ?

by

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1. The expansion of formal credit and its concentration.

1.01 Credit has been one of the most important components of the strategies for the development of the agricultural sector implemented in less developed countries during the past two decades. At the theoretical level it has been always included among the required ingredients of the strategies, while frequently recognizing that its effectiveness can be greatly enhanced by combination with other inputs. At the practical level, however, its supply has encountered less obstacles than the provision of other of the prerequisites of growth. Not only is the input provided -money- fungible, but there is also a minimum, relatively efficient, infrastructure for its provision -the banking system- and, unlike other inputs, it can be administered at a significant distance from the farm. As a result, credit has tended to dominate most of the "packages" implemented.

1.02 In effect, a major infusion of funds has been channelled through the institutions of the formal credit markets of the less developed countries to their agricultural sectors. This has been the result of the allocation to agricultural credit of a significant proportion of the funds granted by international agencies to less developed countries, as well as of the requirement that formal financial institutions devote increasing shares of their portfolios to this sector (Adams, IBRD).

This rapid expansion of the volumes of formal agricultural credit has not necessarily implied a net flow of resources into the sector. Funds collected by deposit institutions in the rural areas have been invested elsewhere,

diversion of borrowed funds away from agricultural activities has been frequent and the expansion of the institutional system may have reduced the size of the informal credit markets. Nevertheless, with or without a net inflow of funds, the expansion of formal credit has significantly influenced the allocation of resources, the rate of growth, employment and the distribution of income in the rural areas of the less developed countries.

1.03 A most important feature of this expansion has been the concentration of the increasing real volumes of credit in a few hands. Among the farmers of less developed countries, only a small fraction -about 5 percent of all African farmers and about 15 percent of farmers in Asia and Latin America- receive formal credit (Donald, IBRD). This concentration is evidenced not only by a comparison of the numbers of those who receive credit with the numbers of those who do not, but also by an examination of how credit volumes are distributed among those who receive them.

Figures from almost any less developed country could illustrate this concentration. Consider Honduras, for example, an intermediate case in Latin America. The amount of credit outstanding per rural capita is US$ 35, while only 10 percent of the farming families of the country receive formal loans (IBRD). If the average size of a rural family is 6 members, while nine out of every ten families do not get formal credit, one out of every ten families receives a loan averaging US$ 2,100. Moreover, among those receiving formal loans, 9 percent obtain about 81 percent of the total value of agricultural credit outstanding. The average size of the loans granted to these largest borrowers is 50 times greater than the average size of the loans granted to the rest (Santos).

The interest-rate policies implemented by the less developed countries figure predominantly among the explanations of this concentration.

2. Interest-rate policies.

2.01 The rates of interest charged on formal agricultural loans in the less developed countries have been particularly low. These rates have been low because they have been comparable to, if not lower than, the rates charged in more advanced, capital-rich countries; they have been low because they have not reflected the opportunity cost -shadow prices- of the scarce capital of the less developed countries; they have been low because they have not equated the supply and demand of formal loans for agriculture, generating excess demands which have made non-price rationing necessary to clear credit markets; they have been low because they have been several times lower than the rates charged by informal lenders; they have been low because they have frequently not covered all the costs of granting credit and, in particular, because by not covering the costs of entering into additional markets, they have prevented formal institutions from servicing marginal clienteles; they have been low because they have made government subsidies necessary for the survival of many financial institutions; they have been low because they have been preferential rates when compared to prevailing commercial rates; they have been low because they have transferred a substantial subsidy to privileged borrowers; they have been low because they have been accompanied by explicit or implicit ceilings on the rates of deposit paid on savings, thus contributing to financial repression; and they have been low because in inflationary countries, in real terms they have been negative, erratic and unpredictable.

These rates have been low, not as the result of the interplay of voluntary market forces or as a consequence of higher productivity and innovation in financial activities. Rather, they have been imposed on financial institutions by usury laws, central bank regulations and other coercive devices. Moreover, these administered rates have been kept fixed at their low levels despite rapid changes in economic circumstances. On the other hand, the numerous and partially successful attempts to circumvent the restrictions have not been enough to eliminate the distortions or the disequilibria which they have induced.

