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"LAND REFORM AND THE AGRICULTURAL INCOME DISTRIBUTION"

by

Albert Berry

March 24, 1971

LAND REFORM AND THE AGRICULTURAL INCOME DISTRIBUTION[1]

This paper discusses some of the technical aspects of land reform with a view to better understanding its possible impact on income distribution, the main goal in many cases of land reform. The model used is designed to capture the main relevant features of LDC agricultural sectors, i.e. the different factor proportions typically characterizing farms of different sizes, different crop compositions and different home consumption ratios. It is argued that, while land redistribution may be expected to raise agricultural output in many cases, it may well worsen the distribution of income by lowering the demand for hired labor. The paper attempts to trace out the conditions under which this result would occur. There seems to have been a relative neglect in discussions of agrarian reform of the theoretical possibility and empirical evidence that certain types of reform may lead to a worsening of distribution.[2] No attempt is made to provide a general discussion of land reform,[3] so we come to no conclusion as to how frequent this phenomenon is likely to be.

To simplify, we assume an agricultural population made up of three distinct

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[1]I am indebted to Benjamin Cohen and Herman Daly for useful comments on an earlier draft of this paper.

[2]On the empirical side, the hypothesis has been put forward that the land reforms in several countries have lowered the wages of landless agricultural workers, and possibly worsened distribution in general. See for example, with respect to Chile, William Thiesenhusen, "Population Growth and Agricultural Employment in Latin America with some U.S. Comparisons", Land Tenure Center, University of Wisconsin mimeo, Feb., 1969.

[3]Thus such dynamic questions as the positive or negative impact on investment as a result of changes in the security of tenure for various groups, changes in average savings rates, and the creation of a rural middle-class which may lead to a better government and stronger community organizations are all disregarded. So is the all important political side which inevitably makes or breaks agrarian reforms by determining whether or not they can be more than token size operations.

groups--large landowners, small farmers (either owners or renters), and landless farmers. The analysis is directed primarily at the effects of various types and degrees of reform on the incomes of the landless workers and the small farmers. To do so it is necessary also to consider the output effects of the reform.

Land Reform in the Context of Perfect Markets

As a point in reference it should be remembered that with perfect markets for products and factors, and with constant returns to scale, factor proportions would be the same on large farms and small.[1] In fact, as long as there were no economies of scale, a perfect market for land would not be a necessary condition for this result - perfect markets for capital, labor, and management would suffice;[2] non-economic preferences by people to hold land and to farm their own land would not lead to inefficiencies or different modes of production (as long as there was no preference not to use the land in production). Land reform, by which would be meant simply the transferrence of ownership of land from one person to another, would imply the transferrence of capital and income from one person to another, therefore making the distribution of income from capital and hence overall income distribution more equal. Nothing more. Despite its unrealism, it may be useful to bear this case in mind to better understand the subsequent ones.

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[1] The presence of economies of scale in some crops would lead to larger farms specializing in them; the larger farms would as a result have different overall factor proportions from the smaller ones. For a given crop grown on both large and small farms no difference in proportions would occur.

[2] In the presence of economies of scale, and with a perfect land market, land would be rented in such a way as to be always operated in units of the optimal size.

Land Reform With An Imperfect Labor Market

In the context of a more realistic imperfect labor market model, the danger arises that even a well intentioned reform may lower the welfare of a possibly substantial group of people already at the bottom of the income distribution. To illustrate this possibility in a simple framework, we assume that there are two types of farms--large ones and small ones; both are owner-operated and they have access to the same technologies; we assume first that all farms produce the same crop. A third group, landless farmers[1], work on the large farms; the small operators and their families are assumed also to contribute to the labor force on the large farms. We do not discuss in detail the labor market mechanism by which the wage rate is set; as long as there is a relation (in the usual direction) between the demand for labor, the supply from small farms, and the wage rate[2], the general nature of our arguments is not altered.

In the pre-reform situation the large scale farmers earn, of course, the highest incomes, the small farmers lower ones, and the landless farmers the lowest of all. Land redistribution involves taking land from the large farmers and giving it either to the small farmers or the landless workers.

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[1] We assume here that the family is the relevant economic entity, so a man would not be considered as landless if his father had land, as long as they were part of the same consumption unit.

[2] Even if the wage rate has an institutionally defined minimum so that the pressures which would otherwise push it down lead to unemployment instead, the relevance of the analysis is unchanged.

