

Prospects and Strategies for Land Reform

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Redistributive land reform may promote both equity and efficiency. Implementing such reform can be costly, however, and may not be the best way to achieve redistribution. If land redistribution is to be implemented, it should be based on a uniform land ceiling that can be exceeded if landowners are willing to pay a high enough price to do so. Owners of redistributed land should be permitted to rent out their land. Sales of redistributed land should however be restricted though not banned: sales that respect the land ceiling should be permitted and a government body should be empowered to buy back land from those who need to sell. Land reform programs should be accompanied by agricultural extension and emergency income support programs. Where traditional (coercive) land reform is not possible, market-assisted reforms and tenancy reforms can be considered, but while they are easier to implement, they have important disadvantages.

Writing on a topic with as much emotional resonance as land reform is difficult. It is made all the more difficult by the multiple meanings of the term, from land reclamation to reforestation to a host of policy actions that affect land. To make the task more manageable, this analysis will limit *land reform* to its narrow definition of redistributing land to the rural poor. But even in this circumscribed definition, the case for land reform is multifaceted. And how we make the case influences what we think should be appropriate policy.

The case for land reform rests on two distinct arguments: first, that a more equitable distribution of land is desirable and, second, that achieving more equitable distribution is worthwhile even after a careful consideration of the costs associated with redistributing land and the alternative uses to which the resources could have been put. Each of these arguments is explored in turn.

The Case for More Equitable Land Distribution

At the heart of the argument for more equitable land distribution is the observation that small farms in developing countries tend to be more productive than larger farms. Evidence for this relationship between size and productivity dates back to the 1940s and 1950s for India.¹ Berry and Cline (1979) summarize more recent evidence from a range of countries in Asia and Latin America (see also the many studies cited in Binswanger, Deininger, and Squire 1995).

The magnitude of the productivity difference is substantial. In Punjab, Pakistan, productivity on the largest farms (as measured by value added per unit of land) is less than 40 percent that on the second smallest size group, while in Muda, Malaysia, productivity on the largest farms is just two-thirds that on the second smallest size farms.² In the semi-arid region of India, profit-to-wealth ratios are at least twice as high on the smallest farms as on the largest farms (Rosenzweig and Binswanger 1993).

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Scale Effects in Agriculture

Scale affects agricultural productivity in several ways. Technological factors appear to cause increasing returns to scale. Incentive effects tend to cause decreasing returns to scale.

SOURCES OF INCREASING RETURNS. From a purely technological point of view, the bias in agriculture is, if anything, toward increasing returns. It takes a certain minimum amount of land to make full use of a tractor or a harvester combine; even a draught team can be underused if there is too little land. Increasing returns may also emerge at the processing or marketing stage. Sugarcane crushers, for example, are large (it takes thousands of acres of sugarcane to keep a single crusher fully employed), thus giving large plantations an obvious advantage. Tea requires special marketing skills, which small farmers might have difficulty acquiring.

Some of the disadvantages of small size can be mitigated by clever contracting arrangements or better institutional design. The rental market for farm machinery and bullock teams, for example, allows small farmers to take advantage of better technologies without having to purchase them. Cooperatives allow sugar farmers to own crushers collectively, spreading the cost among many farmers. Contract farming, in which a single marketing organization contracts to purchase and market products from a large number of farmers, has been used in the fruit industry to allow farmers to take advantage of increasing returns in marketing.

On balance, however, small size probably remains a handicap, especially because the effectiveness of these alternative arrangements tends to be limited by agency problems and other transactions costs (see Banerjee and others 1998). Compounding the technological advantages of large farms is the fact that larger farms tend to have better access to credit and other inputs, partly because of increasing returns in lending. Larger farmers are also often able to capture more than a proportionate share of inputs that are politically regulated.³

Another potential source of increasing returns is occupational choice. It seems reasonable to assume that the more technologically savvy or talented farmers will want to work with more land. Other things being equal then, larger plots ought to be more productive than smaller plots (Lucas 1978). The extent of increasing returns from this source should, however, be much more limited in agriculture than in most other industries, for two reasons. First, the pace of technological change in agriculture tends to be slow, and a substantial fraction of new technologies are both developed and promoted through public extension systems. Second, talent is probably less important for success in agriculture (at least in areas in which cultivation has a long history) than in most other industries

SOURCES OF DECREASING RETURNS. Incentive problems loom large in agriculture: by its very nature, agricultural work resists supervision. People work alone and at some distance from others. The work, while usually straightforward, often demands care and attention.

A potential source of decreasing returns is the fact that larger farms hire labor whereas smaller farms tend to be farmed by family members. Hired labor will be less productive than family labor unless it is effectively supervised (which may be very costly) or given the right incentives.

Agency theory helps us identify the conditions under which hired labor will face weaker incentives than those (implicitly) faced by family labor. A simple example is a situation in which there is a limit to how little someone can be left with. This limit could be physical (one cannot take away what someone does not have), social (most societies do not allow bonded labor, for

example), or imposed by what is enforceable. Forcing tenants to give up more than this limit may be counterproductive—they may rebel or run away, making it costly to collect what they owe.

Such a limit sets a lower bound on how effectively a farm laborer can be punished for failure. Of course, workers could still be provided with the right incentives by offering them rewards for success, but rewards cost money. A rational landowner may choose to offer only a small reward in order to avoid having to pay it, settling instead for lower productivity.

This argument can be rephrased as follows: Ideally, landowners would like to sell hired laborers the right to be residuals (in other words, they would prefer fixed-rent tenants). The problem is that at the beginning of the season tenants are too poor to pay the rent landowners would like to charge. The alternative for landowners is to wait until after production, when tenants will have more money (at least on average). But production is uncertain; when crops fail, landowners still face the limit on how much they can collect from their tenants. This limit will set the bound on the fixed rent they can charge (for a fixed rent to be meaningful, tenants have to be able to pay it even when their crops fail). If this lower bound is low enough, the landowners may not want a fixed rent; they would be better off charging their tenants more when the crop does well (and tenants are able to pay more) than when it fails. What emerges is a version of sharecropping, a contract by which landowners impose what is, in effect, a tax on their tenants' output. Tenants will react by putting less effort into production, and productivity will be lower than on smaller farms that use only family labor. (For a theory of sharecropping along these lines, see Banerjee, Gertler, and Ghatak 1998.)