2.02 Credit programs have implications for efficiency (i.e., in terms of the social and private profitability of the activities financed); implications for financial viability (i.e., in terms of the social and private profitability of the lending activities and in terms of institutional survival); and implications for equity (i.e., in terms of their influence upon the distribution of income). The impact of interest-rate restrictions on efficiency has received some attention (Adams, McKinnon, Shaw), but their impact on institutional viability and on equity has been almost totally neglected. This paper emphasizes income distribution considerations; elsewhere I have been concerned with viability and with the implications of the survival behavior of institutions (Gonzalez-Vega 1973, 1975).

3. Credit, growth potential and income distribution.

3.01 Any farmer's net income is a function of his internal productive opportunity and of his other investment options, as well as of his command over the resources necessary to take advantage of these opportunities. In turn, control over the resources required depends on the farmer's own endowment and

on his access to external sources of finance.

The rural sector of the less developed countries is characterized by the coexistence of a multitude of small farmers with a few medium and large units and by a tremendous diversity among farmers, both in terms of their internal productive opportunities and of their endowments. In these fragmented markets, opportunities, endowments and access to finance are poorly correlated (McKinnon). Farmers with potential productive opportunities lack resources of their own as well as access to credit; others with larger endowments may lack internal productive opportunities as well as external investment outlets.

In the absence of integrated capital markets, these individual farmers, each one with his own unique set of endowments and of opportunities, are sufficiently isolated as to earn a wide range of different rates of return. Thus, different individual farmers face very different opportunities for income growth which, in turn, are reflected in the distribution of income.

3.02 Consider a group of farmers, each one with his own internal productive opportunity and with his own endowment of inputs. Under conditions of <u>self-finance</u>, each farmer will be able to exploit his opportunity only to the extent allowed by his endowment which, therefore, imposes a definit limit on his growth potential. In these circumstances the aggregate net income of the group of farmers will not be maximized. A social optimum requires that the value of the marginal product of the inputs be the same for all the farmers. Under conditions of self-finance, however, the value of the marginal product will be higher, <u>ceteris paribus</u>, the smaller the farmer's own endowment and the better his productive opportunity.

Even when the larger farmers possess both better production functions and larger endowments, if their superiority in terms of endowments is proportionately greater than their superiority in terms of opportunities, which is most likely in view of the cumulative biases present in income growth processes and given diminishing returns, the value of the marginal product of the inputs will be lower for them than for the smaller farmers. As a result, a transfer of inputs from the larger to the smaller farmers, e.g. via a loan, would increase aggregate income at the same time that it increases the net incomes of both classes of farmers.

Less well recognized than this allocative effect of direct external finance is its impact on income distribution. In the situation described, if the value of the marginal product of the inputs declines faster for the smaller than for the larger farmers -in view, for example, of the relatively limited entrepreneurial ability and small endowment of other fixed inputs of the former- the net gain in income will be greater, both in absolute and in relative terms, for the smaller than for the larger farmers. Income distribution, therefore, improves as a consequence of direct external finance (Gonzalez-Vega, 1976).

A similarly favorable impact on income distribution results from access to indirect external finance, i.e., from credit granted by a financial institution which collects savings. Consider two farmers with identical investment opportunities. If their endowments are equal, their incomes will be equal. Under conditions of self-finance, however, the farmer with the largest endowment will have a higher income. On the other hand, if both of them have access to credit, their incomes will be equalized. Therefore, to the

extent to which differences in income among farmers are due to differences in endowment, access to credit significantly contributes to reduce such differences.

This distributive property of access to credit is even more pronounced in a dynamic situation, characterized by the improvement of productive opportunities through innovation, than in the technologically stationary situation described. In effect, control over additional resources not only allows a fuller exploitation of given productive opportunities; it also makes possible the improvement of these opportunities through the adoption of new technological practices. Access to credit will be more important for the adoption of innovations if the inputs required are highly complementary or if they are indivisible.

In any case, the more fragmented the capital markets, the more diverse their individual participants and the more dynamic and risky the opportunities available, the more crucial access to credit becomes as a determinant of the income growth potential of individual farmers and, therefore, of the distribution of income. In effect, patterns of concentrated growth in the rural areas of less developed countries have been accentuated not only by limited access to land, to education and other resources and services, but also by differential access to credit.

4. Costs of intermediation.

4.01 Financial intermediation is not costless. Valuable human and material resources are employed in granting and in managing loans. Such costs are social, because these resources could have been devoted to increasing social output elsewhere. Such costs are also private, because financial

institutions have to compete for these resources in the market place.