In what follows we first outline in a qualitative sense the conditions under which some important subgroup of the population may be rendered worse off by the redistribution (after trying to include in the model the key features of the differences between small and large farms - with the exception of their different product composition); we then specify in a more quantative way the effects of certain variables (e.g. the amount of land redistributed) on changes in the income distribution; finally we present a more general equilibrium framework within which we relax the one-crop assumption and focus on the effects of expertal price changes on rural subgroups and the urban poor. The possibility of a fall in the incomes of the landless farmers (which are based solely on wages) is most obvious when the redistributed land goes to the small farmers[1] and their demand for hired workers is less, per unit of land, than was that of the large scale farmers. In such a case the demand curve for hired labor shifts[2] to the left and the wage rate falls, the fall being greater the less elastic the supply curve, i.e. the greater the difficulties the landless workers face in moving to some other sector. The redistribution of income is thus in favor of the small owners, and against the large landholders and wage earners. The greater the amount of land redistributed in this way, the greater

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[1] Frequently the people chosen to receive land are from the small farm sector; there is too little land to occupy everyone and to provide adequate incomes on the farms from which they come, and this group has some managerial experience, which may not be true of the laborers. Many political systems also favor this result since the small farmers are higher in the social structure and therefore more capable of making demands than the landless workers.

[2] If the marginal product of labor on the typical small farm is zero, for example, then an addition to the land operated by the family, up to the amount for which the marginal product of labor equalled the market wage level, would not lead to their hiring any non-family labor at all.

We discuss below the possibility that the small farm families may withdraw some of their members from the labor market.

the decrease in the average wage of the landless farmer.[1] If, under the same circumstances, the land goes to the laborers rather than to the small farmers, the distributional effect is clearly more favorable (abstracting from the possibility that the worker's lack of managerial talents may be so extreme as to prevent him from achieving an income equal to or above the wage rate). If the land each of these laborers received was equal to the land he (in effect) worked on before, then non-recipients would not be any worse off than before; if the parcels were larger, however, the same sort of negative effect as just discussed would come into play.

To get an idea of how probable it is that worker's incomes be lowered by land redistribution and the specific conditions leading to this result, it is necessary to make the model more realistic, in particular by dropping the assumption that large and small farmers operate in the same way, i.e. use the same amount of labor per acre and produce the same amount of output per acre. It is almost universally true that more labor is expended per acre on small units and more output is produced.[2] These relationships raise the possibility that a lowering of incomes of landless labor may not follow from a reform which gives the land to the small farmers.

Consider once again the case where land is parcelled to the small cultivators, who previously were small owners, tenants, or squatters (our results are not altered significantly by their previous tenure status). The impact of the land transfer on the wage rate will depend on whether the sum of labor hired by the new operator plus the amount that his family withdraws from the labor

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[1] We abstract in this discussion from the question of seasonality of labor demand which, with respect to the issue at hand, complicates the analysis without altering the conclusions.

[2] To my knowledge no country for which such calculations have been made is an exception; probably some regions with unusual characteristics are.

market is greater or less than the quantity previously hired on the large farms, all on a per acre basis. If it is greater the welfare of the wage-earner will rise; if it is less a fall will result. Clearly the more surplus labor there was in the small farm sector before the reform the less likely it is that this new owner will hire labor. He may however decrease the supply of his labor to large farms.

Suppose the typical subsistence farm before the reform can be represented as in Figure 1 by the marginal product of labor curve TL_3 and the total amount of family labor potentially available for use on the farm itself, OL_2. The relationship between the marginal product of labor curve on the original small farm and the amount of labor which is employed off that farm is described in Figure 1 by what we will call the "supply price of labor" curve. It gives the wage at which the marginal individual would work off the farm as a function of the number of people on the farm. (The ordinary supply curve of labor from the farm is the mirror image of this curve, i.e. it has the vertical line at L_2 as axis and increasing supplies are read off to the left of this origin). The wage figure used is assumed to be an "on the farm equivalent," i.e. if the man has special transportation or other costs associated with working off the family farm, this price is net of those costs. The curve SS', as drawn in Figure 1, reflects the assumption that farmers have a general preference, other things being equal, to work their own land so that the supply price of their labor off the farm is greater than its marginal productivity on their own farm. One would expect this relationship for two reasons: first, most people simply

