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## COMPETITIVE RENT DETERMINATION IN UNDERDEVELOPED RURAL AREAS

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Rents on agricultural land in poor countries typically range from 30 to 50 per cent or more of the value of the farmer's produce.<sup>1</sup> In consequence it is often claimed that tenants have neither the surplus to consume, nor the incentive to innovate in a way which economic development requires. Profligate landlords are held to be incapable of or unwilling to fulfil these functions in their stead. They spend much abroad. They are not sufficiently numerous to provide a market for mass production. Their extravagant expenditures on services do not create the sort of employment in which savings and reinvestment are likely to occur (*i.e.*, as with factories), or in which external economies are created. Reductions in rents may therefore be considered an essential prerequisite for a growth in the demand for industrial goods as well as in the supply of agricultural produce.<sup>2</sup>

The theory under which rents are determined will vary according to whether land markets are competitive or monopolistic; or as to whether much land is held in common. Each of these conditions merits a separate discussion. Here we will confine ourselves to the competitive market where tenants are presumed free to move, and where no one rentier or hirer of land can affect its rent. Under such competitive conditions it is convenient to think of the margin of cultivation as being determined at the point where the marginal revenue product (MRP) of land equals its marginal cost (MC). These two determinants can be expressed in annual terms and so can rent if we derive the demand for land from its annual revenue product, and if we consider the marginal cost of land as being the annual interest payments associated with the original cost of bringing it into use, plus some maintenance charges.<sup>3</sup> Thus, as the annual demand and supply prices for land shift

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1. See for example : the Philippines—H. von Oppenfeld, "Some Causes of Low Income on Philippine Farms (with Discussion)," *Malayan Economic Review*, Vol. IV, No. 1, April, 1959, pp. 42-43, 46 and 48; Indonesia, Thailand and Ceylon—United Nations : Land Reform, Department of Economic Affairs, New York, 1951, p. 15; Malaya—E. K. Fisk, "Productivity and Income from Rubber in an established Malay Reservation," *Malayan Economic Review*, Vol. VI, No. 1, April, 1961, pp. 17-18; India—Government of India : Third Five-Year Plan, Planning Commission, Manager of Publications, Delhi, 1961, p. 222; Iran—Ann K. S. Lambton : *Landlord and Peasant in Persia*, Oxford University Press, London, 1953, pp. 306-329, and B. H. Kristjanson, "The Agrarian Based Development of Iran," *Land Economics*, Vol. 36, No. 1, February, 1960, p. 3; Turkey, Iraq, Syria, and Egypt—Alfred Bonne, *State and Economics in the Middle East*, Routledge and Kegan Paul, London, 1960, pp. 127, 130-134; Ecuador—Italconsult, "Empresa Agrícola," *Junta Nacional de Planificación y Coordinación Económica* (hereafter referred to as the JNPCE), Quito, p. 22; and for a wide variety of historical and current figures on rents as a proportion of agricultural production in various countries, see also, Colin Clark : *The Conditions of Economic Progress*, MacMillan and Co., London, 1960, pp. 635-651.

2. In Taiwan, for example, statistics show that effective rent reductions lead to considerable increases in agricultural productivity together with substantial additions to the demand for other goods among farmers. See, Tsui Young-Chi, "Land-Use Improvement : A Key to the Economic Development of Taiwan," *Journal of Farm Economics*, Vol. 44, No. 2, May, 1962, p. 367.

3. The MRP curve for land only represents its demand at the margin of cultivation. The MRP and MC curves for land will merely give the equilibrium level for its use under competitive conditions. This level of land use will be associated with a unique price for the produce of the land as well as a unique per acre factor endowment on all land. Prices will normally fall as more land is brought into use, and an existing stock of labour and capital will also be spread over a wider area. Therefore, the annual demand curve for land use (gross rents on the vertical axis and the quantity of land in use on the horizontal) will be different to its MRP curve everywhere except at the equi-

up or down, rents will move in sympathy. It is therefore appropriate for us to concentrate on the determinants of these two values if we are to outline a policy for rent reduction in poor countries.