The costs to the lender include the opportunity cost of the funds, its cost of administration and the losses due to default. In turn, the costs of administration can be divided into handling costs, which are independent of the degree of riskiness and usually of the size of the loan, and risk-reducing costs, incurred mostly in order to reduce the probability of default associated with the lender's portfolio.

An element of uncertainty necessarily enters into any credit transaction, since the lender can never be sure whether the borrower will repay or not. The lender, therefore, has to decide, not only when to accept or reject a loan application, but also what are the appropriate size of loan to grant and rate of interest to charge in each case. Even after this analysis, however, some uncertainty of repayment remains and the lender needs to include, among its ex ante costs, a premium for risk which reflects the lender's subjective probability distribution of the expected loss from default in each case.

Risk-reducing costs and losses from default, therefore, are not independent. If more resources are spent in evaluation and in supervision, delinquency can be reduced. If the acquisition and use of information allows the lender a more accurate estimate of the probability of default and thus better decisions, actual ex post losses will decline. This, in turn, will lead to a reduction of ex ante premiums for risk.

In this sense, the lender may be viewed as operating with an information function: a production function which relates inputs of information and of risk assumption to returns

from their application (Aigner and Sprenkle). Since risk-reducing activities are expensive and since they experience diminishing marginal returns, the lender needs to select an optimum combination of risk-reducing efforts and expected losses from default. That is, in order to achieve technical efficiency, the lender must minimize the sum of the risk-reducing costs and the premium for risk, with respect to the production of different loans. This optimum requires the equalization of the marginal cost of the information-using activities and the marginal product of information, in terms of its impact on the expected value of the loss from default associated with the portfolio.

Elsewhere I have shown that the expected value of the loss from default per peso loaned and the corresponding premium for risk as well as the average risk-reducing cost are all an increasing function of the size of loan to any individual borrower, if certain conditions prevail: (i) that the size of the farmer's productive activity be independent of the size of the particular loan (e.g. when the project is of fixed size) or (ii) that when the size of the farmer's project is directly related to the size of loan, any one of the following circumstances be present: (a) that the value of the marginal product of the inputs be a diminishing function of the size of loan; (b) that the variance of the distribution of the outcome of the project increase with the size of loan; or (c) that the loan be secured, in addition to the proceeds from the farmer's productive activity, with fixed assets whose expected value be independent of the size of the loan (Gonzalez-Vega, 1976).

For any individual borrower, as a loan gets larger, it gets riskier. The lender reacts to this higher risk by

increasing its expenditures in information but, given diminishing marginal returns, the premium for risk must be increased, too. Therefore, independently of the behavior of the opportunity cost of the funds and of handling costs, the total average costs of lending eventually increase and marginal cost increases as a function of the size of individual loans.

4.02 Credit has several dimensions. Some of them reflect characteristics of the borrower or of the lender; others reflect features of the loan. One of them is the size dimension: there are loans for large farmers and for small farmers. Each one of these dimensions of credit can be treated as a separate product and the bank can be viewed as a multi-product firm (Shull). In turn, each one of these "products" can be distinguished in terms of its own peculiar cost function.

The costs of lending are generally high in the case of agriculture due to the lack of specific expertise of the urban-based financial institutions and due to the large impact of exogenous factors on the outcome of farming. In view of the great diversity among farmers in terms of their entrepreneurial skills, productive opportunities and endowments, which increases the dispersion of the probable outcome of their activities, increasing risk for the lender, it is not easy to find out who suitable potential borrowers are. The costs of lending are particularly high in the case of small farmers, due to their lack of expertise in the use of bank services and because the costs of collecting from them are high, both in terms of the size of their loans and in terms of political and social sanctions. Also, they usually lack collateral and own resources of lower quality. In sum-

mary, both the average and the marginal cost of lending to small farmers are higher than for large farmers and others.

4.03 Once the costs of intermediation are taken into account, the socially optimum rate of interest will not be the same for all farmers and, as a consequence, the value of the marginal product of the inputs will not be equated across farmers. Maximization of aggregate net income -the sum of the incomes of the group of farmers and of the lender- requires that the marginal cost of lending to each farmer be equated to the marginal product of the inputs for each farmer. In these circumstances the optimum rates of interest and optimum loan sizes would be equal only if all farmers had identical productive opportunities and endowments (i.e., if their demands for credit were identical) and if the lender's marginal cost functions of granting credit were the same for all farmers. The optimum rate of interest will be higher, ceteris paribus, the better the farmer's productive opportunity and the smaller his own endowment as well as the higher the marginal costs of lending to him.