Thinking about the problem of incentives in this way makes it clear that the problem is not a missing market for credit or land. The landowner in our example has the option of offering the tenant a loan that the tenant could use to pay the rent. Providing credit simply shifts the problem from one of collecting rent to one of collecting on a loan, however. Unless limits on loans differ from limits on rents, the same limit on how much can be extracted from the tenant that made the rent contract unprofitable will now make the loan unprofitable.

Land markets do not help for much the same reason. In this model, landowners would like to sell their land to their tenants. The problem is that the price the tenants can afford is too low. Landowners could lend their tenants the money to buy the land, but they would then face the problem of collecting on the loan.

Agency problems can also arise in the absence of constraints on how much people can be made to pay. From the point of view of incentives, the ideal situation occurs when the tenant or laborer becomes the residual claimant. Unfortunately, this also means that tenants bear all the risk. If they are risk averse, they may not want to take on all of the risk, preferring to share the risk with landowners. As a result, it will be in both tenants' and landowners' interests to move away from a fixed-rent contract toward risk-sharing and lower incentives. (For a model of share tenancy based on these ideas, see Stiglitz 1974.)

Do these theories support the case for land reform? The two views of the agency problem seem superficially similar but are in fact quite different. In the first model, the size-productivity relationship is a direct consequence of the fact that owner farmers (who are the ones who crop small farms) face very different incentives from tenant farmers or hired laborers (who crop large farms). Landowners in this model are not doing anything useful; doing away with them thus has clear benefits and no costs.

In the second, risk aversion-based, model, landowners are indeed useful—they are acting as insurers to their tenants. To generate a size-productivity relation in this model, we need to assume that the demand for insurance (generated by the extent of risk aversion) varies among

farmers. Owner farmers clearly tolerate much more risk than tenant farmers; we need to explain why they are prepared to do so. One explanation is that owner farmers and tenant farmers have different characteristics. Owner farmers are those who are willing to accept more risk in return for higher returns; tenant farmers settle for the relative safety of working for somebody else. (See Kihlstrom and Laffont 1979 or Kanbur 1979 for theories of entrepreneurship based on these considerations.) A second explanation recognizes the endogeneity of risk aversion, positing that owner farmers are those who happen to own some land and are therefore less risk averse.

The two versions of the risk aversion-based model have quite different implications for the effect of land reforms on productivity. Under the first, purely selection-based, view, land reform should not affect erstwhile tenants' incentives. Like the previous landowners, the new owners will simply find someone with whom to share risk and returns; productivity will be unchanged. Under the second view, the new owners will be richer after land reform and therefore willing to take on more risk. Productivity will therefore rise.

It is important to emphasize that in all of these agency models, the incentive effect of redistribution occurs because land reform increases tenants' net worth. Incentives improve because tenants are richer, and it is easier to give incentives to richer tenants. *Any other way of making tenants richer could work just as well as redistributing land.* The fact that former tenants actually own the land after land reform is, in some sense, beside the point.

OWNERSHIP EFFECTS. In the world of complete contracts we have been describing, ownership, in itself, has no incentive effect; some contractual incompleteness is necessary if there is to be a pure ownership effect. To see how that might work, consider the following rather commonsense variant on the agency story. Imagine that the input the agent chooses is not immediately useful, as we have been assuming, but pays off only after some time. Tenants who expect to be on the land for only a year or two would not purchase that input unless they were paid to do so by the landowner.⁴ If the investment is difficult to contract—caring for a pump set, for example, keeping a well clean, not over-watering the land—the fact that tenants lack security of tenure will clearly affect their incentive to invest. The landowner could, of course, promise the tenant long-term tenure on the land. But without a legal system effective enough to enforce long-term contracts that specify both the length of tenure and the rents to be charged in the future, such a system would be problematic. Making the tenant the owner of the land clearly circumvents many of these problems and may therefore promote investment.

It is possible that the effect of ownership goes even farther. The arguments above implicitly assume that landowners make the best possible use of the land (given the various incentive constraints). In fact, people often own land for reasons other than making money from it. In India, where agricultural incomes are not taxed, land is a potential tax shelter. In Brazil land is an important form of collateral. In some rural societies land is a source of political power and social prestige. In some areas of India, for example, the person who controls the agricultural work teams reportedly also controls their votes (Elkins 1975). Such landowners may not try very hard to get the most out of their land.

Legal restrictions may also prevent landowners from making optimal use of their land. One important institutional reason why the largest estates may use wage labor even when it is suboptimal is the fear of potential land reforms, which are generally applied retroactively. Land reform laws often exempt land that is self-cultivated. As a result, large landowners who employ sharecroppers may face immediate legal problems or fear losing their land in the future if land reform is instituted. In addition, there may be a psychological dimension to owning land that

may make tenants react more strongly to the transition to ownership than standard incentive theory would predict. In all of these cases efficiency of land use may be substantially enhanced by transferring ownership to someone directly involved in making the most productive use of the land.

Other Explanations of the Size-Productivity Relationship

LANDLORD SUPPLIED INPUTS. Even in a world in which agricultural inputs could be monitored perfectly and incentives for tenants were irrelevant, there would likely be a variety of contracts between landowners and tenants. After all, tenants can be very different from one another. Some may own their own farm implements and draught teams; others may want to use tools that belong to the landowner. Some may require credit from the landowner or benefit from the landowner's technical expertise. As a result of these differences, contracts with tenants are likely to vary. In particular, it seems plausible that tenants will be more likely to be fixed-rent farmers or buy out the land when they do not need anything from their landowners, and to work as hired laborers or sharecroppers when they need the landowner's help.