#### THE DEMAND FOR LAND

1. *Where land is inelastic in supply:* We shall begin by assuming that land is inelastic in supply. It is popularly supposed that such a situation is the rule in most under-developed countries.<sup>4</sup> Thus the greater part of any increase in the marginal revenue productivity of land is assumed to go to the landlord. In consequence, many writers argue that tenants are discouraged from attempting to increase their production or its quality and price,<sup>5</sup> and much of the evidence seems to support their point of view in thickly populated nations. In Taiwan, for example, post-war reforms effectively reduced rents from 50 to 25 per cent of the then main crop yield. This was followed by productive innovations which raised the index of agricultural production by 46 per cent and average gross farm incomes from U.S. \$ 285 in 1953 to \$ 848 in 1960.<sup>6</sup> In Japan, the average gross yield on paddy fields rose year by year from 22.8 quintals per hectare in 1913 to only 27.1 quintals in 1940, while landlords appropriated an average of more than two-thirds of this increase in additional rents.<sup>7</sup> This slow progress contrasts sharply with the fact that agricultural production almost doubled from 1945 to 1953 after reform had reduced effective rents to a fraction of the 50 per cent of the value of the crop which had previously obtained.<sup>8</sup>

Nevertheless, there is no theoretical reason why rising rents should inhibit productive innovation when land markets are competitive. Where an innovating tenant is completely free he will move to other lands when an owner raises his rent. It will not be until the new technique is commonly adopted in a particular area that rents will rise to appropriate the gain. As the more productive methods spread, the better farmers will bid for the acreage of their less productive neighbours. This will force the latter to improve their methods or get out. The end result will be that the lion's share of the gains will eventually go to the landlord where land is highly inelastic in supply.

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brum level of land use. It will equal the unit annual physical productivity of various grades of land with this equilibrium level factor endowment, multiplied by the equilibrium price for this produce. At least this would be true if all land were equi-distant from the market. But since it is not, this demand curve must again be adjusted to reflect price at the farm itself.

Once we have determined the annual demand for all grades of land in this way, we are in a position to say that net rents on the varying grades of land in use will equal the difference between this demand curve and the annual cost curve for bringing land into use as we have described it in the text.

4. See for example, Paul A Samuelson : *Economics—An Introductory Analysis*, McGraw Hill Co., New York, 1958, p. 759, and J. R. Hicks : *The Social Framework*, Clarendon Press, Oxford, 1960, p. 55.

5. i.e., United Nations : *Land Reform*, *Op. cit.*, p. 18.

6. Tsui Young-Chi, *Op. cit.*, p. 367. See also S. C. Hsieh, "Land Reform in Taiwan and Japan—A Reply," *Malayan Economic Review*, Vol. VIII, No. 1, April, 1963, p. 116.

7. See, Grajdanzev, Institute of Pacific Relations, November, 1941 and Wickizer and Bennett : *The Rice Economy of Monsoon Asia* (both cited by Colin Clark : *The Conditions of Economic Progress*, *Op. cit.*, p. 646).

8. Kazushi Ohkawa, "Significant Changes in Japanese Agriculture Since 1945," *Journal of Farm Economics*, Vol. 43, No. 5, December, 1961, pp. 1105-06.

It is important that landlords as a class should realize this. They not only control their tenants' property, but they also dominate the legislature in many poor countries. Up to now they have tended to support a social structure in which tenants are in fact immobile and land markets highly uncompetitive.<sup>9</sup> Often they are able to appropriate monopoly rents under such conditions. Yet it may be in their interests as a class to forego these profits in favour of greater competition in the hiring of land. If competitive land markets can in fact be created, the considerable gains in production which will be encouraged thereby may ultimately raise the demand and rents on the proprietor's terrain beyond his present expectations. Thus it would frequently be in his interest to support legislation in favour of the competitive hiring of land so that no one among his group can impede the spread of new techniques. At least this will be true where land is highly inelastic in supply and where the income or price elasticity of demand for its produce is correspondingly great.

