

CHAPTER VI

CONCLUSION

Much remains to say. Before the hypothesis may aspire to the dignity of a theory it must run a long gauntlet of testing against hard and complex facts. It has, in fact, been running the gauntlet of the author's files for some years, with results which he might present in another long chapter. But he has already overtaxed his readers' patience, and will conclude here with summarily applying the hypothesis to explain and evaluate the three apparent deviations from ideal allocation described in Chapters I-III.

Briefly to restate the hypothesis: the bidder in whose possession a given unit of land will add most to net output, both currently and in the future, can not necessarily outbid rivals for the title. Power to speculate, i.e., to discount future values at low rates, also weighs in the balance. This differs extremely among individuals, and will affect the outcome.

How, specifically, does this explain the problems of Chapters I-III? Consider first the subject of Chapter III, land in oversized operations, under-manned and under-equipped, which might add more to net output if transferred

to a smaller, more intensive farm, but is not so transferred. The hypothesis explains this directly, as follows: Assume, for simplicity, that interest rates and net yields from land, although they vary among individuals, are not expected to vary with future time. Assume also that there are no taxes, of any kind. Then each buyer will increase his landholdings until the last unit yields him his interest rate. If a unit costs \$100, the 2% bidder will expand his holdings until the last unit yields him \$2 a year; the 10% bidder until the last unit yields him \$10 a year.

Figure 1 illustrates the point. MP is the annual marginal product of land added to a fixed complement of men and equipment. The horizontal dotted curves represent the annual cost per unit at 2% and at 10%. Although the different bidders pay the same price for land titles, they pay very different prices for the annual use of land, due to their different interest rates. Hence they combine land with other resources differently, low interest rate bidders using it lavishly down to low marginal returns, high bidders the opposite. (See Figure 1 on page 439.)

Figure 1 is drawn on the assumption of fixed men and equipment. In practice, of course, an entrepreneur can vary these, increasing them as he increases his land to delay the advent of diminishing returns to land. Figure 1, however, can accommodate these different complements of labor and capital. It tells us that whatever complement of men

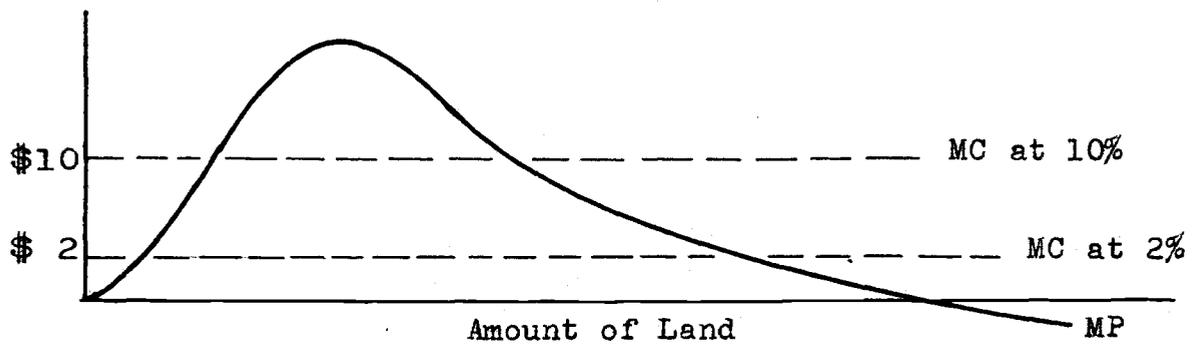


Figure 1
Annual Marginal Product of Land, and
Annual Marginal Cost at Different Interest Rates

and equipment he has, he will increase his landholdings until the last unit yields him his interest rate.

Thus the hypothesis explains why the marginal product of land varies from farm to farm. It also explains why it varies in the particular pattern it does, tending to be lower on larger farms. Because, as is well known, interest rates on borrowed funds generally vary inversely with collateral security; and, too, larger recipients of property income are more likely each year to have excess savings seeking outlets.

The same reasoning explains tenancy, the problem of Chapter II. Let interest rates of individuals diverge enough and the marginal products of land in owner-operated holdings will become different enough to warrant transferring land by lease, from where its marginal product is low to where it is high. Were the landlord-tenant relationship frictionless and costless this process would equalize the marginal products on owner-operated holdings. But as things are, it leaves them still far apart, and itself constitutes a second problem.

The hypothesis thus accounts for excessive concentration of operations, and for tenancy, even when buyers do not expect the income from land to rise in future years. Both become more acute, however, when buyers do expect future increases. This is what one would naturally expect, since the problems spring in the first place from the fact that

so much of the price of land derives from remote future expectations. When the more remote future years contribute a still higher share, due to anticipations of rising income or falling interest rates, concentration and tenancy should naturally increase. Let us relax, now, the assumption of constant expectations, and analyze the forces at work when buyers expect income to rise.

When he expects future years' incomes to rise above present ones, a low interest bidder will expand his holdings until the last unit yields him even less than his interest rate. He may even hold land that yields him nothing, just as he might hold, in anticipation of future dividends, a common stock that pays nothing currently. The same reasoning, of course, applies to a high interest bidder, but with less force. When higher future incomes loom up in prospect, all bidders will tend at first to expand their holdings. But of course not all can do so. Land prices will rise, forcing high interest bidders to cut back their holdings to let low interest bidders expand. When a new equilibrium level of land prices is reached, there will be some medium interest rate at which the higher land prices just balance the increased expectations. Bidders with that interest rate will neither expand or contract, but higher interest bidders must contract, and lower interest bidders may expand.