How do these factors affect the relation between size and productivity? One plausible explanation is that tenants who are more independent are also more productive. Land redistribution in such a setting will have no effect on tenants' incentives. It may, however, affect tenants' ability to acquire all the inputs they need. Former landowners who once lent their tenants money or machines may now refuse to do so. If there are fixed costs of enforcing contracts, landowners may stop dealing with tenants once the main land-based nexus is broken. Landlords may feel more vulnerable in their dealings with a former tenant because they can no longer threaten expulsion from the land. As a result, they be unwilling to extend credit to former tenants.

If land redistribution makes former tenants less able to acquire inputs, productivity could fall as a result of reform. New owners could try to sell their land back to the former owners and restore the old equilibrium, but this may not always be possible. If land reform includes a ceiling on ownership, for example former owners may now be unable to acquire more land. Even without a ceiling, fear that additional reforms may cause them to lose newly purchased land may make landowners unwilling to buy land in the new regime.

FARMER CHARACTERISTICS AND LAND QUALITY We have already suggested that a correlation between a farmer's productivity and the characteristics that make him willing to be an owner farmer, is a potential explanation of the size-productivity relationship. However Rosenzweig and Binswanger (1993) find that the relation survives even when we control for fixed farmer characteristics. They estimate a relation between farmers' wealth and profits based on the ICRISAT data set from Central India. Since they have panel data at the level of the farmer, they can estimate a specification that includes farmer fixed effects. They find that the profit-to-wealth ratio for the smallest category of farmers is always at least twice that for the largest farmer. An alternative theory of why small farms may be more productive is premised on the idea that small farms own better land (in the sense that crop failure is less likely). Because small farmers place a higher value on security, they may purchase land on which the likelihood of crop failure is low. If small farms are, in fact, on better land, productivity comparisons need to control for exogenously given differences in land quality. The study by Rosenzweig and Binswanger (1993) does not directly control for differences in land quality across size categories, but, on the other hand, differences in land values should have been taken in to account in the

calculation of the profit-wealth ratio. As long as the land values correctly reflect differences in land quality, the fact that smaller farmers have better land should not bias the estimate. This, however, remains something of an issue: since the land market is at best imperfect, it is possible that the best quality land may be undervalued, which would then make the small farmers look excessively profitable.

Bhalla and Roy (1988) and Benjamin (1995) do try to look at the size-productivity relationship after controlling properly for land quality. Benjamin shows that once he instruments for farm size using variables uncorrelated with land quality, the inverse relationship is entirely eliminated. The fact that average farm size is very small substantially limits the scope of his results, however. Bhalla and Roy use direct measures of farm quality and estimate the relationship district by district for their study in India. They eliminate the inverse relationship in 71 percent of the 176 districts for which they have data. It is not clear how damaging this is for the inverse-relationship view, however. Since they average only about 150 observations per district, it is not too surprising that they do not find a significant relationship.⁵

Direct Evidence on the Effects of Tenancy

Shaban (1987) makes a more direct attempt to measure the effect of tenancy. Using the same ICRISAT data that Rosenzweig and Binswanger (1993) use, he compares the amounts of inputs (including their own labor) that farmers put into land that they own with the amounts the same farmers put into land that they sharecrop. Like Rosenzweig and Binswanger, Shaban is therefore able to control for any fixed farmer characteristics that affect productivity. Shaban also has detailed measures of plot quality variables from ICRISAT, which he uses to control for differences in land quality of owned and sharecropped land.

Shaban finds that farmers use 10–47 percent fewer inputs on land they do not own than on land they do own. His point estimate for the resulting loss in productivity is 16 percent after controlling for differences in land quality and 32 percent without controlling for such differences. Land quality differences are in part exogenous, but they also reflect investments made on the land, which are affected by who owns the land. These two point estimates thus represent lower and upper bounds on the true productivity loss.

It is important to note that these figures apply only to sharecroppers who also own some land. If mixed sharecroppers are richer than pure sharecroppers (and therefore face stronger incentives), these figures may overestimate the effect of ownership among pure sharecroppers. Alternatively, the fact that these sharecroppers own some land and still continue to sharecrop may suggest that they are more risk averse than the average sharecropper and perhaps therefore less productive.

A very different approach to this question is to look at the effect of an exogenous change in tenants' incentives on productivity on the same plot. Using this approach, Lin (1992) examines the effects on productivity of decollectivization in China. Between 1978 and 1984, Chinese agriculture went from a system based entirely on collective incentives to one based almost entirely on individual incentives. Lin studies the productivity consequences of this reform, taking advantage of the fact that the reform spread at different speeds in different districts. Based on a production function analysis of a district-level panel, he finds that productivity increased 14 percent. This effect seems modest, especially given the inefficiency of collective farming. One reason the increase in productivity was not greater may be that the

poorest areas in China moved away from collective incentives first. The long-run increase in productivity may be greater than 14 percent because it may take time before the effect on investment shows up in the data.

Banerjee, Gertler, and Ghatak (1998) apply a similar methodology to Operation Barga, a large-scale tenancy reform carried out in West Bengal in the late 1970s and early 1980s. As a result of land reform, the proportion of sharecroppers paying 50 percent or more of their revenues to landowners fell from 90 percent to 58 percent and tenants were given more secure land tenure.⁶ They estimate that the productivity of the average sharecropper rose almost 60 percent—a much larger increase than that found by Lin for China. As in most studies based on aggregate data, there is some question about whether other factors may have contributed to the productivity increase. While Banerjee, Gertler, and Ghatak control for improvement in public infrastructure, for example, they cannot control for changes in agricultural extension services available to farmers, which may have contributed to the productivity increase.

OWNERSHIP AND INVESTMENT EFFECTS. The various attempts to measure the efficiency loss due to tenancy do not tell us whether the loss is a result of forgone investment or insufficient current incentives. This is to be expected, since the same reasons that make investments and current inputs noncontractible make them difficult to measure.

Little can be said a priori about the effect of tenancy on efficiency. On the one hand, many of the more obvious forms of investment (such as irrigation) ought to be contractible, which limits the scope of the investment effect. On the other hand, institutional and psychological factors could make the effect of a transfer of ownership to the tenant greater than basic theory would predict. As we have no measure of the size of these effects, nothing definitive can be said about this question. This is unfortunate, as policymakers cannot avoid dealing with the question of whether the correct response is to enrich tenants (to improve their incentives) or to make them landowners (to encourage investment). We await further empirical work on this point.