2. *Where land is elastic in supply:* But most poor countries cultivate only a fraction of their arable land.<sup>10</sup> The illusion of its scarcity arises from monopolistic limitations on land use,<sup>11</sup> and from the unwillingness or inability of governments to organize so as to provide access to hitherto uncultivated terrain, or to make other institutional changes.<sup>12</sup> Where these difficulties can be overcome, land can be rendered highly elastic in supply. Again the landlord class stands at the centre of the problem. He is concerned only with the demand for *his* land.

9. *i.e.*, through an absence of tenant's rights to recompense for any fixed investment which they may have made, through indebtedness, paternalism, or by means of a variety of feudal tenancy arrangements. See, for example, H. von Oppenfeld, *Op. cit.*, pp. 42-43; Alfred Bonne: *Op. cit.*, pp. 122-126; Government of Ecuador: *Reforma a la Estructura de Tenencia de la Tierra y Expansion de la Frontera Agricola*, JNPCE, Quito, 1963, *passim*; and, Government of the Lebanon: *Besoins et Possibilites de Developpement du Liban, Etude Preliminaire, Tome II*, Planning Ministry, Beirut, 1960-61, p. 289.

10. For supporting statistics see: United Nations: Land Reform, *Op. cit.*, Appendix on the "Relation of Population to Land," pp. 96-101, and Food and Agriculture Organization of the United Nations: Yearbook of Food and Agricultural Statistics 1953, Vol. 7, Part I, Rome, 1954 (cited by Raleigh Barlowe in his Land Resource Economics, Prentice Hall Inc., Englewood Cliffs, New Jersey, 1961, p. 40).

11. See, for example, Government of Ecuador: *Reforma Agraria, Op. cit.*, Capitulo I, Cuadro II-10, p. 37 and Cuadro III-18, p. 48; Capitulo II, Cuadro III-1 and 2, pp. 26 and 28; Alfred Bonne: *Op. cit.*, pp. 120-121, 130, 165, and 187; and United Nations: Land Reform, *Op. cit.*, pp. 18-20, 33, and 63.

12. See, for example; Food and Agriculture Organization of the United Nations: *Farm Management Notes for Asia and the Far East*, No. 6, FAO Regional Office, Bangkok, June, 1960, cited by J. K. Pasto in his "Role of Farm Management in Underdeveloped Countries," *Journal of Farm Economics*, Vol. 43, No. 3, August, 1961, p. 611; K. J. Pelzer, "The Agrarian Conflict in East Sumatra," *Pacific Affairs*, Vol. XXX, No. 2, June, 1957, p. 159; and C. E. Cunningham: "The Postwar Migration of Toba-Bataks to East Sumatra, both cited by D. J. Blake in his "The Estates and Economic Development in Northeast Sumatra," *Malayan Economic Review*, Vol. VIII, No. 1, April, 1963, p. 102; Anthony Bottomley, "The Effect of the Common Ownership of Land upon Resource Allocation in Tripolitania," *Land Economics*, Vol. XXXIX, No. 1, February, 1963, pp. 91-95; M. B. Deshmukh and M. P. Bhargava, "Capital Formation in Indian Agriculture," *Indian Journal of Agricultural Economics*, Vol. IX, No. 1, March, 1954, p. 124; Government of India: Third Five-Year Plan, *Op. cit.*, p. 375; D. T. Healey, "Agricultural Economics in Some African Countries," *International Journal of Agrarian Affairs*, Vol. IV, No. 4, June, 1964, p. 365; United Nations: *El Desarrollo Economico del Ecuador*, Secretaria de la Comision Economica para la America Latina, Mexico, January, 1954, p. 43; Government of Lebanon, *Rapport sur les Problemes Economiques de la Planification Agricole au Liban*, Ministry of Agriculture, Beirut, 1964, p. 3 (mimeographed and in the files of the Ministry); Tsui Young-Chi, *Op. cit.*, pp. 369-370, and 372; U. A. Aziz, "The Interdependent Development of Agriculture and Other Industries," *Malayan Economic Review*, Vol. IV, No. 1, April, 1959, pp. 27 and 29; and H. L. Cook, "The New Agrarian Reform Law and Economic Development in Venezuela," *Land Economics*, Vol. 37, No. 1, February, 1961, p. 14.