The question may arise why any bidder would hold land during the course of a year when it yields him less than his

interest rate? Why not wait and buy later? The answer, of course, is that he can buy cheaper now, when the anticipated future values are further future than they will be next year. Putting his calculations of cost and gain entirely on an annual basis -- which is a handy way to summarize them, both for him in practice and for us in theory -- each year he would count as part of his gain from holding land the increase of its selling price. He may figure this in the positive sense that he may realize it by selling; or the negative sense that he need not pay that advanced price to buy it. Whichever his motive, he has justified tying up his funds in a land title during a given year if, in that time, the marginal product PLUS the increase of selling price equals or exceeds his interest burden, price times interest rate.

Having thus compressed all the relevant factors to an annual basis, we can show them on Figure 1, on which marginal cost and marginal product are shown already on an annual basis. How will the curves there shown change when we relax the assumption that buyers expect constant income, and postulate increasing income? The marginal product curve remains the same, as it applies to the present year only. The horizontal marginal cost curves will change from two causes, one pushing them upwards, the other down.

The upward force is the higher price of land. As that rises, of course the annual interest charge on it

rises in the same proportion -- which means a higher absolute increase for the high interest bidder. For example, if land price doubles from \$100 to \$200 a unit, a 2% bidder's marginal cost per year doubles from \$2 to \$4, while a 10% bidder's cost doubles from \$10 to \$20 -- an absolute increase of five times as much.

The downward force is the anticipated increment to land price. This is, to the individual holder, an income from the land, quite above and beyond any income from productive operations (as measured on the marginal product curve). Being an income to him, it offsets part of the annual cost of holding the land, leaving only the remainder to balance against the marginal product. On Figure 1 this would be shown by lowering the horizontal marginal cost curves, each by the same amount.

The net result of these two changes is to lower those curves that are already lower, and raise those that are already higher. For example, continuing the above illustration where price rises from \$100 to \$200, suppose after this original rise the annual anticipated increase is \$4 a year. At 2%, marginal cost moves down to nothing, as the \$4 increment expected that year just offsets 2% on \$200. But at 10% the annual marginal cost goes up to \$16 -- that is \$20 interest minus the \$4 increment. Both relatively and absolutely the two curves have moved farther apart.

More generally, for all those bidders whose interest

rate times the original price increase is greater than this year's anticipated price increase, the annual marginal cost of holding land rises. They must contract their holdings. For all those whose interest rate times the original price increase is less than this year's anticipated price increase, the annual marginal cost of holding land falls. They will expand their holdings. Algebraically, let P_0 be the original land price, P_n the present price, and ΔP this year's anticipated increment. Those bidders for whom $i(P_n - P_0)$ exceeds ΔP must contract; those for whom it is less than ΔP may expand.

The above reasoning applies equally well when buyers anticipate lower interest rates in future years. This will likewise raise present land prices and lead to additional annual increments.

Thus in times when bidders anticipate increments to land prices, land holdings will tend to become more concentrated and tenancy more common, and of course vice versa. There is evidence that tenancy has waxed and waned under this influence. Tenancy declined during and after World War II in some part because anticipated values were low, relative to current yields, and land gravitated to owner-operators.¹ On the other hand, Goldenweiser and Truesdell, in their widely cited study of 1920 Census data, found "a close relation between the rise in the value of farm land and the percentage of tenancy." They explained their findings this way:

Wherever land increases rapidly in value the owners are inclined to hold their land in order to realize the profit; and since they depend for part of their returns on the rise in value they can afford to rent their land at a comparatively low rate. In their eagerness to make the land pay something while they hold it for a higher price the owners underbid each other in the matter of rent, but they will not sell. Thus, it becomes difficult for the tenant to buy, since the purchase price is high, and at the same time it becomes profitable for him to keep on renting, since the rent is low. 2

There is also evidence of changes in concentration of farming and other industries according to this rule -- industrial mergers, for example, occurring most swiftly in times like the present, or the 1920's, when future anticipations are high relative to current yields -- but the evidence is too complex to summarize briefly, and we will reserve it for a sequel.

It must now be quite clear to the reader who has followed thus far how the hypothesis explains unused land, the problem of Chapter I. If an individual enjoys a low interest rate, and anticipates large annual increments to the selling price of land, he may very well be willing to add it to his holdings even though it adds nothing to his current income. He might even take it under conditions such that it detracts from his current realized income, if the anticipated annual increment exceeds the annual interest burden by more than his loss. Thus in frontiers of economic development where annual increments to land prices are expected, speculators have a clear motive to hold land idle as

we have seen they do in fact.

We have applied the hypothesis to explain the three deviations from ideal land allocation described in Chapters I-III. It links them together as results of a common cause, differences in individual interest rates, which lead those with lower interest rates to combine given quantities of labor and capital with larger amounts of land.

But some readers may yet stick at the words "and capital" in the sentence above. If low interest lets one apply land to lower margins, why does it not likewise let him apply capital to equally low margins, such that the low interest firm would tend to use a great deal of both land and capital per man, rather than a great deal of land per man and per unit of capital? We have already dealt with this question in Chapter V, as best we could at that stage of the hypothesis' development. But our treatment there was necessarily less precise and less satisfying than it can be now we have developed the analytic tool used in this conclusion.

We have seen that when land prices are expected to rise, speculators can deduct the annual increment from the annual cost of holding land, thus increasing the percentage differences between the annual marginal costs of low interest and high interest bidders; and furthermore when land price becomes higher, the annual interest burden increases more for high interest bidders than low, thus increasing the absolute difference between their marginal costs. Now if bidders

expected the opposite, if they expected land price to depreciate instead of appreciate, the opposite results would ensue. Bidders would add the anticipated decrement of land price to the annual marginal cost, reducing the percentage difference of the two marginal cost lines; and the lower land price would reduce the annual interest burden more for the high interest bidder than the low, bringing the marginal cost lines absolutely closer. Thus depreciating assets tend to be better allocated than appreciating ones.