If a loan of a size smaller than the optimum is granted, at the margin one more peso of credit will increase aggregate income more than it will increase aggregate social cost. If in this case the size of the loan is increased, both the borrower and the lender will gain and there will be a net gain to society. If, on the other hand, a loan larger than the optimum is granted, the addition to total income will be smaller than the addition to total cost and aggregate net income will decline. More resources would have been spent in administering the loan than the resources generated by the additional production induced by the loan, with a net loss to society.

The multiplicity of competitive interest rates is not surprising since, as indicated, loans to different farmer classes can be viewed as different "products" whose costs of production are not the same. There is no reason why two different products should be sold at the same price. If it costs society different amounts of resources to produce different types of loans, their optimum prices should reflect these different social costs, in addition to their different social productivities. Otherwise, too many loans of certain classes and too few loans of other classes will be produced, in comparison to what is socially desirable.

4.04 Similarly, a profit-maximizing lender in a monopolistically competitive market will charge different rates of interest to different borrowers if it can segment the market, on the basis either of demand-elasticity considerations or of marginal cost considerations. In either case, profit maximization requires that the marginal cost of lending be equated to the marginal revenue for the lender in each separate market. Generally, the rates charged to smaller farmers will be higher than the rates charged to larger farmers, given the more elastic demands and lower marginal cost curves of the latter. The exercise of monopoly power by the lender reduces the size of all loans below their socially optimum level and raises all rates of interest above their socially optimum level. Although the lender's net income increases, aggregate net income declines.

5. Interest-rate restrictions and rationing.

5.01 If restrictions are imposed on the rates of interest to be charged, the lender may practice credit rationing, i.e., the granting of a loan of a smaller size than that demanded at the rate charged. From the point of view of the individual

borrower, rationing implies an excess demand for credit at the "equilibrium" rate of interest paid. It has been shown that a profit-maximizing lender may practice rationing even when the restriction consists in the simple requirement that a uniform rate be charged to all borrowers, which the lender is allowed to freely set at its most profitable level (Eckaus, Jaffee). It has also been shown that rationing may take place even under conditions of perfect competition (Keeton).

Generally, a lender will restrict the size of a loan if the marginal cost of granting it is higher than the constrained profit-maximizing rate of interest. If the lender granted a loan of a larger size, the addition to its costs would be higher than the addition to its revenues and its expected profits would decline. Since marginal cost is an increasing function of the size of individual loans, however, the lender can bring its marginal cost down to the level of the constrained rate of interest by reducing the loan size.

The possibility that a borrower will be rationed depends on the relationship between the marginal cost and demand functions faced by the lender and on the nature of the restrictions imposed. The less rapidly marginal cost rises as the size of loan increases and the more rapidly the quantity of credit demanded increases as the rate of interest charged declines, the less likely is rationing. Rationing, therefore, is a function of the riskiness of the loan and of the marginal product of the inputs purchased with it.

5.02 When the restriction is a ceiling, it may be effective -i.e., lower than the discriminating monopolist's profit-maximizing rate- with respect to all borrower classes or with respect to some of them. Loans to those borrowers

for whom the ceiling is not effective -most likely the largest borrowers- will remain unchanged. On the other hand, if the ceiling is effective, those borrower classes for which marginal cost becomes equal to the ceiling rate before their demand for credit has been completely satisfied, will be rationed. Although it is possible for all borrower classes to be rationed, it is probable that some classes will not be. If the ceiling becomes sufficiently low -i.e., below the average variable costs of lending- the size of loan becomes zero and the borrower is excluded from the lender's portfolio.

5.03 Most less developed countries have enforced fairly low ceilings on the rates of interest that formal financial institutions may charge on agricultural loans; i.e., these ceilings have been effective with respect to most borrower classes, leading to widespread credit rationing. As a result, the size of the loans granted to most farmers in less developed countries has been smaller than the size of the loans demanded at the rates charged, generating generalized excess demands for credit (Ladman, Vogel and Gonzalez-Vega). The mechanisms used to implement the rationing have been varied, ranging from long delays in disbursing the funds to quotas and other "topes" directly restricting the size of the loans.