He may therefore feel that he has no interest in allowing his peasantry an escape to the ample margin of cultivation. Where he controls the legislature, government policy may reflect this, through failure to construct the necessary access roads and the like. But in poor countries landlords need not fear an immediate decline in the demand for their land as the margin of cultivation is extended. Chronic seasonal under-employment is the rule. Farmers work less than half the hours of what might be considered a normal working year.<sup>13</sup> Some of them are therefore free to cultivate new lands without necessarily reducing the effective demand for the old. This will be particularly true where a migratory labour force arises along with colonization efforts.<sup>14</sup>

Nevertheless, there is little doubt that land settlement can eventually reduce the number of units of capital and labour which are applied to each unit of land. In this event, the physical productivity of land may well decline. This will mean that the demand for it will be reduced and rents will fall. Colin Clark summarizes the results of his extensive research in this field when he begins by assuming (1) that the cultivator cannot gain access to any vacant land, and (2) that the cultivator has to bargain for the application of his labour in a purely agricultural economy. "When these two conditions are fulfilled," he claims, "we do in fact find rent taking up to half of the net product, or even a little more. In less densely populated countries, where there is vacant land available.....the ratio falls, sometimes to a very low level."<sup>15</sup>

In these circumstances the landlord's interest in the extension of the margin of cultivation is directly conditioned by the imminence of land reform. His capacity as for delay in this respect is very great indeed,<sup>16</sup> but the problem of rural poverty is immediate. A rapid extension of the margin of cultivation may therefore serve as a satisfactory compromise between the landlord and tenant classes; the former accepting an eventual reduction in the demand for their land and in their rents in return for the privilege of keeping what they now own. From the landlord's point of view the danger of explosion is reduced if the brighter sparks are allowed to escape to the extensive margin. Tenants and hired hands as well may wish to avoid a long and costly conflict. Moreover, larger land holdings are often more efficient and can serve as an example of good practices. Strenuous efforts to bring about a redistribution of land may not always be desirable. Mere

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13. For some statistical support for this assertion see, Italconsult : *Presupuestos Hacien-dales*, JNPCE, Quito, 1963, *passim*; D. U. Shastri, "Rural Income Differences in South India," *Indian Journal of Agricultural Economics*, Vol. XVI, No. 1, January-March, 1961, p. 218; and J. K. Pasto, *Op. cit.*, p. 610.

14. See, for example, E. K. Fisk, "The Mobility of Rural Labour and the Settlement of New Land in Underdeveloped Countries," *Journal of Farm Economics*, Vol. 43, No. 4, Part I, November, 1961, p. 773.

15. Colin Clark : *Op. cit.*, pp. 636-637. See also Frank T. Bachmura, "Land-Man Equalization through Migration," *American Economic Review*, Vol. XLIX, No. 5, December, 1959, pp. 1004-17, and W. C. Scharlach and G. E. Schuh, "The Land Market as a Link Between the Rural and Urban Sectors of the Economy," *Journal of Farm Economics*, Vol. 44, No. 5, December, 1962, pp. 1410-11.

16. In Mexico, for example, only now, fifty years after the revolution, is land reform beginning to take effect. Refer Armando G. Ulloa G., "Falla Estructural en la Reforma Agraria Latino Americana," *El Comercio*, Quito, December, 1963, p. 4. See also Sidney Klein, "Land Problem and Economic Growth in India and China : Another View," *Malayan Economic Review*, Vol. V., No. 2, October, 1960, pp. 76-77; Daniel and Alice Thorner : *Land and Labour in India*, Asia Publishing House, New York, 1962, p. 5; and Alfred Bonne : *Op. cit.*, pp. 208-209.

statutory limitations on rent charges are likely to be honoured in the breach.<sup>17</sup> At best, they may only serve to drive up rents as landlords levy a premium for the risk of breaking the law;<sup>18</sup> at worst they can result in wholesale evictions.<sup>19</sup>

In any event, from the point of view of society at large, it is also the scarcity value of land which needs to be reduced. The size of landowner levies in money or kind is not the only factor. The imputed value of land where no actual rents change hands must also be brought down. Thus the crucial consideration with regard to the diminution of rents, both real and imputed, is the cost of extending the margin of cultivation. But this takes us into our next subject for discussion.