The Case for Redistributing Land

Redistribution is a goal in itself, quite apart from any efficiency gains that might result from a more equitable land distribution. The rural poor are among the poorest segments of the population in any country. Giving them any assets must therefore promote equity. Recent work (Galor and Zeira 1993; Banerjee and Newman 1993) has suggested that a more equitable distribution of wealth can promote efficiency: With more assets the poor are able to obtain more credit and better insurance coverage, which, in turn, helps them invest more effectively. The children of the beneficiaries of land reform may have better health and more education, which may make them more productive. They may also be better able to start small businesses of their own by using their land as loan collateral.

There is also a political economy argument that favors redistribution. It has been argued that when the poor have too little stake in the economy, they are liable to impose inefficient taxes on the rest of the economy (taxes here may be a metaphor for crime, riots and, in extreme cases, civil wars; Alesina and Rodrik 1994; Persson and Tabellini 1994). It is certainly difficult to avoid the impression that there is a correlation between left-wing insurgency and extreme inequity in the distribution of wealth, especially in rural areas. (The rise of the Shining Path in Peru and the Naxalites in Bihar are obvious examples.)

None of this, however, implies that we ought to redistribute land. There are substantial costs of implementing redistribution, even if landowners are not compensated. Moreover, the

opportunity cost of land redistribution might be high, since the government could expropriate the land, resell it, and redistribute the proceeds. In fact, giving these funds to the poor or using them to make public investments in education and health might benefit the poor more than redistributing land.

Why Give the Poor Land?

Regrettably, the current state of empirical knowledge is too primitive to allow us to compare the social benefits of investment in health or education with the benefits of land redistribution. On the question of whether we should redistribute land rather than money, the instinctive answer among economists is that redistributing money must be better, all else being equal, since beneficiaries could always use the money to purchase land. In fact, if the only reason the rural poor do not buy land is that they are too poor to do so, all poor rural residents would use a cash distribution to buy land and the productivity gains from land reforms would be realized. The case for redistributing land could thus be based on the belief that all beneficiaries want land and that redistributing land directly would eliminate some transactions costs. In all other cases, one could argue, it would be better to distribute money.

Redistributing money may not always be the best option, however, for several reasons. One is that land reform may help keep people in rural areas instead of moving to cities. Giving the poor assets that are useful only in rural areas would be one way of discouraging migration. The problem with this argument is that the debate over whether cities are too large has been inconclusive. Until this issue is settled, it is hard to base an argument on this premise.

A more compelling argument is that land can be a permanent source of income for poor families. Heads of families may not always act in the collective interest of their families. If there are conflicts of interest within the family or between current and future generations, the goal of redistribution may be better served by giving the family an asset other than money. Doing so might, for example, prevent a husband from decamping with financial assets, leaving his wife and children destitute. Moreover, land may be a particularly good asset to inherit, because fewer skills are needed to make use of that asset than other fixed assets, such as factories or shops. Whichever family member is left with the land could probably earn a living from it (Agarwal 1996).

These arguments are obviously highly speculative. In the absence of better empirical support, they make what is at best a very tentative case for land redistribution as a way of benefiting the rural poor.

Why "Tax" Landowners?

It is possible to take a very different view of land reform, as simply an effective way of taxing the rural rich. The immediate goal of land reform is not to redistribute land to the poor but simply to raise resources. These resources could be given to the rural poor in the form of land, but there need not be a connection; the resources collected could go to the urban poor (or for that matter, to the urban rich). Conversely, resources to finance land transfers to the rural poor could be financed out of other taxes. The key here is to find the best way to raise resources.

One argument for using land reform as a tax is that taking land away from the rich, (perhaps) unlike taking factories away from the rich, has no direct efficiency cost. Moreover, as a tax on sunk capital, confiscating land has no short-run incentive costs. If the government can credibly commit not to redistribute land again, the long-run costs of reform may also be limited.

A second argument for taxing landowners is based on the price effects of redistributing land. Large-scale land reform may be an effective way to convince landowners that there will be no more special subsidies for large farmers in the future (because the constituency of large farmers will be much depleted) and therefore to make them more willing to sell out. The importance of land ownership as a source of status and political influence may also be greater when there are many large landowners than when there are a few.

“Taxing” landowners can also have coordination benefits. One potential benefit of land reform is that it may forestall peasant unrest. In settings in which this is important, landowners who sell their land to peasants may be doing a favor to landowners who do not. It is possible as a result that in equilibrium too little land will be sold. A coordinated program of land transfers may therefore be in everyone’s interest.

Although the potential benefits of land reform are compelling, actually redistributing land is difficult. The difficulty might seem counterintuitive. Land is, after all, the ultimate fixed asset—it can neither be hidden nor taken abroad. Land ownership is often less transparent than ownership of capital or other assets, however, partly because land records are often incomplete. Moreover, the structure of social relationships in many rural communities is such that the formal ownership of land is often irrelevant: Landowners can formally give away their land to members of their extended family, or even to farm servants, and yet retain effective ownership. Corruption in the bureaucracy entrusted with carrying out land reform is yet another problem. Landowners can simply pay the bureaucrats to look the other way. For all of these reasons, as Binswanger, Deininger, and Feder (1995, page 2683) note, “Most large-scale land reforms were associated with revolts . . . or the demise of colonial rule Attempts at land reform without massive political upheaval have rarely succeeded in transferring much of a country’s land.”⁷ The recent thrust in a number of countries, including Brazil, Colombia, and South Africa, toward market-assisted land reforms, in which the government uses general tax money to help the poor buy land, is perhaps the clearest proof that “taxing” agriculture has not proved easy.

The Design of a Land Reform Program

How should a land reform program be designed to achieve the efficiency and equity goals that are its ultimate justification? This section examines design issues that pertain to traditional land reform.

Should Land Reform Be Permanent?