Capital, of course, customarily depreciates, while land customarily does not, and often appreciates. The annual marginal cost of holding capital includes a large depletion or depreciation (and obsolescence) charge, usually much greater than the interest charge. Being roughly the same for all bidders, regardless of interest rates, this depreciation charge reduces the percentage difference of the marginal cost lines. Furthermore, of course, the price of capital is much lower, relative to its immediate marginal product, than is the price of land, because capital yields only a decreasing series of future values over a brief finite life span. Therefore depreciation is a larger element than interest in the annual cost of all but the longest-lived forms of capital; and even with them depreciation is a larger element than with land, which normally does not depreciate. Comparing the extremes, the annual cost of a capital asset entirely consumed in production at the end of one year is almost all

depreciation or depletion. The interest component is almost negligible in theory, and often completely so in practice. By contrast, the annual cost of land is interest alone (again assuming no taxes). Therefore a firm newly gaining access to low interest funds is almost certain to expand its land holdings more than its capital. On Figure 1, the marginal cost of capital is almost the same at any reasonable interest rate, while the marginal cost of land varies directly with the interest rate.

Let us sum up the matter algebraically. Let i be interest rate; MP_L the marginal product of land; P_L the price of land; MP_C the (gross) marginal product of capital; and P_C the price of capital.

Consider the simplest contrast between a piece of land with constant future marginal products; and a capital asset entirely consumed in production at the end of a year. A firm will expand its landholdings until $\frac{MP_L}{P_L}$ equals i .

It will add the capital asset until $\frac{MP_C}{P_C}$ equals i plus 1: --

"plus one" because the gross marginal product of the capital asset must not only pay interest, but also pay for its value consumed in production. Now obviously if " i " is halved, the firm can expand its landholdings until the marginal product of land is half what it was before. But it can not apply the capital asset to appreciably lower margins, even in theory; and in practice interest is such a small element in

total cost it often influences such decisions not at all.

More generally if ΔP is an annual anticipated increase of price, a firm will add either land or capital until $i - \frac{\Delta P}{P}$ equals $\frac{MP}{P}$. Where ΔP equals zero we have the case of land with constant anticipated marginal products, and $\frac{\Delta P}{P}$ drops out. Where ΔP is minus P , we have the case of the capital asset consumed at the end of one year, and $\frac{\Delta P}{P}$ equals minus one. Where ΔP is negative but its absolute value is less than P , we have the case of capital lasting longer than one year, hence depreciating less than its full value each year. Here i is of greater importance as an element in annual cost, but still not so important as with land. Where ΔP is positive, we have the case of land whose price is expected to increase. It is worth noting that in this case a lower interest bidder will apply land to a margin lower by even more than the proportion that his interest is lower. Halving i will reduce MP by more than half. "MP" may even fall below zero. It is in this situation that the individual's interest rate is of paramount importance in allowing entry to the market, and determining the margin to which he will apply the resource.

The conclusion of all this is that a lower interest bidder will tend to apply, to any fixed complement of labor and capital, much more land than would a higher interest bidder; while, to any fixed complement of labor and land,

he will apply only a little more capital. It follows that he will tend to use more land per unit of capital.

Putting it another way, at lower interest rates land becomes cheaper relative to capital, and so is substituted for it.

That that is the fact in American farming is indicated by the data of Chapter III (Section II, B, 1, b). More affluent farmers, whose greater assets would let them use more capital per acre, generally use their superabundance to buy more land, and hence use less capital per acre.³ As to the urban scene, L. C. Gray has written "It was usually the land company alone which had adequate capital. . . . The building companies, on the other hand, were generally small and lacking in adequate credit facilities."⁴ In industry generally, the proportion of net income to gross sales tends to increase with size of firm, indicating slower turnover of assets in the larger firms, and hence a higher proportion of more durable assets of which land is the extreme type.⁵ And various studies indicate such a pattern for urban real estate,⁶ and for several industries in which data are easily available: hydro-electric power; anthracite; molybdenum; lumber; publishing; aluminum; steel; and sulphur.⁷

The proof is not absolute. It is conceivable that a small percentage drop in the marginal cost of capital would increase its use as much as a large percentage drop in the marginal cost of land would increase the use of land -- i.e.,

that the marginal product of capital drops very slowly as more is added, and the marginal product of land drops very quickly.

That is conceivable. Is it likely? In its support one might observe that the marginal product of capital is a gross concept, including the body of the capital, which may even be physically embodied in the product. It might seem that capital like this would be subject to very slow diminishing returns, because most of its gross marginal product is simply the raw material itself. But on the other hand, the annual services of land are also, in an economic sense, embodied in the product, and in a physical sense are embodied in it no less than is, for example, fuel that is consumed in producing bricks. So it does not seem that land should experience drastically more rapidly diminishing returns than capital.

One may point out that the marginal product of capital could never fall below its replacement cost (except by error). That is certainly true, but not so much because capital is subject to slow diminishing returns, as because before the marginal product is reached that equals replacement costs, the firm will stop adding capital. Replacement cost sets a rigid floor under what marginal product a firm can allow; but it does not imply that returns would not diminish below that floor if more capital were added. Nor does it imply that capital is not subject to rapidly diminishing returns

above that floor.

A critic might still point out that, while lowering the interest rate lets a firm apply capital to only an insignificantly lower gross margin, still it lets it apply capital to a much lower net margin -- just as much lower as with land -- (unless the land is appreciating). That is, if a capital asset costs \$100, a 6% interest rate lets one apply it until the gross marginal product equals \$106, at which point the marginal product net of the \$100 cost is \$6. At 3%, the firm can add capital until the gross marginal product is \$103, a little less than 3% lower; but the net marginal product is \$3, or 50% less, just as with land. Is the plausibility of our conclusion merely illusory, depending on the choice of gross instead of net marginal product of capital?