#### THE SUPPLY OF LAND

We have seen that rents on all grades of land will tend to move up or down as the annual interest charges on the cost of bringing new land into use varies. They will tend to be high when these interest payments are high and low when they are low. It is important therefore that we should know something of how these charges are determined. We can ignore the annual maintenance costs which we mentioned earlier because they are not subject to any subtle derivation.

First, the annual interest bill will depend upon the original cost of bringing marginal land into use. Interest charges can be imputed indefinitely to this cost since there is never any need to amortize investment in land which does not depreciate. Second, this annual bill will also be determined by the rate of interest at which it must be paid. These then are the considerations which we must now take up.

1. *The original cost of bringing marginal land into use:* Marginal land can either be cleared, irrigated, terraced or whatever largely by the efforts of the local work force; or it can be brought into use by more capital intensive techniques. Sometimes a government uses the latter method, but this often proves too expensive and losses are incurred.<sup>20</sup> The most successful means of developing the margin frequently lies in the use of off-season agricultural labour.<sup>21</sup> But this method can be expensive too if the labour must be paid the going wage. Thus it is that the most successful colonization schemes are often those where individual proprietors bring land into use on their own account, with the government providing only the minimum of enabling services.

In Ecuador, for example, the Government has calculated that it need invest only some U.S. \$ 10 per family in order to get spontaneous colonization schemes going, although eventual credit requirements for market production may be up to U.S. \$ 15 per hectare.<sup>22</sup> In Malaya, land has recently been successfully

17. Government of India : Third Five-Year Plan, *Op. cit.*, pp. 222-223.

18. At least this has happened in India with legal limitations on the rate of interest. See M. Balasubramanian, "Reorganization of Rural Credit in India," *Indian Journal of Agricultural Economics*, Vol. XI, No. 2, April-June, 1956, p. 73.

19. See B. Misra and B. Jena, "Working of Two Recent Tenancy Laws in Orissa," *Indian Journal of Agricultural Economics*, Vol. XII, No. 2, April-June, 1957, p. 119.

20. See, for example, *Plan General de Desarrollo-Colonizacion*, Government of Ecuador, INPCE, Quito, 1963, pp. 13, 32-33, and E. K. Fisk, *Op. cit.*, *passim*.

21. See, for example, E. K. Fisk, *Op. cit.*, p. 773.

22. Government of Ecuador : *Plan General de Desarrollo-Colonizacion*, *Op. cit.*, pp. 181-347.



settled without any government aid at all by villagers who disposed of sufficient rice reserves to make the effort.<sup>23</sup> In the Lebanon, the indications are that small hill farmers have been willing to expend terracing labour worth several times the cost of bringing similar larger land holdings into use on the plain.<sup>24</sup> On the other hand, in Ecuador, Malaya, and in Libya, semi-or fully-assisted colonization schemes are expected to require investments of between U.S. \$ 1,000 and \$ 2,000 per family,<sup>25</sup> and it is doubtful that they will ever cover their costs.