Reforms differ in the extent to which they affect the long-term distribution of land. At one extreme are rules banning all transfers of redistributed land except through inheritance. More common and less extreme are permanent land ceiling regulations, which, if properly enforced, restrict the number of acres a landowner can own. At the other extreme are one-shot efforts that redistribute land without imposing any constraints on subsequent transactions. These programs could end up with the largest farmers eventually owning all of the land.

Permanent land reform is desirable for several reasons. First, permanent reform is less likely than a one-shot reform to be undone. Second, permanent reform reduces uncertainty. Following a one-shot reform, landowners fear future changes since other reforms can always follow if the distribution of land becomes too unequal. Lack of certainty about reform holds back investment. Moreover, fear of another round of reforms with possibly different rules may discourage landowners from renting out their land, even when doing so represents the most

efficient choice. Third, permanent reform encourages the rural population to remain in rural areas.

Finally, and perhaps most importantly, if land has a natural tendency to become concentrated (as Binswanger, Deininger, and Feder 1995 have argued), the government should recognize that unless it takes steps to make the current reform permanent, there will be pressure for more redistribution in the future, when the current generation of beneficiaries are dead. Demands for such reform may be difficult to resist, since there is no obvious ethical reason why the next generation should suffer because their parent's generation managed to lose their land. Taking the cost of such future redistribution into account clearly strengthens the case for permanent reform. It is worth noting, however, that the government can limit the tendency towards land concentration in other ways. If, as Binswanger, Deininger, and Feder (1995) claim, distress sales are the main reason for increasing land concentration, preventing such sales by offering emergency income support programs (such as food-for-work programs) could help. Removing the distortions in the current system of taxes and transfers, which encourages the formation of large estates, would also counteract a tendency toward land concentration.

The most obvious objection to permanent reform is that it limits the extent of redistribution. The family that gets the land may be better off selling it or at least selling a part of it. But as argued above, long-term equity may be better served by not allowing the sale of redistributed land, this tradeoff could be made more palatable by combining land reform with emergency income assistance, such as a food-for-work program. Such a policy, effectively implemented, would make it less likely that the peasant would need to sell land in an emergency.

Another potential disadvantage of a permanent reform is that it can stand in the way of efficient reallocation of land. In this respect, a land ceiling is less obtrusive than a ban on all sales, because it allows reallocation among landowners who own less than the maximum allowable acreage. A uniform ceiling on the amount of land that can be held may still discourage talented people from taking up farming, however. Setting a ceiling also potentially limits the extent to which the system can benefit from the talents of those who do participate in the sector.

A land ceiling could also prevent farmers from taking advantage of any increasing returns to scale. Increasing returns do not appear to be common in agriculture in developing countries, however. Moreover, banning land sales to large farmers does not imply that the use of the land cannot be transferred. Reverse tenancy—renting or leasing land to a large farmer on a yearly or even half-yearly basis—is still permissible and is widely practiced in many areas with enforced land ceilings. Given that large farmers who want extra land tend to have good access to credit and insurance, the efficiency loss from reverse tenancy should be relatively small in most settings (and indeed most of the reverse tenancy contracts tend to be fixed-rent contracts).⁸

It is possible, however, that increasing returns could become more important in agriculture in developing countries. If they do, the fact that a dynamic farmer could not come in, buy the needed land, and make the necessary investments could hold back productivity growth. It should be possible, however, to limit the loss from this source by making it easier for current owners to make necessary investments. Publicly funded research on agricultural technology and agrobusiness, better extension services, public investments in infrastructure and marketing, and improvements in credit access should all be a part of a broader program that includes land reform. These investments would also make the redistributed land more valuable, thereby enhancing the extent of redistribution.

It may also be optimal to allow some land sales that exceed the land ceiling by setting a high minimum price for such transactions. The goal of discouraging land transfers to the rich

would be served, while talented and dynamic entrepreneurs (for whom the land would be worth purchasing even at a high price) would still be able to purchase land. In fact, the best way to self-select talented producers (rather than those who want land for rent-seeking purposes) is to charge more than the market price but to offer some discounts based on output, perhaps through a tax rebate.

Yet another problem with a permanent restriction on land transfers is that it makes it difficult or impossible to use land as collateral. Since land is typically the only asset the rural poor possess, banning the sale of land restricts their ability to obtain credit to finance consumption smoothing or investment. It is possible to limit the cost of such a restriction by providing alternative ways of smoothing consumption, such as food-for-work programs. Moreover, imposing a land ceiling rather than a ban on land sales would make it easier to use land as collateral especially if lenders are permitted to hold on to the collateralized land for some period following a default, after which they must sell the land to someone who has not reached the land ceiling. (Selling the land immediately after default may be difficult, however, because defaults often occur as a result of shocks that are correlated across the area.) The government could agree to buy all land acquired in this way at a fixed price, thereby guaranteeing lenders a reasonable return. The government could then redistribute the land.

Finally, perhaps the most important problem with permanent reform is the need for a permanent bureaucracy. Land ceilings must be enforced and land sales monitored by bureaucrats, who would constantly be exposed to bribes. Any bureaucracy would find the task difficult. The limited bureaucratic resources available in developing countries make the task particularly difficult.

If, however, the alternative to permanent reform is implementing new land reforms every few years, permanent reform may nevertheless be desirable. While getting bureaucrats to monitor land transfers on an ongoing basis is difficult, it may be even harder to get them to carry out large-scale land transfers with the knowledge that their efforts will soon be undone. It may be possible to limit the bureaucratic demands of permanent reform by changing the style of enforcement. One possibility is to make greater use of the court system. Instead of monitoring all land transfers, the government could require that courts not enforce transfers that violate the land ceiling. Landowners who sell land to buyers who already own the maximum holding would be given the right to reclaim the land without refunding the purchase price. Implementing such a policy would discourage potential buyers from exceeding the land ceiling.

Another option is to have the government stand willing to buy back any redistributed land at an attractive price, to be paid in the form of a guaranteed income. The government could then resell the land. If the price paid were high enough, it would attract a large fraction of true distress sales, thereby limiting the number of transactions the bureaucracy has to monitor.

What Land Should Be Targeted?