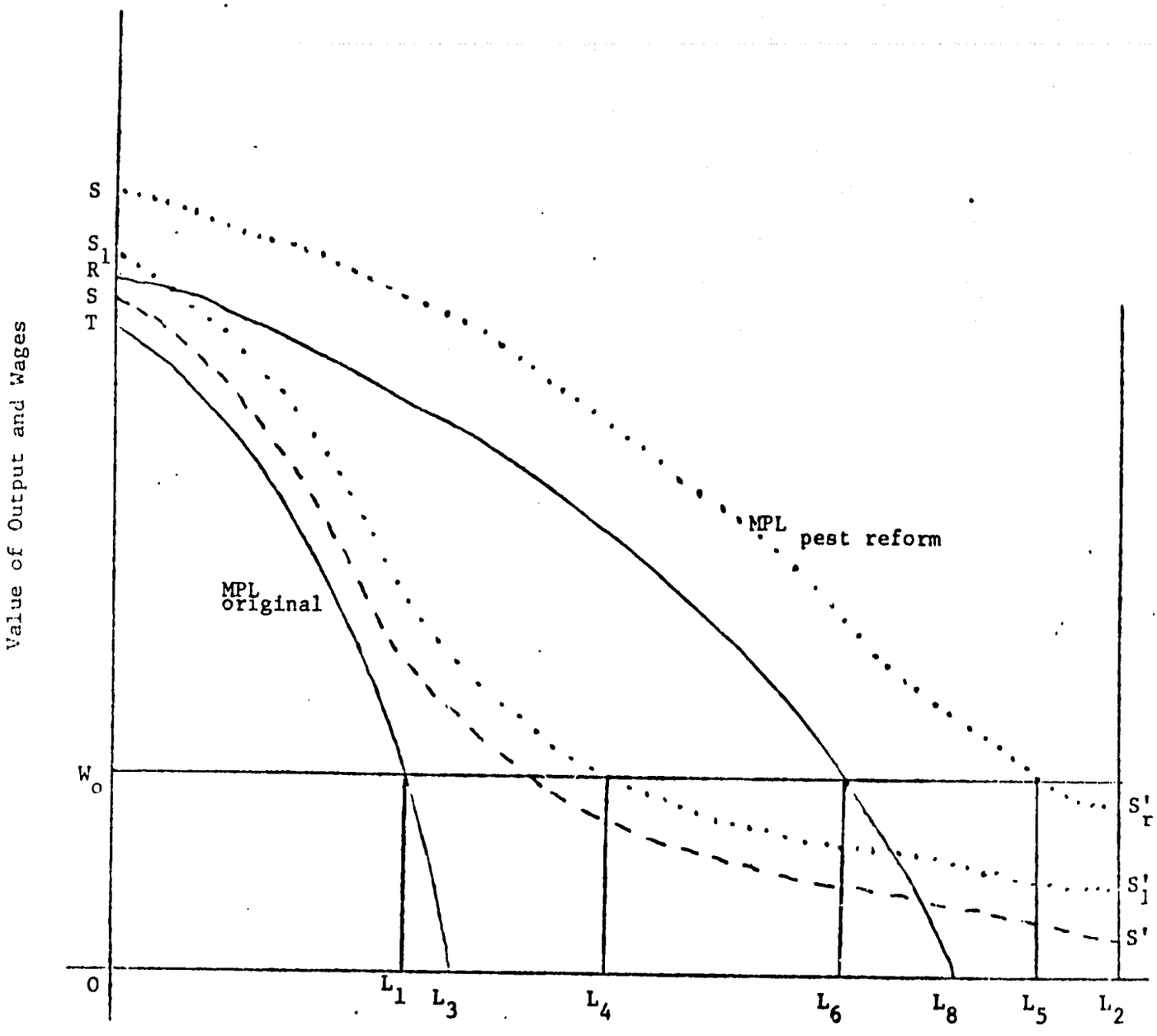
Value of Output and Wages
S
S1
R
S
T
MPL pest reform
MPL original
Wo
O
L1
L3
L4
L6
L8
L5
L2
S'r
S'1
S'
Labor

Figure 1

prefer to work on their own land; second, someone who does not work his land has to rent it out and land market imperfections are likely to prevent his receiving a rent equal to the rate of return he could attain by farming himself, partly due to his own extra familiarity with and interest in his land. The relationship suggested may be less true for a man's children, brothers, etc. than for himself, so whether the part of the supply price curve farther to the right is as shown here may be more in doubt.[1] The position of the curve corresponding to those workers for whom the marginal productivity of labor on the farm is below the current wage rate is a much discussed question involving the nature of family decision making, psychology, etc. There is no question that the empirical evidence from many countries indicates that people work on their own land for marginal returns below the going wage rate. Whether (or to what extent) this is due to (a) a failure to maximize family earnings, (b) transportation or other added costs involved in working off the family farm or (c) the fact that the wage rate does not indicate the price at which another person could if he wished obtain employment is not yet clear. Even if the marginal members of the farm household (i.e. non-managers) could not add to the farm's output, there are reasons to doubt that their supply price would approach zero.[2] For example, women and children who do work on the

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[1]The difference in supply price to non-agricultural pursuits between owner and other members of the family -- a rather related difference -- has been estimated for Japan by Masui. (See Yukio Masui, "The Supply Price of Labor: Farm Family Workers" in Kazushi Ohkawa, Bruce F. Johnston and Hiromitsu Kaneda, editors, Agriculture and Economic Growth: Japan's Experience, Princeton University Press and University of Tokyo Press, 1970).