It seems to be a fact, then, that farmers are willing to work for lower imputed wages on their own land than they would be willing to accept if the land were not theirs.<sup>26</sup> Or to put it another way, wages would have to be a good deal higher than what the owners of marginal land can often afford to pay if they are to elicit the same degree of effort and co-operation which a farmer will devote to the clearing and cultivation of his own terrain.<sup>27</sup> Of course, this last will not always be possible where a particular type of cultivation demands large estates or massive irrigation works, but generally speaking it seems that the original cost of bringing land into use will be lowest where farmers are working on their own account. The efforts which they are then willing to make can be enormous.<sup>28</sup>

2. *The rate of interest on the original cost of bringing marginal land into use:* We have seen that the original cost of bringing land into use is the basis for calculating the annual cost of extending the margin of cultivation and of thus bringing rents down everywhere. But it may not always be the key factor. That position can often be reserved for the rate of interest which must be paid on these original investments. One authority has calculated that a world-wide weighted average for interest rates in poor countries lies between 24 and 36 per cent a year.<sup>29</sup> Clearly, cutting such interest rates to a third or a quarter of their existing level would reduce the annual payments on the cost of bringing fresh land into use by a substantial amount. But the problem of providing cheap money to farmers is a difficult one to solve. It is not that money as such is so expensive in poor countries. Government bonds and other securities are generally sold with a yield of less than ten

23. E. K. Fisk, *Op. cit.*, p. 773.

24. See O. L. Brough and J. Fuleihan : *Relative Costs and Returns of Producing Apples, Cherries and Peaches in the Bekaa Valley, Lebanon*; and *Relative Costs and Returns of Producing Apples, Cherries and Peaches in Mount Lebanon Area, Lebanon*, Ministry of Agriculture, Beirut, 1964, *passim*; and Food and Agriculture Organization of the United Nations : *Mediterranean Development Project, Lebanon Country Report*, Rome, 1959, pp. 1-4, 8-9, II-47, III-3, 29, and 48.

25. Government of Ecuador : *Op. cit.*, pp. 13, 32-33; *Lembaga Kemajuan Tanah Persekutuan dan Kira-kira Tahunan Bagi 12 Bulan Eunga 30th June, 1959*, Federal Land Development Authority, Annual Report and Accounts for 12 Months to 30-6-1959, Kuala Lumpur, 1960, p. 32, Table A (cited by E. K. Fisk, *Op. cit.*, p. 767); and L. M. Bologna : *Outline of a Scheme for Land Settlement*, United Nations Mission to Libya, Tripoli, July, 1956, pp. 13-18A (typewritten and in the Files of the Mission).

26. For lack of incentives among hired hands, see *Cacao Commodity Series Bulletin No. 27*, FAO, Rome, 1955, p. 43, cited by Philip Raup in his "Contribution of Land Reforms to Agricultural Development : An Analytical Framework," *Economic Development and Cultural Change*, Vol. XII, No. 1, October, 1963, p. 20, and D. J. Blake, "Labour Shortage and Unemployment in North-East Sumatra," *Malayan Economic Review*, Vol. VII, No. 2, October, 1962, pp. 106-118.

27. For an interesting discussion of the psychology of wage rate determination in poor countries, see John E. Moes, "Surplus Labour and the Wage Level : Implications for General Wage Theory," *Indian Economic Review*, Vol. IV, No. 4, August, 1959, pp. 110 and 115.

28. See, for example, Alfred Bonne : *Op. cit.*, p. 182.

29. U. Tun Wai, "Interest Rates Outside the Organised Money Markets of Underdeveloped Countries," *Staff Papers of the International Monetary Fund*, Vol. VI, 1957-58, pp. 102 and 140.



per cent.<sup>30</sup> It is the administration, risk and monopoly profit (usury) components of rural loans which raise the price of money to the farmer. If we were able to get rid of these charges over and above the reward for sacrificing liquidity, it would also be possible to cut the annual cost of bringing additional land into use by some significant amount. This in its turn would reduce rents everywhere in the way which we have shown. High rents and high interest rates are therefore inextricably bound together in those under-developed countries which have substantial opportunities for the development of the extensive margin of cultivation.<sup>31</sup> And as we have seen, these are certainly the great majority.

But how can we get the cost of borrowing down so as to facilitate the extension of the margin of cultivation. No reduction in the cost of lending to the tenant farmer can really be achieved without radical increases in his productive surplus over and above subsistence. Without this the lender cannot be confident that the borrower will be able to repay. The latter can therefore never borrow in the low interest, urban money market as long as he remains so big a risk. In these circumstances universally low rates of interest really depend upon economic growth itself.<sup>32</sup> But neither the incentives nor the surplus for investment in this growth will be available to the farmer while interest rates and rents remain so high. Such is the vicious circle.