Traditional land reform programs have almost always established a ceiling on the amount of land a man, woman, or family can own. While ceilings can be justified on equity grounds, they are not necessarily the most efficient approach to reform. A better approach would be to use a direct measure of productivity. The problem is that measuring productivity (after controlling for land quality, climate, and so on) is difficult, and it is hard to imagine that the political system would ever have enough faith in productivity estimates to base policy decisions on such information. There are, however, ways to use information about productivity. One possibility is to tie expropriation to the absence of the landowner, on the grounds that the talents of landowners who

do not live on their farms cannot matter very much if their presence is not necessary.⁹ (Decisions that can be made from afar, such as suggesting new crops or technologies, could perhaps be made by government extension agents.) And most land reform programs do attempt to discriminate on the basis of landowners' participation in agriculture. This may be defensible if past participation is being rewarded, especially if the landowners are themselves peasants with no other skills or assets. However, even in this case it is important to ensure that the law is implemented effectively. Appu (1996) claims that during the long process of negotiation over land reform in India, many landowners got wind of what was coming and quickly began to cultivate their own land. Numerous tenants lost their land rights in the process. If such exceptions are to be made, reforms need to be implemented rapidly or the law should apply retroactively, with absenteeism defined as absences over the past several years.

Less defensible is the so-called right of resumption, the clause in many reform laws that grants landowners special exemptions if they resume cultivation of the land. In many cases landowners can exercise this right without actually living in the village. Especially in such cases the right of resumption is an open invitation to convert tenanted estates into estates for cultivation using farm labor. If the resumption represents a true conversion of the land from a tenanted estate into an estate using farm labor, the change presumably diminishes the efficiency of land use (since otherwise the land would not have been tenanted).¹⁰ But if the conversion is merely nominal, with tenants simply bullied into describing themselves as farm laborers, there will be no effect on land use. In either case the main result is that a large number of tenants lose some of their land rights. Attempts to protect tenants by exempting tenanted land from the domain of this law have often been frustrated because tenants have been induced (often by threat of violence) to "voluntarily" surrender their land (Appu 1996). It is not surprising that these exemptions have often been viewed as part of a deliberate strategy of creating loopholes in order to emasculate the reform.

Many land reform laws grant exemptions for certain kinds of farms (such as commercial farms or farms growing certain types of crops). In the Philippines, for example, the Aquino reform laws included special dispensations for new crops, such as mangoes and coffee. In India almost all the states made special allowances for rubber, tea, coffee, cardamom, and cocoa plantations. These kinds of exemptions will distort the effects of land reform. Large farmers will move into crops and organizational forms with generous exemptions—even when they do not represent the most productive options. In the process of converting the land, landowners may actually reduce the amount of labor used (by throwing out sitting tenants, for example), which presumably hurts the poor. Wurfel (1988) estimates that the number of people thrown off the land as a result of the Marcos reforms in the Philippines exceeded the number of new owners those reforms created. The cumulative effect of such reform-induced conversions could be enormous.

Should Landowners Be Compensated?

A key dimension of any land reform is compensation of landowners. At one extreme are programs of pure expropriation, as implemented in the post-revolutionary period in the Soviet Union and China. At the other extreme are programs in which landowners are generously (sometimes even excessively) compensated, as in Tsarist Russia or in the Philippines under Aquino, where landowners received 133 percent of the market value of their land (Riedinger 1995).

The tradeoff here is clear: landowners will resist reform less if they are generously compensated, but redistribution will be more limited if compensation must be paid. Reducing resistance to reform is beneficial; the landowner class tends to be well represented in the ruling elites of most countries, giving them enormous political power that they can use to block, stall, or undermine efforts to carry out land reforms. Generously compensating landowners clearly limits the benefits from the program, however. If the beneficiaries of reform pay the bulk of the compensation, the extent of effective redistribution—and therefore the equity gains from the reform—will be limited. Efficiency gains may also be limited, because from the point of view of the basic (complete contracting) agency model, what counts is not land ownership but the net asset position of the tenant. If tenants' net position changes only slightly because compensation payment liabilities have to be deducted from the value of the extra land they have acquired, their incentives and hence their productivity will also change little. Essentially, tenants will want to trade away a part of their share of the profits in order to reduce their borrowing costs or risk exposure. The fact that tenants' net asset position has not changed much also implies that their ability to borrow (and to take risks more generally) will not change much. We should not therefore expect to see large changes in other indicators, such as the health or education of tenants' children.

This is not to say that land reform cannot have a beneficial effect if the compensation payments that beneficiaries have to make are relatively generous. We have already argued that transfer of ownership can, by itself, have positive effects on productivity. Moreover, as already suggested, carrying out land transfers on a large enough scale, could lower the price of the land and more generally, make landlords more willing to reduce their landholdings.

The discussion so far assumes that beneficiaries pay most of the compensation, as the emancipated serfs did in Russia. But many modern reforms have included significant state subsidies. Often the state pays the compensation up front, with beneficiaries paying off the compensation over time, usually at a subsidized rate of interest. Since peasants often default on their amortization payments, which are then written off, the effective subsidy tends to be even larger than the nominal subsidy. Riedinger (1995), for example, reports that no more than 10 percent of the beneficiaries of the Marcos reforms were current on their amortization payments in the mid-1980s.

Subsidies, while they can enhance efficiency and equity benefits, are very costly. The extent of reform will be limited by the government's ability to mobilize additional resources from the rest of the economy.¹¹ In a country in which agriculture contributes 25 percent to GDP, the value of the nation's land may represent close to 25 percent of the national wealth. Redistributing land on any substantial scale and paying for it out of public resources will therefore require a very large transfer from the rest of the economy to the agricultural sector. (The problem here is not one of financing the transfer—which, in any case, can be facilitated by a loan from abroad—but of imposing a substantial and ongoing cut in the consumption stream of the nonagricultural sector.) A priori it is not clear that the political and economic costs of making such transfers are lower than those associated with simply expropriating the land. Indeed, even if it were politically feasible, it is not obvious that the rural poor would be better off if the government paid for land reform by imposing an extremely heavy tax burden on the rest of the economy or by cutting back government spending. Moreover, once the government agrees to pay part of the compensation, the reform can turn into a bonanza for the landowner class if the government sets compensation too high.