The resulting excess demands have been expressed by the desire of individual farmers to receive more formal credit than they are presently obtaining at the subsidized rates. In turn, in many instances they have supplemented their formal loans with additional credit from informal sources, at very high rates of interest, high enough to significantly curb these excess demands. On the other hand,

a few, privileged large farmers have received all the credit which they have demanded at the restricted rates.

In general, in the formal credit markets of the less developed countries, some farmers -the large number of small farmers- have been rationed or excluded from credit portfolios, while other farmers -a few large ones- have not been rationed. Although this differential treatment certainly reflects the influence of political and social power on the decisions of financial institutions, purely economic considerations, related to the profit-maximizing behavior of private lenders and to the viability and survival behavior of public credit institutions, are sufficient to explain the result.

6. On the iron law of interest-rate restrictions.

6.01 Given empirically relevant values of certain parameters, as the interest-rate ceilings become more restrictive, the size of the loans granted to non-rationed borrowers increases and the size of the loans granted to rationed borrowers declines. This is the iron law of interest-rate restrictions (Gonzalez-Vega, 1976). Ceilings become more restrictive for a variety of reasons of which inflation and increases in lender costs as well as the frequent habit of granting preferential rates for specific activities are among the most important.

In effect, as the ceiling becomes lower, non-rationed borrowers move along their demand curves, demanding and receiving larger amounts of credit at the lower rate. On the other hand, rationed borrowers move along the lender's marginal cost curves of granting credit to them and, although they demand larger loans at the lower rate, too, the lender

only grants them loans of a smaller size than before. The extent of their excess demands for credit, therefore, increases as the ceiling becomes more restrictive, for two reasons: (i) because at the lower rate they demand larger loans and (ii) because at the lower rate the size of the loans granted to them declines.

Since the possibility of rationing is greater the higher the marginal costs of lending to a particular borrower with respect to his demand for credit and the less elastic his demand for credit, smaller farmers are commonly rationed much before larger farmers. In these circumstances, the iron law of interest-rate restrictions implies that, as the ceiling becomes more restrictive, the size of the loans granted to large farmers increases and the size of the loans granted to small farmers decreases.

In summary, the iron law of interest-rate restrictions implies a reduction in the absolute and in the relative size of loans for small farmers as well as a reduction in the absolute and relative <u>share</u> of credit to small farmers in the portfolios of formal credit institutions. That is, under plausible conditions, the ceiling <u>redistributes</u> the formal lender's portfolio in favor of the larger farmers. The same principle implies that a ceiling redistributes the lender's credit portfolio against agriculture in general, as well as against new borrowers unknown to the lender, borrowers engaged in risky activities, innovators, borrowers without sufficient collateral and all other specially costly clienteles. If at the same time the ceiling stimulates the demand for credit by all borrowers, but this greater demand is satisfied only in the case of the large, the powerful and the wealthier, these ceilings have contributed to a greater concentration of the distribution of income in less developed countries.

Moreover, given the high average variable costs of lending to rural clienteles, these ceilings have led to the exclusion of the greatest proportion of small farmers in less developed countries from access to institutional credit. In addition, as the ceiling reduces their margins, lenders will reject, ad portas, loan applications with a high probability that after examination they will not be granted. This makes borrowing even more difficult for borrowers who belong to classes characterized by a large variance of the probability of default. Individual applications which might have been accepted if the lender could have spent more resources in the necessary investigation are automatically rejected if the rates of interest earned are so low that they do not cover these costs.

6.02 When a farmer is not rationed, after the imposition of a ceiling his net income increases, since the size of his loan increases and the rate of interest paid declines. When a farmer is rationed, the decline in the rate of interest tends to increase his net income, but the decline in the size of his loan has the opposite effect. Therefore, the subsidy effect of the ceiling has to be weighted against the rationing effect of the ceiling. The subsidy effect dominates in the case of relatively high ceilings, while the rationing effect dominates in the case of lower ceilings, namely those below the competitive -socially optimum- rate of interest (Gonzalez-Vega, 1976). When the ceiling reaches the minimum level of the average variable cost of lending, the net income from the loan becomes zero, as the farmer is excluded from the portfolio. It is these farmers excluded from access to formal credit -the smallest and the poorest- who suffer the most significant loss. They constitute the majority of the rural population of the less developed countries. Ironically, even

when the net income of the small -rationed- farmers increases, as a result of the ceiling, the relative income distribution worsens, because in this case the net income of the large -non-rationed- farmers also increases and at a faster speed.