Suppose we choose the net marginal product of capital as the basis of our discussion. Will it diminish more rapidly than the marginal product of land? Almost certainly it will, for an obvious reason: every increase in net output caused by additional inputs of capital requires an addition to gross output many times greater -- at 5%, 21 times greater for a one-year capital asset. An equal increase of net output caused by additional land requires only an equal increase of gross output, for with land the two are identical. Obviously to achieve a given increase of net output by adding capital one will tax the capacity of the fixed complements much more

quickly, and thus see returns diminish much more rapidly, than by adding land.

Then, too, where interest cost is such a minute fraction of total cost, and net marginal product so small a fraction of total product, one cannot take very seriously the proposition that their point of intersection "determines" the input of capital. Formally it does, but the net marginal product curve is merely a tiny residual after deducting vastly larger associated costs, and it is these, lurking unseen in the background, that really determine the curve. A small change in one of them can magnify it or wipe it out. A fall of interest might, formally, simply be the occasion for imputing a slightly higher return to some other factor, thus reducing the net marginal product of capital -- which is simply a devious way of observing that a very small element in the total cost of capital will not much affect the amount used.

Accordingly, it has become nearly a commonplace of modern economic thinking that a fall of interest rates will not much stimulate investments in short-lived capital assets. Perhaps the early enthusiasts of this idea carried it too far -- their critics have successfully countered that low rates will stimulate investments in long-lived capital assets, for which interest is a larger element of cost. And of course it follows that low rates will especially stimulate investments in land, the longest-lived of all

assets, whose annual cost (other than taxes) is exclusively interest.

There, then, in skeletal outline, is the hypothesis of this study applied to explain why larger farms tend to use more land per unit of capital. In brief, it is because larger enterprises generally can reckon lower interest rates; and because lower interest rates give an especial advantage in buying land.

The argument as it stands is by no means complete, nor can we make it so in the few remaining pages. But let us mention four additional points of great importance.

a. Returns to capital will not only diminish rapidly when the proportion is increased, but also with scale of operations. The manager of a small enterprise has in himself a large under-used complement of managerial labor to combine with additional land and capital. He will tend to invest his funds more in capital than land, since the capital turns over more quickly: a given sum invested in capital adds much more to gross output, and provides a much greater outlet for his labor.⁹ An active entrepreneur can turn his stock over several times a year, a process obviously providing much more outlet for his managerial talent than freezing the same sum in a land title. On the other hand, when a business becomes large, and the central management overtaxed with decisions, it will tend to invest more funds in land, which never turns over, which for a

given net output produces the least gross output, hence taxes the management's limited powers the least. A management embarrassed with riches beyond its power to administer wants assets that are fixed, stable, and simple, that never need replacement, never spoil, burn, obsolesce, get stolen or sabotaged, that require no handling, insuring, or storing, and are immune to employee negligence -- in short that management wants land. Among its other virtues the land offers this, that should the overtaxed management take from it only half the income it expected, it could still show some gain; while if it took from capital only half the income it expected it would need show an immediate realized loss of nearly 50%. But owners of superabundant assets can buy land and thus let their assets escape, so to speak, into the future where they will keep with a minimum of attention. Large landholdings are also desirable for harried managers who wish to appear more efficient than they are by undervaluing their assets. Land, having no production cost, and having over the decades generally appreciated over its historical cost, is often grossly undervalued on corporate books to give a false appearance of high "returns on the investment."¹⁰

b. A large firm may develop some monopoly power, and wish to invest its assets in such a way as to increase gross sales a minimum for any increase of net output. A monopolist will obviously prefer land to capital, as capital,

turning over quickly, increases gross sales by many times its net income, while additional land, ceteris paribus, adds to sales no more than its net income. And if the land is held primarily for increments to its price, it adds little or nothing to gross sales.

c. When buyers expect land prices to rise, lower interest rates give more than proportionally lower annual costs of holding land, as we have mentioned. In this circumstance, lower interest bidders would accumulate more land per dollar of capital even if the net marginal product of capital declined as slowly as the marginal product of land (which is almost unthinkable).

d. It is often harder for a small enterprise to secure long term credit, such as is needed to buy land, than short term credit; and it must generally pay a higher rate for what it gets. So not only does the small enterprise have higher interest rates in general, but especially so for land purchases.

In summary, low interest bidders tend to hold more land per dollar of capital because interest is so much more important an element in the annual marginal cost of land than it is in the annual marginal cost of capital; and because, for a number of reasons, returns to capital decrease more rapidly than returns to land.

Finally, the effect of property taxes should be considered. We have up to now reasoned as though there were

none, and hence the sole annual cost of holding land was the interest burden. In practice one must add the annual property tax that falls on land as well.

The annual property tax bill increases the annual cost of holding land by a constant amount for all bidders, whatever their interest rates. But on the other hand, it tends to reduce land prices and thus lower interest burdens. Of course it lowers interest burdens more, absolutely, for high interest bidders than for low interest bidders.

In terms of Figure 1, the property tax bill is an addition to the two marginal cost curves. The addition is the same amount for each. Thus it reduces the percentage difference between them. At the same time it reduces the high interest bidder's interest burden by more than the low interest bidder's, thus reducing the absolute difference between them. On balance, it tends to increase the total marginal cost to low interest bidders, and reduce it for high interest bidders, bringing them nearer equality. There will of course be some medium interest rate at which increased taxes will just offset reduced interest burden.

The general effect of property taxes is to replace the annual interest cost with an annual tax. In the extreme, if taxes were high enough to reduce land prices to zero, the tax would be the only cost of holding land, and it would be the same for all parties -- assuming a fair assessment.

From this it is evident that the major conclusions of this study apply in full only where property taxes are low or non-existent. Insofar as the property tax replaces the interest burden, it tends to equalize the marginal cost of land among different bidders. And of course if property taxes are discriminatory, as we have seen they often are, they introduce a new distorting variable, tending to move land to those in whose favor the discrimination is practiced.