The tradeoffs here are all unpleasant. Compensated reforms will tend to be politically easier but potentially less effective (and, if the government has to pay for them, less extensive) than uncompensated reforms. Some element of prior coalition building, which would make it easier to implement a less generously compensated reform, may have to be an integral part of a truly effective land reform.

Alternatives to Land Redistribution by the State

Redistributing land from those who own it to those who do not is not the only way of achieving land reform. Alternatives to traditional land reform can achieve the same goals without involving the state in physically redistributing land.

Market-Assisted Land Reform

Market-assisted land reform has emerged in recent years as a noncoercive alternative to traditional land reform in a number of countries, including Brazil, Colombia, and South Africa.

The basic idea is simple: The state gives qualified landless people a grant or a subsidized loan with which to buy land. Superficially, market-assisted land reform is therefore similar to a fully compensated land reform, with the government paying for a substantial part of the compensation. There are, however, key differences. First, market-assisted reform includes neither a fixed time-scale nor explicit targets for the kind of land distribution that will eventually be achieved. This probably means that the change in the land distribution will be less coordinated—both in time and in space—than in the case of a (successful) conventional land reform. For this reason, the coordination benefits of a market-assisted reform are likely to be smaller than those of a large-scale traditional land reform.

A second disadvantage of market-assisted reform is the uncertainty about how many landowners will sell. As a result, no landowner may want to be the first to sell out. Indeed, it is plausible that the price of land will go up when such a reform is introduced.

Supporters of market-assisted reform stress that it is demand driven. Instead of the government deciding who will benefit, potential beneficiaries decide whether they want to go through the various bureaucratic processes necessary to purchase land. This, presumably, generates better targeting, at least along some dimensions. People who want the land most and who know where to find the kind of land they are looking for should come forward first (although the fact that most of these programs do not forbid immediate resale may also attract buyers who have no interest in farming). Market-assisted reform may also raise productivity and placate the politically most volatile sections of the rural population, at least if there is some restriction on immediate resale. (It is less clear that this kind of procedure is the best way to promote equity; there is some reason to suspect that the nature of the bureaucratic process tends to discourage the weakest sections of the population. Encouraging and subsidizing NGOs to help those who would not otherwise be able to apply, as the South African program does, may resolve this problem.)

Another advantage of market-assisted reform is that beneficiaries pay a part of the price for the land, thereby presumably having stronger incentives for negotiating a low price than a bureaucrat entrusted to negotiate a compensation acceptable to the landowner. In this sense market-assisted land reform should be substantially less costly than a fully compensated traditional land reform. The market-assisted approach also avoids the substantial political costs of traditional reform.

The most important drawback of the market-assisted approach is one that it shares with traditional land reform programs that pay generous compensation—it is expensive (albeit not necessarily as costly as a fully compensated traditional program). The high cost of market-assisted reform means that it cannot be expected to achieve very substantial redistribution in the near future. (In the longer run, as the rest of the economy grows and agriculture becomes a less important part of the national product, making such transfers will be easier, albeit possibly less valuable.) Market-assisted reform may nevertheless be a useful policy tool, especially where the bureaucratic and political constraints are such that a traditional approach to land reform is doomed to failure. In particular, market-assisted reforms can be a way of giving some extra land to the most dynamic or volatile elements in the agricultural sector, thereby bringing about some measure of political peace in rural areas. Unlike ambitious traditional reform programs, however, market-assisted reform can only be a part of a much larger program for alleviation of rural poverty.

Tenancy Reform

Unlike land reforms, tenancy reforms do not attempt to change the pattern of ownership of land. They simply give tenants additional rights on the land. The typical tenancy reform law sets a bound on how much the landowner can demand from the tenant as rent or a share of output and restricts the rights of landowners to evict tenants who have paid their due rents or shares. For obvious reasons, these two elements need to be combined: In the absence of a rent ceiling the restriction on evictions has no bite—the landowner can always persuade the tenant to leave by raising the rent high enough. Conversely, a tenant who can be evicted at will probably could not insist on the legal rent ceiling because the landowner could use the threat of eviction to force the tenant to agree (secretly) to a higher rent.

Why should tenancy laws and land redistribution have similar effects? Our reasoning so far has tied productivity gains to increases in tenants' net asset position. It is not clear why tenancy laws would significantly alter that position. To explain the effect of a reform law within the framework of the agency model, we need to invoke another ingredient—tenants' outside option. Tenants' outside option matters because it determines how costly tenants will be for the landowner. In the agency model landlords offer low incentive contracts because tenants must be paid more if they have strong incentives. If, however, tenants are already well paid, relatively little is saved by dulling their incentives. In other words, under certain plausible conditions, the worse the tenants' outside option, the less efficient will be the use of their labor (Banerjee, Gertler, and Ghatak 1998).

Tenancy reforms work in part by making tenants more expensive. The first effect of a reform is to change the distribution of power between landowners and tenants by giving tenants the option of holding out for the share of the output guaranteed by the reform law. This share now represents tenants' outside option; landowners must offer tenants something that is at least comparable. By making tenants more expensive, tenancy reform increases their incentives and the productivity of the land.

This is not the only effect of tenancy reform. The ban on evictions makes it impossible to use the threat of evictions as an incentive, which should reduce productivity. The ban gives tenants a long-term stake in the land, however, which encourages investment in a world of incomplete contracts.

Tenancy reform has other, longer-run effects. The rights such reform creates are typically not tradable, which means that land is effectively tied to a single family. This may not have any

costs in the short run if landowners in the pre-reform period had picked the best possible tenants. In the longer run, however, current tenants retire; their children may not be the best people to farm the land. In many places, including West Bengal, tenancy laws do not build in mechanisms that would allow an efficient turnover of the land in this situation (Banerjee, Gertler, and Ghatak 1998). The one provision they typically include is to allow tenants to buy the land they farm at a subsidized price. It is not clear, however, that tenants can raise enough money to pay for the land. Moreover, to generate turnover, tenants who purchase land will have to resell it (which is sometimes allowed and sometimes not) and so will have to find a buyer with enough money to buy the land.