[2]The desire to work one's own land and comparative advantage in doing so would presumably be less for this group than for the operator.

farm would often not work elsewhere for institutional reasons. Sometimes (e.g. Japan) women and children completely manage the home plot while men work in towns; this possibility depends, of course, on the nature of the work on the farm. Further, to the extent that the decision to work outside is more an individual than a family one, - e.g. where the individual who works elsewhere does not receive much or any support from the family - workers may not leave unless their income would be as great as or greater than they are receiving on the farm itself; this level may normally be expected to lie between subsistence and the average income per capita on that farm. Although on balance these factors suggest that the supply curve to the right of L_3 would be above zero even if marginal productivity were not, it seems also reasonable to assume that it will be sloping downward toward the horizontal axis, since whatever reasons impede people from working on other farms are likely to be less and less influential as the number of people on the small plot rises.[1]

Since the costs of communication, transportation, being away from home, etc. presumably create a gap between the supply price the person would require if he could work on his own farm and the supply price he would have to receive to work elsewhere, the evidence that people work on their own land for returns below the wage rate is not conclusive proof that their supply price as defined

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[1] The argument, implicit or explicit in various labor surplus models, that people will work elsewhere only when the wage rate equals the average productivity on the family farm would lead to this result since this average productivity is a declining function of the number of family members on the given area.

in SS' of Figure 1 is below the wage rate. This gap depends on the case; when large farms and small farms are in a symbiotic relationship, and especially when the land which constitutes the small farm was made available by the large landowner precisely with a view to tying down what is basically hired labor[1], it may not be present. But looking at a country as a whole, it need only be present in some cases for its presence to explain part of the use of low productivity labor on own farms. For the moment we assume that this differential is a constant, i.e. does not depend on the extent of surplus labor on a given farm or on other variables included in the discussion; adding the constant to the SS' curve gives us a new higher supply price curve (S_1S_1') indicating the wage which would have to be actually paid to get family members to work elsewhere. Thus the number of people from the representative farm described by Figure 1 who would wish to work elsewhere for a wage of OW_o is L_4L_2. This would leave OL_4 working on the farm itself.

When the small scale farmer becomes the operator of a larger farm[2] he must reconsider how much family labor should be used on the farm[3], whether some

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[1] A fairly typical relation in several Latin countries, e.g., Colombia.

[2] We abstract here from the problems associated with the fact that the farmer will frequently not be receiving more land contiguous with that which he had before but rather a separate plot. If, on receiving the new plot, he gives up the land he was on before, then it will probably go to small farmers who have not received land in the reform, thus making them better off. Or laborers, whose wages are forced down by the reform, may get it. This last result is the most favorable to the previously landless workers, and could alter the results presented in the text.

[3] Or he and the individual family members must each make their own decisions, if that is the way things are done.

should work elsewhere, and whether any outside labor needs to be hired. Suppose, as an illustration, that the new larger farm has the marginal product of labor curve RL_8 of Figure 1. There is now a new supply price of labor curve (giving the supply price to the hiring farm, i.e. replacing the previous curve, S_1S_1') for this family; we assume here that the relationship of the new one, S_rS_r', to the new MPL curve is the same as the original relationship between the same two curves; in terms of Figure 1, the reform would lead to a fall in labor supply to the larger farms from L_4L_2 to L_5L_2. The impact of this land transfer on the landless farmers will be positive if the difference $L_4L_2 - L_5L_2$ is greater than the amount of labor previously hired and applied to the transferred land. If the extent of surplus labor on the small farm had originally been less, the family would now supply nothing to the labor market, and if the labor available had been less than OL_6, it would now be hiring.

As long as the small operator who receives more land either withdraws some family labor from other farms or hires some labor himself, there is the possibility that the equilibrium wage rate will not fall. One factor likely to work in this direction is the difference in technology and crop composition between large and small farms; as mentioned above, small farms tend to use more labor intensive technologies and produce more per unit of land than large ones.[1]

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[1]This difference depends on differences in the sort of product produced, the extent of absenteeism on the large farms with corresponding managerial inefficiency, economies of scale, and a series of other factors. For an interesting interpretation of the difference see John W. Mellor, "Family Labor in Agricultural Development" Journal of Farm Economics, Vol. 45, No. 3, August, 1963. An interesting discussion is also found in Peter Dorner "Land Tenure, Income Distribution and Productivity Interactions" Land Economics, Vol. 40, August, 1964.

The situation on any given acre may be represented as in Figure 2, where the marginal product of labor curve corresponding to an acre on the large farm is below and steeper than that of the smaller farm.[1] With a wage of OW_o the large farm would use OL_o of labor per acre and the small farm would use OL_1.

Whether the landless farmers are hurt or not depends, as noted above, on whether the increase in total labor use (on all farms together) as a result of the transfer of this unit of land is greater or less than the increased use of labor of the family which receives the land (on their own and other people's land). One might guess that the apparently negative effects of some land reforms on real wages have resulted from a substantial surplus of labor on the small farms[1] and a tendency for the supply price of labor to other farms to be well above the marginal productivity on the home farm for smaller numbers of workers but less so for larger ones. This might be the case if, for example, the gap for the first few workers resulted from the farm-

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[1] For our purposes it is not necessary to make precise the reason why small farms usually produce more output per acre than large ones. It could be, for example, that the MPL curve is not really lower on the large farm (given the context of its operation) but that the major factor is that it hires labor only to the point, (or perhaps short of it) where its marginal productivity equals the wage rate, while the small farm goes beyond it. We chose the representation of Figure 2 because much impressionistic evidence suggests that the large farm frequently does not have available to it the labor-intensive alternatives used by the smaller farm, perhaps because of organizational problems which would go with those alternatives, or perhaps because they are especially suitable to products which do not have big markets (and when produced on the small farm are also consumed there).