With that, the hypothesis goes far toward explaining the major problems of the study, and the writer prepares to lay down his pen. He would leave it clear, however, that he by no means considers the hypothesis either, on the one hand, fully tested against all the at least speciously contrary evidence that might be adduced against it; nor on the other, fully exploited to clarify the most important problems to which it might be addressed. In a sequel the writer would integrate the hypothesis into business cycle theory, following the leads of Chapter I; and pursue the implications of Chapter III through a study of industrial concentration. Most important he would use the results of this study to suggest and evaluate alternative land policies.

Final evaluation of the results of the study.

We have used the hypothesis to demonstrate why things are as they are. But what, now, of evaluation? What does it imply of the market's effectiveness in directing land to its most productive use?

In terms of traditional ideals, the market evidently is far astray. Economic rent is clearly not, in practice, the "sorter and arranger" of the pattern of land use that traditional theory says it is, and should be. Or, in terms of marginal analysis, the market fails to direct land to the user in whose possession it would add the most to output. In traditional theory, the "cost" of holding land is opportunity cost, or the best alternative use of the land. In market practice, cost to the individual holder is not that, but the annual interest burden of holding title, which may be higher or lower, and leads to allocation quite out of line with traditional ideals.

This comes about, of course, because the present use of land is not available to be bought and sold by itself, except in the rental market, where users must incur all the wastes of tenancy. To gain the present use of land, with that security of ownership that is essential to best use, an operator must pay for a costly claim to anticipated incomes from the land in perpetuity. In buying land, power to speculate in future values is as important a factor as, or more important than, ability to make land productive. As long as that is so, the market can never perform as the traditional ideal requires.

That conclusion is of practical interest, of course, only if society can devise a land policy that unbinds the knot tying together present and future in a land title. Is

it possible? Can society modify institutions underlying the land market in such ways that the operator of land need bear only the small financial burden of a tenant, yet may enjoy the secure tenure of an owner?

That is a very important question. For if it is not possible, the market is likely to destroy itself by its own unhappy performance. The voters will not forever tolerate an institution that withholds basic land resources from broad ownership and most productive current use. They may institute more and more public controls, for all their evils, to correct the wayward market. Or they may prefer outright direct allocation of land by government officials. Indeed, when the distribution of landholdings must be justified more on the grounds that it minimizes the interest burden of holding title than that it maximizes the output from land, the last defense of a free market is gone. For few private holders can account such low interest rates as the Federal government.

Clearly, therefore, the present study is only a prelude to the more important study of alternative land policies. That study, however, the writer leaves to others, or to a sequel. Having described the problem, and created an analytical framework for subsequent policy discussions, the present study ends.

EXPLANATION OF SYSTEM USED FOR NOTES AND BIBLIOGRAPHY

In general the Chicago Style Manual is followed, but with such modifications as seem appropriate to the needs of the present work.

BIBLIOGRAPHY:

The bibliography is arranged alphabetically. Works are alphabetized by name of human author or, if none is identified, by title.

Capitals are used instead of underlining titles of volumes.

Periodical material is cited similarly to material in Library of Congress bibliographies, in the following order and with the punctuation noted:

Author. "Title of Article." NAME OF PERIODICAL
Volume (Number): pages (Month, Year).

Volume numbers are in Arabics even if originally in Romans. Issue Number is sometimes omitted if volumes are known to be paged consecutively. If the pages are not consecutive, as in some popular journals, the initial page is given followed by "plus". Month is omitted if not useful.

Titles beginning with "Report on" or "of" are alphabetized by the following word.

The following abbreviations are used:

AER	American Economic Review
AES	Agricultural Experiment Station
BAE	United States Bureau of Agricultural Economics
Bul	Bulletin
FTC	United States Federal Trade Commission
GPO	United States General Printing Office
HR	United States House of Representatives
JFE	Journal of Farm Economics
JLPUE	Journal of Land and Public Utility Economics
JPE	Journal of Political Economy
LE	Land Economics
NY	New York City

S United States Senate
 U University
 UN United Nations
 US United States
 USDA United States Department of Agriculture
 USN&WR United States News and World Report
 V Volume
 Wash Washington, D.C.

NOTES:

All works cited in the notes (except newspapers and particular Census volumes) are fully cited in the bibliography.

The notes of each chapter are numbered consecutively.

Citations are abbreviated in such a way as to facilitate recognition of the work or, if necessary, reference to the bibliography. If the work has an identified human author it is cited by his last name, and the page is given. If there are multiple authors, more than one is given only where that will facilitate recognition. If the bibliography has two authors of the same last name, initials or Christian names are given. If more than one work of the author is in the bibliography an abbreviated title is given.

If no human author is identified in the source the first few words of the title are given, from which the citation may be found in the bibliography.

THE UNITED STATES CENSUS OF AGRICULTURE is abbreviated "CENSUS OF AG". It is preceded by the year of the Census, but with no mention of the number of the Census, nor the year of publication. It is followed by volume, number and page, in the same style as for periodicals in the Bibliography (q.v.).

Punctuation is minimized, as in legal citations. Familiar Latin phrases are not underlined. Familiar abbreviations are not followed by a period.