7. The arguments for low interest rates revisited.

7.01 The arguments in favor of low interest rates for agriculture can be classified into: (i) those which claim that controlled rates on formal loans are necessary to eliminate or compensate the exploitation of borrowers by informal lenders; (ii) those which claim that low rates are necessary to correct market imperfections (e.g. infant industry arguments); and (iii) those which claim that subsidized rates are an efficient mechanism for income redistribution.

Except in a few empirically unimportant cases, all these arguments are incorrect. The strategies of low interest rates which they recommend are, at most, poor second-best solutions to rather important problems which, as a consequence of this approach, remain basically unsolved. At the same time, the low rates have induced all sorts of adverse consequences and policies adopted with the best of intentions have in many instances led to results contrary to those desired.

7.02 In the informal credit markets of less developed countries, fragmentation and the accompanying allocative inefficiencies, monopoly profits and the oppression of borrowers cannot be solved through the imposition of ceilings on the rates of interest charged by formal lenders. Subsidized credit which reaches only a minimal proportion of the rural population can neither replace informal credit nor alleviate the financial constraint faced by millions of small farmers.

Moreover, if the rate of interest is only one of the terms and conditions of a loan considered by farmers, even an expansion of traditional formal credit supplies may not be enough. Therefore, it is fallacious to claim that because institutional credit can be kept cheaper than informal credit, through the imposition of ceilings, it would be easy to drive the moneylender out, if only sufficient funds were available. Rather, "to compete with a service so complete, so informal and so personal as that of the private moneylender, a banking institution must obviously offer its customers something similar, and so add to its expenses and push up its charges near to those of its chief competitors" (FAO, p. v).

It cannot be denied that development requires the expansion of organized finance into small scale lending, but such a course of action is not costless. The information required is expensive, risk is high and assured collateral is not available. How are these costs going to be paid for ? Higher interest rates seem to be the only economically viable means of covering them. Only when the formal market could expand in a completely competitive way with the informal market, will there be a better division of labor between the two markets, on the basis of their comparative advantages, and the expansion of the formal credit market will induce appropriately lower interest rates in the informal markets.

7.03 The arguments for low interest rates based on efficiency considerations normally assume the existence of market imperfections which give rise to divergences between the private and the social costs and benefits of various agricultural activities. It is believed that these distortions can be corrected by the subsidy implicit in the low rates.

The social rate of return may exceed the private rate of return for a variety of reasons. Some of them are related to the existence of externalities, others depend on processes of learning by doing. In any case, neoclassical rules indicate that efficient forms of tax-cum-subsidy and other government interventions to promote the expansion of the desired activity must be addressed directly at offsetting the source of the distortion. Most of these market imperfections, however, are not directly dependent on the amount of credit received. Their correction, therefore, does not imply a credit subsidy.

Moreover, lack of private profitability -despite some impressive agronomic results- may be in many cases a reflection of a low social profitability. For instance, such lack of profitability may simply reflect the unavailability of specific inputs, the absence of marketing channels or the inadequacy of the technology itself. Innovations which would be profitable if these other conditions were present, are not -both privately and socially- if they are not present.

In most instances, these constraints and bottlenecks cannot be removed by the expansion of credit per se, subsidized or not. If credit is granted at a sufficiently subsidized rate, however, the investment opportunity will appear as privately profitable to the few privileged borrowers receiving the underpriced resources, but it will not cease to be socially unprofitable. That is, credit at a subsidized rate cannot create the missing input, the missing market, the missing technology. On the contrary, in many cases subsidized credit may actually aggravate the problems. If credit for the adoption of new inputs is not matched by additional supplies, it will only induce a rise in input prices. Subsidized credit for specific products in the absence of adequate markets will only reduce prices at the farmer level.

In addition, attempts to correct market imperfections not related to the volume of credit used induce additional distortions elsewhere. In particular, subsidized interest rates favor capital inputs over labor inputs, inducing a capital-intensive bias in production and restricting employment opportunities. Low loan rates induce low deposit rates, reducing the ability of formal institutions to mobilize savings (Shaw). Finally, concentrating resources on credit and attention on its price leads to a neglect of the real problems and the actual constraints are not removed.

7.04 Subsidized interest rates have been recommended as a mechanism for the transfer of income to specific groups. It is frequently claimed that the low rates are the only politically feasible or administratively possible mechanism for effecting income transfers to small farmers. Many believe that in the less developed countries "governments do not have the means nor the will to undertake meaningful and efficient income transfer measures for the benefit of small farmers. Instead, they offer subsidized interest rates as a second best alternative for carrying out some explicit transfer payments" (Nisbet, p. 8).