An interesting alternative way of generating turnover was built into the Sri Lankan tenancy reform of 1958. That reform allowed tenants to sell their right of tenancy, but only to local cultivation committees. The condition discouraged landowners from trying to coerce the tenants to sell their land rights, but it also kept the committee from reallocating land rights to the best possible person. Setting effective criteria for how the land should be reallocated—perhaps by allowing bidding among potential tenants as long as they satisfy certain criteria—may make this system more effective.

The net effect of tenancy reform on productivity may be positive or negative.¹² It can also make tenants better off without improving their productivity. Using data from India Besley and Burgess (1998) find no positive effect of tenancy reform on productivity but a strong effect on poverty reduction. Banerjee, Gertler, and Ghatak's (1998) work, based on a tenancy reform in West Bengal in the late 1970s and early 1980s, shows that the effect on productivity was substantial and positive. One reason for the discrepancy between these results is that the reforms in West Bengal were effectively implemented, whereas many of the reforms examined by Besley and Burgess (1998) were not.

There is clearly not enough evidence to conclude that tenancy reforms are an effective substitute for land reforms. If, however, increasing the cost of tenant labor can bring about better incentives, then a range of interventions—what elsewhere are called empowerment strategies—(including but hardly confined to tenancy reform) will become relevant. Other programs, such as food-for-work and other rural employment schemes, may have some of the same effects by improving the bargaining position of tenants.

Conclusion

After all these arguments and counterarguments, what are we left with? Although the evidence is hardly definitive, redistributive land reforms appear to promote equity and efficiency. Were implementation not a constraint, traditional (coercive) land reform would have a number of clear advantages over alternative types of land reform. Such reform will almost certainly be more extensive than noncoercive (market-assisted) reform. It also probably costs less and has a stronger effect on productivity. Implementation is a constraint, however, and may indeed be the binding constraint in many cases. In such cases, market-assisted reforms or tenancy reforms may provide better outcomes.

Where policymakers want to implement traditional reform, they should apply certain principles. Land reform programs should be accompanied by effective agricultural extension programs and by emergency support programs and other empowerment strategies. Such programs limit the need for emergency land sales, increase peasants' willingness to take risks, and improve the bargaining power of peasants who remain tenants. The government also needs to create an appropriate institutional environment for farmers cooperatives and contract farming.

Reform beneficiaries should be permitted to rent out redistributed land. Land ceilings and any other laws applicable to tenancy should not discriminate on the basis of choices landowners can make (such as whether they return to cultivation, what crops they grow, and so on). Discrimination on the basis of past choices may be a good idea if the reform is implemented effectively and quickly. Tax distortions and distortions in the market for inputs that discriminate in favor of large farmers should be removed as a prelude to land reforms. Quick and coordinated implementation of the land transfer process may make it easier to commit to not reinstituting these or other distortions.

Though the evidence is substantially weaker, there may be a case for supporting restrictions on the sale of redistributed land, such as a permanent land ceiling or a ban on sales by individual beneficiaries. Some violations of the land ceiling may be desirable, however, as long as violators pay a higher than market price for the additional land. Tenancy reforms may also be useful policy instruments.

Finally, we need to know more. Making policies that may change the lives of large numbers of people is always daunting, but it is all the more so when it is based so heavily on speculation.

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¹ See Bhagwati and Chakravarty (1969).

² Reported in Berry and Cline (1979).

³ Few historical phenomena share the remarkable uniformity found in the history of agrarian relations. The state, it appears, has intervened always and everywhere in the markets for land, agricultural labor, and other agricultural inputs and outputs in order to make life easier for larger farmers. See the appendix to Binswanger, Deininger, and Feder (1995) for an erudite account of this history.

⁴ The fact that tenants' incentives are distorted will mean that landowners may not want to pay for the input, even if, in a first-best world, doing so would be worthwhile (Braverman and Stiglitz 1986).

⁵ They do not report the point estimate for these cases and nor do they mention whether they ever find a positive significant relationship.

⁶ In fact, tenants were more or less certain that they would never be evicted. The effect of this knowledge is ambiguous. On the one hand, freedom from eviction is likely to make tenants more

willing to make long-term investments. On the other hand, inability to evict tenants restricts landowners' ability to use eviction threats as an incentive device.

7 Bell (1990) also argues for pessimism about land reform in "normal" times. Peacetime reforms tend to fail for at least two reasons. First, landlords are probably more powerful in times of peace; by definition, revolts represent the times when the masses have managed to coordinate their efforts to resist. Second, peacetime reforms tend to respect de jure ownership—a problem because landlords may own much more land than legal records indicate. In contrast, during revolutionary times redistribution may be based on de facto ownership.

8 The efficiency loss could be exacerbated by banning the renting out of redistributed land, as the land ceiling act in Maharashtra, India, does (Behuria 1997). The best argument for restricting rentals may be that rentals can be a way of making secret land sales.

⁹ Residence requirements of this type were a part of the successful post-war land reforms in Japan, which banned ownership of tenanted land by absentee landowners. In India, some states (such as West Bengal and Maharashtra) give resident landowners extra protection from tenancy reforms, but the National Guidelines on Ceilings on Agricultural Holdings in India do not include additional penalties for absentee landowners (Behuria 1997). Land reform laws in the Philippines also fail to distinguish between resident and nonresident landowners (Riedinger 1995).

10 The exception is where the conversion induces landlords to give up their alternative occupations. In this case, farm output may rise even though the overall social surplus declines.

11 In the short run, governments often finance these programs by issuing special bonds. This is a natural strategy if the reform is expected to generate productivity gains—the reform can, in effect, pay (at least in part) for itself. Some governments have also adopted the strategy of paying landlords, at least in part, with bonds. This approach gives landlords a stake in the success of the reform, since a failed reform and associated peasant unrest may cause the bonds to be devalued. Landlords are often reluctant to accept bonds from a government they do not trust, however. For this reason, at least in some situations, it may be better to pay cash to landlords by selling the bonds or obtaining an external loan.

12 For a negative assessment of tenancy reform, see Bell (1990).