NOTES FROM INTRODUCTION

1. See Chapter I, pp. 78 ff.
2. Lewis et al 21-2
3. Stigler, THEORY OF PRICE 102
4. Ibid 115
5. Carlson 15; J.B. Clark, cited in Robertson 227; Stigler, THEORY OF PRICE 117; Machlup, "Marginal Analysis" 530
6. Stigler, PRODUCTION AND DISTRIBUTION 356 and above
7. Machlup, "Meaning of the Marginal Product" 159
8. Cf. Machlup, "Marginal Analysis" 531-2
9. Heady et al "Farm Size" 431
10. Black, PRODUCTION ECONOMICS 547-8
11. Boulding 762
12. Ely and Wehrwein 139
13. Chapman, S.J., "The Remuneration of Employers," ECONOMIC JOURNAL 16:523-8 (1906), cited in Stigler, THEORY OF COMPETITIVE PRICE 178
14. Herodotus, HISTORY, VII, 10

CHAPTER I

1. Lewis et al
2. For example in Cuba (Soule et al 83-4); and in Mexico (Kepner 304-5). The information on Guatemala is from the NY TIMES May 18, 1952, p. 10; February 19, 1953, p. 5; and April 21, 1954; the San Francisco CHRONICLE, February 27, 1953; LIFE 25:169-77 (October 12, 1953); Beals; and Monroe 61.
3. NY TIMES, May 18 1952, p. 10
4. de Castro 105
5. Soule et al 75-86
6. LAND REFORM 19
7. de Castro 97. Cf Gay; de Souza; Crist; McBride; and Hill, G.W., et al
8. NY TIMES April 2 1955
9. Hardie 11; Jacoby 175
10. Jacoby 113
11. NY TIMES Magazine, November 21, 1954, p. 9
12. Ross
13. According to a far-left source the situation in Kenya is just as extreme. (Du Bois, W.E.B.) For a milder outlook, see Parliamentary Delegation . . . 13.
14. Warriner 81
15. Ibid
16. YEARBOOK 3-7
17. Fisher, W.B. 179
18. San Francisco CHRONICLE Magazine, December 4 1949, p. 16
19. McClelland
20. San Francisco CHRONICLE Magazine, December 4, 1949, p. 17.
See also Meissner.
21. NY TIMES passim October-December 1949.
22. Similar peasant invasions in 1919-20 were repulsed by the Fascists. (Schmidt 30-1)
23. NY TIMES July 2 1952 p. 1
24. Tennyson
25. Roth 290
26. Geary 139
27. NY TIMES September 10 1948 p. 6
28. Stamp et al 448
29. NEA dispatch, August 1954; Kinross 103
30. Stamp et al 438; Duckham 1078
31. NY TIMES May 21 1952 p. 26
32. Duckham 1082. See also Stamp et al 448-9
33. "World's Biggest Ranch"
34. "Kern County Land Company" in WALKER'S MANUAL; Packard 55; INTERSTATE MIGRATION 3278; EXEMPTION OF CERTAIN PROJECTS 942-3 and 972-3; VIOLATIONS OF FREE SPEECH 22796-8; and REPORT ON LARGE LANDHOLDINGS 30 et passim; for a sympathetic view of the company and its operations see Downey Chap. 3, "The Irrelevant Cow Company."

35. Southern Pacific still holds four million acres in California, not counting land used in railroad operations. In 1949 it withdrew much of this from sale (RAILROADS DISCOVER OIL; VIOLATIONS OF FREE SPEECH 22796-9.) In some areas Southern Pacific is actively acquiring new lands "for future development" (Eugene REGISTER-GUARD, August 17 1954)
36. ECONOMIC ATLAS 21; Highsmith 33
37. Breisky
38. Humphries
39. Gray, "Land Speculation" 55
40. Hibbard 222
41. Ibid 213
42. Hedges 347-8
43. Ibid., 346-9
44. REPORT ON LARGE LANDHOLDINGS 28
45. Ibid
46. For a summary of many studies of such areas and conditions see Salter, Chap. 5.
47. LETTERS FROM ILLINOIS, cited in Sakolski 81-2
48. Billington, "Origin . . ." 205
49. REPORT 181. This condition has inspired the growing movement toward rural zoning. See, for example, Weeks et al 41-2
50. Ratcliffe 385
51. Coman 10
52. Adams, Frank, 36
53. Mead, Elwood, IRRIGATION ... 21
54. Teele, LAND RECLAMATION 15. See also Huffman 61-2 and 81; Ely and Wehrwein 263 and 266-7; Mead, Elwood, REPORT ... 1; Hedges 218; Thomas 217 and 233-4; Teele, "Financing ..." 430; Teele ECONOMICS ... 99-100.
55. Weeks and West 3
56. Ibid 21-2
57. Weeks, PERMISSIBLE ... 167
58. 1940 Census of Ag, IRRIGATION OF AGRICULTURAL LANDS, pp. 2, 144. See also Huffman 64
59. Teele, LAND RECLAMATION 33
60. Teele, "Financing ..." p. 432
61. Grunsky 11
62. ELEVENTH ANNUAL REPORT 3
63. Teele, ECONOMICS ... 185
64. ANNUAL REPORT 162
65. TO PREVENT SPECULATION ..., Senate, 23; House, 10
66. Cited in Ely and Wehrwein 256. Cf also "Acreage limitation..." 13
67. Adams, Frank, Tables I and V. The per acre cost of some Federal Projects now existing or contemplated runs considerably higher (Moley).
68. Hedges 347

69. Fisher, E.M. 155
70. Hoyt 294. See also 443 for examples of the process
71. Billington, "Origin ..." 208
72. Chicago HERALD-AMERICAN, June 1 1941
73. Grebler 30
74. Fisher and Smith 457
75. MacDonald
76. Bacon 77. Maps of urban land use, showing the location of vacant land, portray this structure graphically. See for example MASTER PLAN, Los Angeles 69; MASTER PLAN, Chicago passim; Buttenheim, map of Portland, Oregon.
77. Ascher 6
78. Wenzlick 56
79. Ibid 59
80. MADISON'S LAND 10
81. Lewis et al 22
82. Buttenheim 225
83. MASTER PLAN Los Angeles 68-71. In addition the area in the county having urban potentialities was surveyed, and 21% was unused.
84. THE USES OF LAND
85. Bartholomew 136-7
86. Ibid
87. Ibid
88. Ascher 6
89. Providence and Duluth also given in Wenzlick 59
90. San Francisco City Planning Commission, 1948
91. Hoyt 290-4
92. MASTER PLAN Chicago
93. Cornick, PREMATURE SUBDIVISION...
94. Bacon 74
95. Buttenheim 217
96. Ibid 250
97. Richmond TIMES-DISPATCH, March 14 1943
98. "Land Use in Chicago" xv
99. Bacon 74, 81-3
100. Buttenheim 217-9
101. Ibid 218 et passim. The estimates include some land subdivided on paper only, much of which was sold in that condition and remained so.
102. Simpson and Burton 14
103. Cornick, PREMATURE SUBDIVISION 90
104. Ibid
105. Buttenheim 250
106. "Urban Lands" 2
107. Ibid
108. San Francisco CHRONICLE April 12 1953 p. 1