[2] Note that there may be a tendency to favor households with large families as recipients of land, on grounds of need. This will work to the disadvantage of the landless workers, as pointed out to me by Herman Daly.

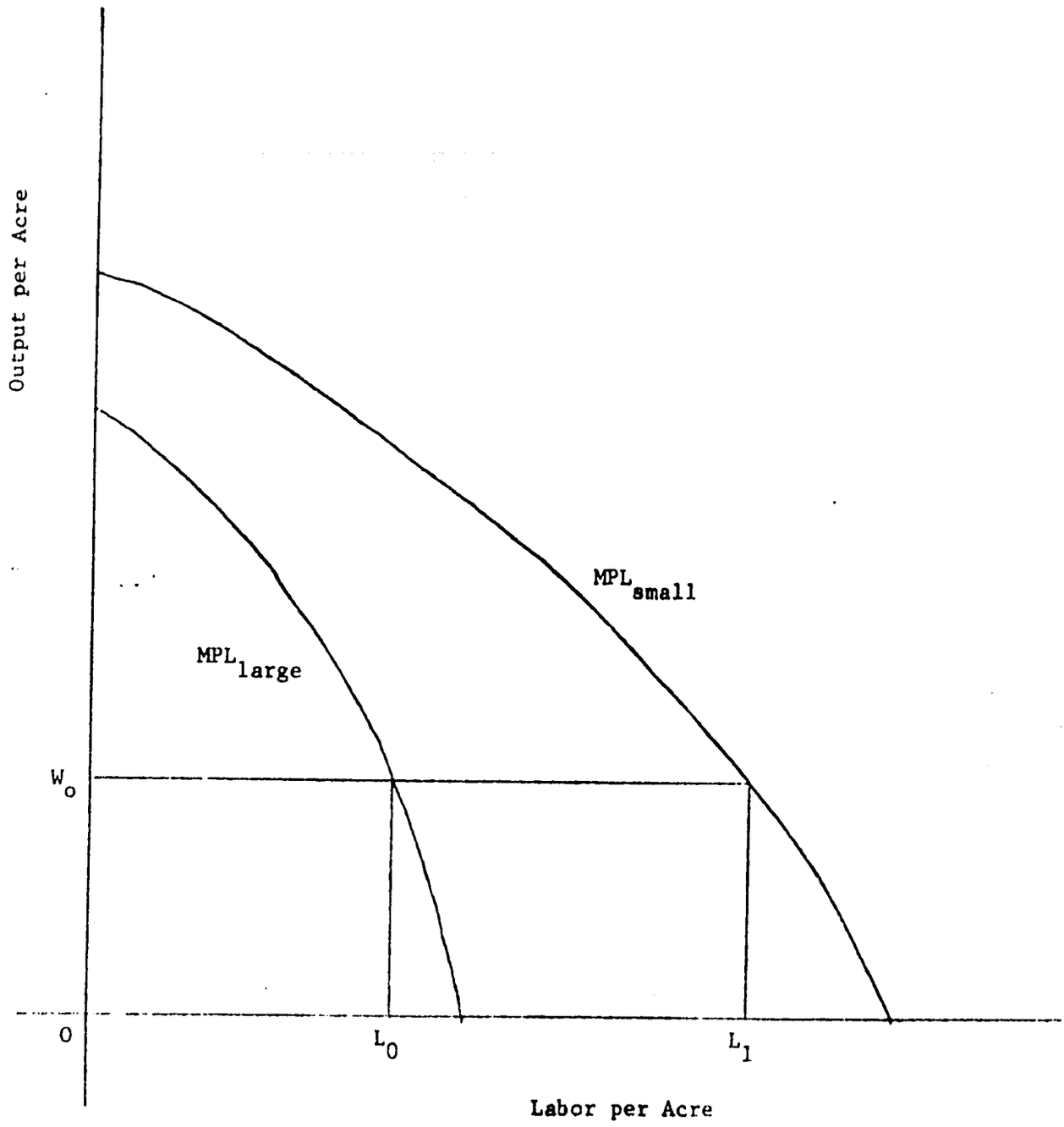

Figure 2

er's preference to work on his own land and the difficulties for his wife and some of his children elsewhere, while there were fewer problems in having his grown sons work elsewhere. Given this situation, it is possible that the supply of labor to other farms would not decrease much when the change of farm size occurs. In the perhaps extreme case where the labor he was applying to his smaller farm satisfies his needs for labor on the new larger farm, then his family will continue to supply as much labor to the large scale farm sector as before. On the other hand, few reforms are such that the land recipient need hire many non-family workers in his new situation. Thus any positive impact on the income of the landless farmer must work through a decrease in the total labor supply to the large farms via withdrawal of family labor from that market.