This circle will not often be broken by the landlord class if it is left to itself. We have seen they must first be persuaded to use their legislative power to facilitate the migration of their tenants to the extensive margin. They should begin to look upon this as a possible alternative to the long and costly struggle against land reform. Landlords are unlikely to want to develop the extensive margin themselves. Tenants may not move even where rents are much lower: they want to own the land they work. Moreover, we have shown that clearing costs may only be economically low where peasants are creating a farm each for themselves alone. Thus it is that the larger developer will often find that his investment is unprofitable and that the margin of cultivation may only be extended if peasant proprietor land settlement is facilitated. This means that a government must provide the means of access to the virgin lands, and that it must extend some low cost credit while the early settlers are clearing their terrain.

If loans are made available to colonizing tenants at 10 per cent instead of 40 per cent, the annual cost of bringing more land into use can be substantially

30. See, for example, Rajinder Singh Johar, "Cost of Capital Issues in India," *Indian Journal of Economics*, Vol. XLI, No. 162, January, 1961, pp. 241-248.

31. In the Philippines, for example, farmers who owned no land paid an average of 61 per cent a year on borrowed money, as against only 40 per cent paid by those farmers who owned part of the terrain which they worked. See Jose P. Gapud, "Financing Lowland Rice Farming in Selected Barrios of Munoz, Nueva Ecija," *Economic Research Journal*, Vol. VI, September, 1959, pp. 79-80. The latter's total rent bill can be assumed to be lower than the former's. Thus the part-owner's greater surplus after rent has been paid, no doubt, accounts for much of the difference in these interest charges. It is also significant that the United Nations' report on Land Reform, *Op. cit.*, p. 48 found that "high rents and high interest rates... usually occur in conjunction ....," but drew no conclusions therefrom.

32. The writer has explained in detail the relationship between rural growth and the rate of interest in a series of papers on the administrative, risk, monopoly, and pure components of that rural rate. These articles have appeared in the *Oxford Economic Papers*, Vol. 15, No. 2, June, 1963 and Vol. 17, No. 1, March, 1965; *Quarterly Journal of Economics*, Vol. LXXVII, No. 4, November, 1963; *Journal of Farm Economics*, Vol. 46, No. 2, May, 1964; and the *Review of Economics and Statistics*, Vol. XLVI, No. 3, August, 1964.

reduced. Given the necessary access roads, or other vital changes, the margin of cultivation can be extended rapidly where colonizing capital costs less and can be more easily obtained. Rents will everywhere begin to fall and tenant farmers' surpluses will be correspondingly increased. They will then be able to borrow on ever better terms. Still more capital will become available to them to improve their existing lands as well as further colonize the new. The fruits of their labour will no longer be channelled into covering the costs of an inefficient moneylending system and/or the pockets of profligate landlords. Low interest rates for a rapid extension of the margin of cultivation, where large tracts of under-or unutilized land exist, may therefore constitute the key to providing the sort of environment in which both the means and the incentives for economic growth can more easily appear.

#### CONCLUSIONS

We have seen that an extension of the margin of cultivation may be expected to reduce rents everywhere. We have also seen that such reductions can provide the means and the incentives for dramatic increases in per hectare productivity in poor countries. These increases in their turn will generate substantial additions to the demand for industrial and other goods among the farming population. This last will allow even more farmers to seek a livelihood elsewhere, thus reducing the demand for land and rents still more. Such a process can be cumulative to the point at which rents reach some reasonably low level. Thereafter other forces for development will no doubt be well established.

To say all this is not to discount the difficulty of the problems to be solved. Nevertheless, it remains true that economic growth can be generated by a strategic extension of the margin of cultivation in many under-developed countries. We have described the sequence of events. The force for expansion which they create will depend upon the speed and efficiency with which the initial colonization efforts are put in train.