109. "Your New Plant..."
110. Advertisement, San Francisco CHRONICLE, August 21, 1955,
Section 3, p. 3
111. 1929 REPORT 269-71
112. PROGRESS REPORT 10
113. Cf "Price of Land ..."
114. See, for example, Simpson, Herbert D., TAX RACKET 38, 54;
and NINTH BIENNIAL REPORT 124
115. Simpson, Herbert D., TAX RACKET ... 71-3
116. 1929 REPORT 272-4
117. Olcott, "Chicago's Amazing Growth"
118. Cf Bутtenheim 263; "Councilmen"; and Boitouzet
119. Poincare
120. Advertisement in author's files
121. Ratcliffe 347
122. Maverick 191
123. Cf Chap. V, Section VII, A, below, for a fuller descrip-
tion of this psychology
124. For the example of prairie Canada see Hedges
125. Fisher, E.M. "Speculation ..." 157-8
126. "Price of Land ..."
127. "Construction -- a Re-appraisal" and "The Building Boom..."
128. Cf Cornick, "Land Prices ..."
129. Hoyt 265 et passim; Pribram 71, 77; Long, BUILDING CYCLES;
and Long, "Long Cycles ..." 398 et seq
130. Long, "Long Cycles ..." 398; Zeckendorf
131. Holden
132. Gordon, BUSINESS FLUCTUATIONS 286
133. Hoyt 234
134. Simpson, Herbert D., "Real Estate..." 164-5. Cf also
Hoyt 236, 401, 445 et passim; Vanderblue 130, 266;
Gray, "Land Speculation" 66-7; Scherman 109, 128-31,
436-7; Fisher, E.M., "Speculation ..." 161
135. Sakolski. For an antique example see Billington,
WESTWARD ... 94
136. Weeks, PERMISSIBLE ... 172; Cf also Mead, Elwood,
REPORT ... 6; and Teele, LAND RECLAMATION ... 28

CHAPTER II

1. Grebler 42
2. MASTER PLAN Chicago, cited in Blossat
3. For pictorial evidence see REPORT TO CHICAGOANS
4. REAL ESTATE MAGAZINE, November 2, 1940
5. GOVERNMENT HOUSING 277 (suppl. bib.)
6. In 1950 about 49% of all urban dwelling units were rented (GOVERNMENT HOUSING 277, suppl. bib.) Today the percentage is somewhat lower.
7. 1950 Census of Ag 5 (5):13
8. Schultz, "Capital Rationing ..." 316
9. Ely and Wehrwein 200
10. In Ackerman and Harris 62
11. 1945 Census of Ag 2:136
12. 1950 Census of Ag 5(6):45
13. 1920 Census of Ag 6(3):19
14. "The average annual net income of tenants in the North and West apparently is not strikingly different from that of owner-farmers..." (FARM TENANCY 55). That suggests that owner farmers tend to be located on marginal lands which contribute to their income little beyond the returns to the labor and capital applied to them.
15. For evidence see latter part of chapter.
16. 1930 Census of Ag 3(3):18
17. Ibid 3(2):32
18. Ibid 3(3):18
19. 1940 Census of Ag 3:35; 1950 Census of Ag 2(Chap. 11):929
20. 1945 Census of Ag 2:158
21. Goldenweiser and Truesdell
22. Warren and Pearson 254-5
23. Goldenweiser and Truesdell
24. Ibid 32
25. Between groups one and two in the New England region.
26. Goldenweiser and Truesdell 55
27. Ibid 44
28. 1950 Census of Ag 5(10)
29. Ibid 5(5):13
30. This was a very rough classification by visual inspection. The data lend themselves to nothing more precise.
31. See Appendix 1, below.
32. Malik 249. Cf also Douglas 188
33. Mitchell 6
34. Lee, Shu-ching, 260
35. Borremans, M.L., in EUROPEAN AGRICULTURE 135
36. de Souza 268
37. Ackerman and Harris 154
38. Jacoby 73, 84
39. Ibid 181-2

40. Freund 240-1
41. DEMOCRACY IN AMERICA 2:198. Later, J.S. Mill wrote of
 "... North America, where, as is well known, the land,
 except in the former slave states, is almost univer-
 sally owned by the same person who holds the plow."
 (Mill 258)
42. I give these historical data only on the percentage of
 farmers who were tenants because early Census' give
 no other data.
43. 1945 Census of Ag 2:158; 1950 Census of Ag 2:922 and 934
44. 1945 Census of Ag 2:136
45. Table 4, above
46. In passing, note that some of this decline is offset
 by an increase of land under hired managers. In 1935
 hired managers operated 6% of the farm area; in 1950,
 9%. Thus the owner-operated acreage has increased less
 than the leased acreage has declined. In 1935, 49% of
 the farm acreage was owner-operated; in 1950, 55%.
47. Lee, Shu-ching, 261
48. This applies to the long term trend. Cyclically the
 relation is often obscured, as from 1920 to 1935 when
 land values fell while tenancy rose, or 1940 to 1950
 when tenancy fell while land prices rose. Those
 contradictions resulted from time lags in the relation
 of land income to land value, a matter discussed in
 the next few paragraphs.
49. Timmons, "Farm Ownership ..." 85. For a most incisive
 analysis, see Salter, "Farm Property" 17
50. "Recent Development ..." and "Why it Costs More ..."
 This means that once again the market is optimistic,
 and to the young entrepreneur without low interest
 funds the purchase of land more onerous. The most
 significant statistical clue to the current state of
 the farm land market is, I believe, the growing value
 per acre of tenant farms relative to owner farms (Ap-
 pendix 2, this chapter). This reveals that land
 values are rising relative to improvement values and,
 in this respect at least, the market is beginning to
 return to its condition as of 1920.
51. Eliot 33
52. FARM TENANCY 6
53. Ely and Wehrwein 218
54. Baker
55. Southern, especially 216-7
56. Nelson, Peter
57. Schikele, "Economic Phases ..." and "Economic Implica-
 tions ..."
58. Schikele, "Economic Phases ..." 212-3; and "Economic
 Implications ..." 442, Table e; and 440-4.
59. Baker 60
60. Ibid