Unfortunately, the credit mechanism in general and subsidized interest rates in particular are a very inefficient tool for income redistribution. The impact on subsidized rates on income distribution involves both their impact on income growth potentials through their impact on <u>access</u> to resources by different types of farmers as well as the nature of the subsidy, which is a <u>regressive</u> method of redistribution.

In the first place, the subsidy is an unrequited transfer to the borrower of a certain amount of resources

-a grant- which is directly proportional to the size of the loan. The larger the loan, the greater the transfer. Since size of loan and size of borrower -under present conditions- are positively correlated, the amount of the grant becomes a direct function of the borrower's wealth. Larger and wealthier farmers receive larger subsidies. The small farmers who supposedly constitute the target of the re-distributive strategy receive, at best, small loans and the associated small grants. Non-borrowers, usually the smallest and poorest members of the rural community, receive no subsidy at all. All this necessarily worsens income distributions.

In the second place, as a consequence of the iron law of interest-rate restrictions, the subsidy leads to a re-distribution of credit portfolios in favor of the larger farmers. In its extreme manifestation, this law implies that numerous small farmers are excluded from these port-folios altogether. To the extent to which access to re-sources is a crucial determinant of the distribution of income, this differential impact of the subsidy on access to credit leads to more concentrated distributions.

Moreover, as the ceiling becomes more restrictive and the gap betwen the rate actually charged and the optimum rate increases, the proportion of the loan which constitutes an unrequited transfer increases. Therefore, the largest farmers not only receive larger loans; they also receive larger and increasing grants on two counts: (i) because the size of their loans increases and (ii) because the grant constitutes an increasingly larger proportion of these loans. This larger portion of each peso loaned is a gift which goes to a diminishing number of borrowers. These few borrowers

happen to be the largest and more powerful members of the rural community. Is this a strategy for income redistribution ?

Moreover, the amount of the grant is not the only difference in the income levels of the various farmers which results from the low rates charged. Through time even more important is the impact of the subsidy on access to credit and on the possibilities for income growth of various classes of farmers. To the extent to which the policies of low interest rates have reduced the access of small farmers to institutional credit, they have significantly contributed to the growing income disparities observed in the rural areas of many less developed countries.

8. Are interest-rate ceilings worthwhile ?

8.01 Interest rates are the most important relative price in an economy. They affect decisions to consume, save and invest; decisions to hold various types of assets and decisions to combine factors of production in different proportions. At the same time, they are the most frequently controlled price. In particular, most less developed countries continue keeping ceilings on the loan rates that the institutions of their formal credit markets can charge. What has been gained from these ceilings ?

An examination of agricultural credit programs around the world shows that these restrictions not only have reduced allocative efficiency and the viability of financial institutions; they have also contributed to more concentrated distributions of income. The reason is that the policies which have attempted to maintain the price of credit low have, at the same time, modified access to credit for the various classes of borrowers, discriminating against the small and the poor.

8.02 Furthermore, interest-rate ceilings not only have affected the distribution of given credit portfolios between large and small operators. They have also affected the total volumes of agricultural credit. Through their impact on the rates of interest paid on deposits, they have reduced the total volume of savings mobilized by the institutions of the formal credit markets. Through their impact on the profitability of lending, they have reduced the proportion of their resources which these institutions devote to loans instead of to other investments. Through their impact on operating margins, they have affected technical efficiency in lending. Riskier and/or more costly to investigate credit dimensions have received less institutional attention. At the same time, the introduction of ceilings in the formal markets may have also restricted the supply of credit in informal markets.

8.03 In summary, low interest rates cannot eliminate the monopoly power of moneylenders, if they restrict access to credit. Access to institutional loans in competitive conditions can. Low interest rates cannot eliminate the public exploitation of the rural population through the deterioration of the terms of trade for agriculture and other policies, unless the rural population receive the loans. Access to credit at competitive rates could start turning the situation around. Low interest rates cannot stimulate the adoption of technological improvements, unless large enough loans are granted to the innovators. Access to more institutional credit, even if the rate of interest which allows it is fairly high, can help accelerate adoption by innovators.

If interest-rate ceilings reduce access and in some instances eliminate it altogether, they are not worthwhile!

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