The final impact on the landless farmers can be either positive or negative. The greater the surplus labor on the small farms before the redistribution, the less the mobility of landless workers out of agriculture, and the less the difference in labor applied per unit of land between small and large farms, the greater is the chance that wage rate will fall. Another relevant variable is the size of the unit in which the farms are given out; we consider it in more detail presently.

To summarize: in the model just discussed, redistribution increases total output, decreases the income of the high income group, increases that of the middle income group, (because some families have more land, and possibly also because some of the land they were working on before may have gone to other

small farmers), and may either lower or raise that of the landless farmers.

The danger of a negative impact on a substantial number of people is, of course, less when the redistribution is to previously landless farmers. Probably the major danger here would be a distribution in units larger than the amount the representative laborer worked on before the reform. This could make non-recipients worse off, as we see in more detail below.

Income Effects on Landless Workers as a Function of the Size of Plot

In both of the two simple models discussed above, the impact of the amount of land distribution, given the size of parcel handed out, is fairly straightforward. The way in which the results depend on the size of plot distributed is less obvious; we turn now to that question.

Consider first a simple "benchmark" case where only small farmers receive land, and each receives the same amount of land, and that amount is such that the large landowners are left with none (or alternatively each is left with this new standard parcel), i.e. if there are n small cultivators each one receives 1/n of the total land taken from the large landholders. If, having received that amount of land each farmer wished at the existing wage rate to hire a smaller amount of outside labor per acre than was previously used the reform would lead to a lower equilibrium wage. Meanwhile the high incomes of the ex-large landowners have disappeared and the small farmers are better off than before. And if the small farms use sufficiently more labor than the large ones so that they also hire more, the equilibrium wage rises. If the redistribution were incomplete, the wage rate would change in the directions just

indicated but not as far.

Note that if the size of the plots handed out is larger than A/n (where A is the total land expropriated from large farmers) not all of the small farmers get more land. It is clear that where all land is parcelled out the equilibrium wage rate would not be positive unless the typical new plot were large enough so that the marginal productivity of the amount of family labor available were positive.[1] For larger plots than this, the decrease in the wage rate would be smaller the larger the plots as long as the labor used per acre is not a decreasing function of farm size, i.e. as long as MPL on the new plots is a function only of the labor/land ratio and not of their size. With this assumption the possibility arises that if the parcelling out occurs in large enough plots the wage rate will actually increase in a situation where distribution in small plots would have led to a decrease. No generalizations are possible, since the issue involves the effect of the land reform on the marginal product of labor curve, something we know little about;[2] most likely,

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[1] We abstract here from both the possibility that a positive disutility of work would lead the family to hire labor although physically it could supply enough to lower the marginal productivity to zero, and the possibility that family members will migrate to other sectors of the economy when the agricultural wage rate gets low enough. Both can be easily allowed for.

[2] In part the question is whether the position of this curve is more a function of the size of the farm itself, or of the origin of the person doing the managing. The marginal productivity of labor curve may be higher after the reform because the large scale operators did not know anything about agriculture, and/or were absentees, or because they could not oversee an intensive agricultural operation. The ex-small farmers may be able to oversee a more substantial operation especially when the basic issue is whether a person is on the farm or not. On the other hand, to the extent that the tendency to use much labor and achieve very high output per acre results from high need, when the previously subsistence farmer has a substantial amount of land he may not be prepared to oversee enough labor to get the same yields per acre as he had on the smaller plot.

though, the beneficiary will produce somewhat more per acre than the large farmer but will find it convenient to substitute capital for labor, and hence will not have as high a man/land ratio after the reform as before. The latter effect may be immediate, especially if the reform makes capital available along with the land, or gradual if the farmer must accumulate it himself. If the effect is strong, it is improbable that any land redistribution which would not raise the wage rate in the case of equal distribution of all the land among these ex-small owners would do so if the parcels were larger.

The relation between plot size and changes in the wage rate is complex. For example, it is possible that distribution in small plots would lower the wage rate, distribution in medium sized plots would raise it, and distribution in still larger ones would lower it. (The second dividing line would be related to the systematic application of machinery and similar labor saving devices). Figure 3 illustrates this possibility and presents a simple graphic method of describing a variety of cases. Size of new farm and labor input are measured, respectively, on the horizontal and vertical axes. A fixed labor (all hired) to land ratio is assumed for the large farms, so total labor applied is a linear function of the number of acres (curve OL). OF and OA represent, respectively, total and family labor applied on small farms as a function of size. The concavity of curve OF reflects the assumption that the labor/land ratio is a decreasing function of size. Oa is the total amount of family labor avilable, all of which is applied to the home farm when its size is equal to or above Ob acreas. Oc is the amount of family labor originally supplied to large farms and the curve OR presents the relation between this amount and

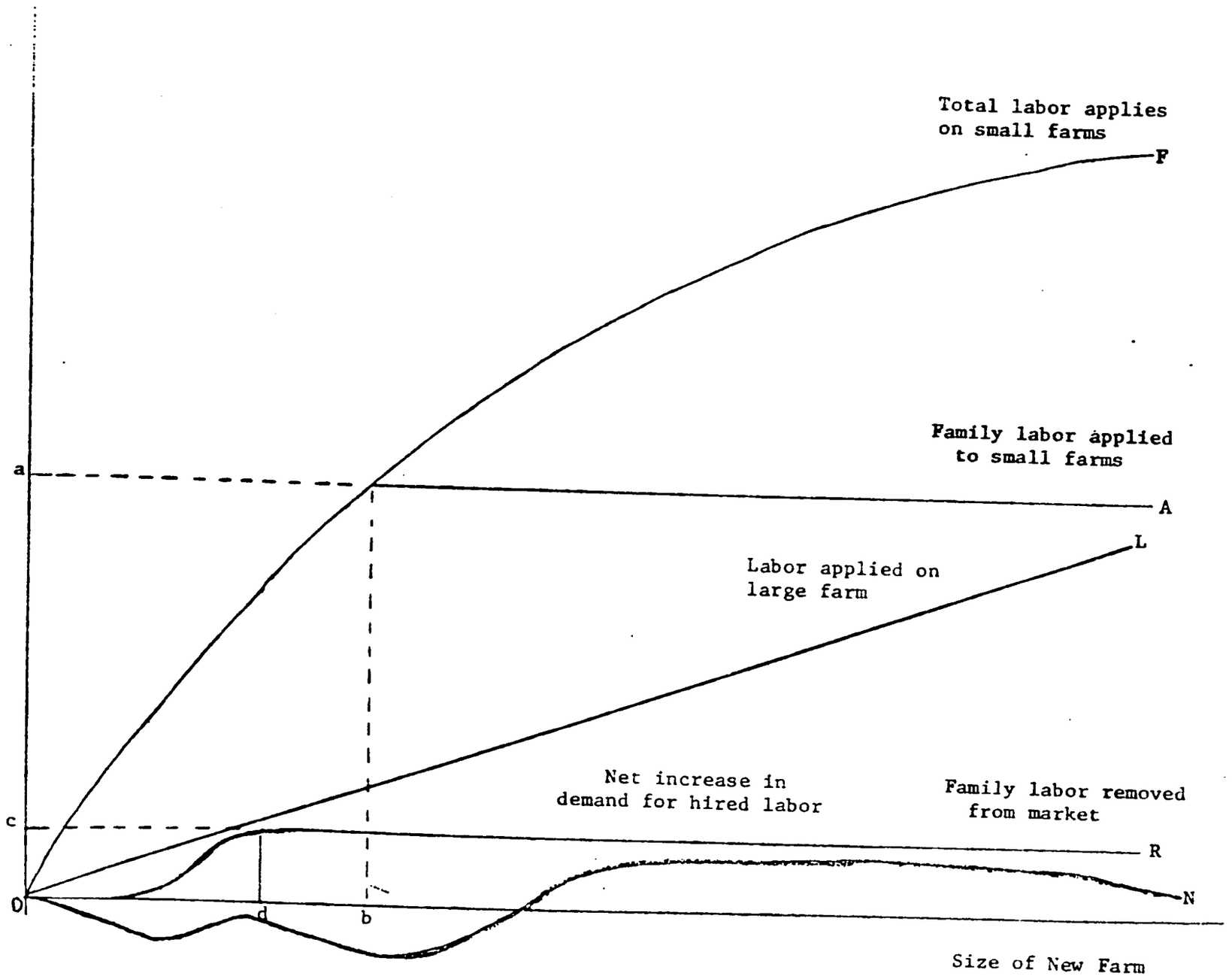
Total labor applies
on small farms
F
Family labor applied
to small farms
a
A
L
Labor applied on
large farm
Net increase in
demand for hired labor
Family labor removed
from market
c
R
0
d
b
N
Size of New Farm

Figure 5

the new farm size. When this size reaches Od acres, no labor is being supplied off the farm. The curve OM shows, as a function of the size of new farm, the net impact of the land transfer on the demand for the services of landless workers; that impact is given by the labor demand of the new farm (OF-OA) plus the labor removed from the market by the small farm families (OR) minus the decreased demand of large farms (OL). As suggested above, many factors go into the determination of the relationships pictured in Figure 3; some of these have been mentioned but many more would have to be taken into account for a complete picture.

The above discussion can be applied with straightforward modifications to the situation where the redistributed land goes to landless farmers; it remains probable that, if average plot size is above A/n, a lowering of the wage rate for those still in the labor market will occur. Where redistribution is partly to small farmers and partly to wage earners the analysis is not much complicated.[1] If there is a tendency for small farmers to receive land first, then the early stages of the reform may lower the welfare of the landless workers, but when they start to receive land their situation will, of course, be improved.

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[1]The impact on the wage rate will depend on the proportions in which they are chosen, partly since, other things being equal, the wage rate effect of redistribution will be more positive when the landless farmers get the land, but also because these two groups may differ fairly systematically in the amount of hired labor they use on their new plots.

Land Reform in a More General Equilibrium Context: Changes in Crop Composition and in the Marketed Surplus

The potentially negative effect (on landless workers) of land reform discussed above resulted from the impact of the reform on the demand for labor in the agricultural sector; since the analysis was partial, it remains to ask whether this effect might be offset by indirect but positive ones (e.g. a migration of this group to urban occupations without loss of income) or accentuated by other negative effects.

We have so far implicitly assumed that any differences in the composition of output by size of farm are not important for the analysis; we now modify that assumption to take account of the well-known facts that small farms normally have a higher share of their output in crops for home consumption and specialize in somewhat different crops than do large farms. As a result of the first characteristic situations can arise in which the marketed surplus (quantity of products sold to the rest of the economy) decreases although total output rises. Whether this happens depends, among other things, on the land recipients' income elasticity of demand for food; if output were to stay constant it would be almost certain that the marketed surplus would decrease; since output may be expected to increase under most circumstances, the effect on the marketable su plus is unpredictable.

If the reform leads to a change in total marketable surplus, some prices must change. If the surplus increases, one effect will be a negative impact on small farmers who have not received land but who sell produce competitive

with that of the reform beneficiaries. Price declines may even mean that the recipients of the land themselves will benefit little or not at all, (theoretically they could lose[1]); in general their gains are likely to be less than expected. The income effects of the reform, and their relation to its extent, will thus be much less simple than suggested by the partial analysis presented above.[2] Any direct negative impact on the landless workers may be either lessened or increased via the production impact of the reform. A lower monetary wage is not inconsistent with a higher real wage for those whose consumption bundle involves basic food products whose prices have fallen.

Perhaps the major relevance of the size of the marketed surplus lies in its role as a determinant of the real income of the poorer urban groups; a decrease in the surplus would have a negative impact on the urban poor and be associated with a positive effect on the rural poor. If we assume that these are distinct groups, the net welfare effect of the decrease in surplus could be ambiguous. Since there may be substantial migration from one group to the other, this assumption might not be a good one. Although a decrease in marketed

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[1] This would occur if the elasticity of demand for the crops was sufficiently below one to offset the fact that some of the increased output benefits the farm family directly via home consumption, this positive effect being greater the greater is the price elasticity of demand for these goods by the family itself.

[2] For example, there might be a level of the reform for which prices would not fall significantly and for which the major impact is the positive one on the recipients of the new land; with further redistribution the recipients as a whole might be better off than before but those who have not received more land worse off; finally even the group of land recipients as a whole may be worse off than before.

surplus due to land redistribution is mentioned frequently in the literature (as a theory based prediction), the sort of decrease which would harm the urban poor is less likely. As noted above, a change in composition of output is likely to accompany the change in land distribution, since small farmers produce more subsistence type crops for home consumption; apart from this, there may also be a systematic difference in the type of crop sold. Large farms tend to concentrate on "commercial" crops, while small farms often produce most of the food products, especially those entering heavily in the diet of the urban poor.[1] It would seem likely that the composition of the marketed surplus of the small farm would at least correspond more to the composition of demand of the low income urban dweller than would the marketed surplus of the large farm. Under this circumstance the urban poor might become better off in the face of a decrease in the marketed surplus since the prices of the food items they consume could fall. A further aspect of the phenomenon is that when the cost of food falls in the urban areas, the real wage employers can pay in terms of industrial goods goes down, so the employment outlook there may improve and some of the direct or indirect beneficiaries may be lower income people from the rural areas. If such an effect is important, then a full analysis is sure to become quite complicated, and a very "general equilibrium" understanding is necessary before one can predict the final impact even on this group.

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[1] In Colombia, for example, the large farms concentrate on cotton, rice, sugar, etc. and the small ones on potatoes, yuca, corn, and the like.

Conclusions

In the context of a simple three group models (large farmers, small farmers, landless farmers) we have outlined some of the determinants of how land redistribution may be expected to affect income distribution - in particular how it will affect the incomes of landless workers (through the agricultural wage rate), and of the land recipients. The fact that a wage decrease is a definite theoretical possibility (and which a number of observers believe has occurred in certain countries) suggests a need, in the design of reforms, for more careful thinking about distribution implications. Otherwise, given the all too numerous biases of any system against improvements in distribution, it may be expected that a series of reforms will go awry for "technical" reasons, to match the series which go awry for political reasons. This may leave few successes.

Indirect effects, both positive and negative, need also be analyzed, especially those related to the price of marketed products. No generalizations emerge from their consideration, but rather the need for much information about an individual case before predicting the overall impact of a reform.

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