61. Nelson, Peter 29. Additional materials are in Renne, "Significance ..." 428; and Eke
62. Tenanted urban lands are also generally less improved. Tenancy tends to coincide with slums and blight.
SLUM LAND ACQUISITION 2
63. Cf Stigler, THEORY OF PRICE 115; and Chapter III, this study, Section II, c, 2 a.
64. 1940 Census of Ag III, 148.
65. Schikele, "Obstacles ..." 450. See also Ackerman and Harris 416
66. Poli 3
67. 1950 Census of Ag 5(6):46
68. Ibid 44,46
69. Baker 57
70. Goodrich 72. Figures are for 1930. After 1930 the disparity became greater as depression migrants moved back to the very areas already most crowded (Ibid. 514-6)
71. 1950 Census of Ag 5(5):44-5
72. Ely and Wehrwein 206
73. FARM TENANCY 55
74. Hurd 128
75. LAND REFORM 16
76. Banks 105
77. 1950 Census of Ag 5(6):47
78. It is remarkable, and significant for future chapters, how very high these costs may rise without actuating the market to obviate them by transferring title from landlord to operator. A business and investor's journal states: "The return to the efficient farm operator who owns and works his land can be much higher, of course, than that received by the absentee landlord." ("Why it Costs More ..." 94.) Yet the absentee landlords hang on. In Quinsan, Soochow, and Wukiang provinces of China, according to J.L. Buck, the "compradore" system is common. Among big landholders it is the fashion to know nothing of practical affairs, but let the compradore or rental manager collect and transmit payments. The compradore customarily cheats the landholder of a great deal of the rent. (Buck 32). Yet the income that trickles through to the title holder is somehow enough to make him keep title, although if either tenant or compradore were title-holder he would receive a higher net rent after deductions. In future chapters we consider how this anomaly comes about.
79. Poli 25
80. To some degree perhaps tenants waste because they are by nature "thrifless and shiftless", as Ely and Wehrwein suggest (206). But whatever their nature, providence and prudence bid them waste when their waste is suffered

by another and their prudence benefits them not at all. Casual observers often remark the contrast between tenants' shabby dwellings and their ostentatious clothes and cars. Many draw from this uncomplimentary conclusions about their character and heredity. But is it not a rational adjustment to their environment? The Gypsy values only what he can carry with him.

81. For an interesting discussion of the cultural background of such attitudes see Scherman Chap 6
82. James Burnham wrote: "From the point of view of the manager group, especially as economic conditions progressively decay, the reward allotted to the finance-capitalists seems inordinate and unjustified, all the more so because, as the managers see it more and more clearly, the finance-capitalists are not performing any function necessary to the process of production." (Burnham 91). Burnham visualizes a struggle between industrial managers and absentee owners which he likens to the struggle of Charles Martel against the "do-nothing" kings of eighth century France. Burnham's absentee "finance-capitalists" are the industrial equivalents of absentee landlords, of course. Cf also Schumpeter 140-2
83. Buck 34
84. Mitchell 6
85. Inman and Fippin 50. There are, of course, all kinds of landlords who exercise all degrees of supervision from none at all to virtual management. Schikele and Norman classified Iowa landlords and rated their practices as follows: Relatives, 23% of landlords, Good; Retired Farmers, 21% of landlords, Poor; Active Farmers, 10% of landlords, Good; Widows and estates, 12% of landlords, Very Bad; Business and Professional Men, 14% of landlords, Good and Bad; Loan Companies, 20% of landlords, Bad (Schikele and Norman 180)
86. The problem is like that of car-rental services. Some customers will abuse a rented car grossly, and almost all will show it less respect than their own. Car owners must compensate themselves by charging high rentals. They charge about \$6/day plus 8¢/mile, while one operates and maintains his own car for considerably less.
87. City land, not subject to erosion, is ideal for renting when it can draw an income without being much improved and vulnerable to tenants. Slums and blighted areas, with their central location and old buildings, have this virtue and so contain mostly tenants, while newer houses on cheaper land are mostly resident owned.
88. For example for the Corn Belt see Baker 61
89. Truesdell 122

90. Schikele, "Farm Tenure ..." 239
91. Schultz, PRODUCTION AND WELFARE ... 151
92. Ely and Wehrwein 218
93. Ackerman and Harris 410
94. Ibid 25. Cf also Timmons, "Institutional Obstacles ..."
140-1. For an extended legal treatment see Mangum.
95. Buttenheim 257
96. Baker 61
97. Case 265
98. Weeks and West 19
99. Baker 61
100. Cf Schikele, "Effect of Tenure..." 190
101. Mitchell 16
102. Haggard 190
103. Jones, William O., 538-44
104. Taylor, OUTLINES
105. Schultz, "Capital Rationing ..." 122
106. 1940 Census of Ag 3:35
107. See Table 1, p.126, above

CHAPTER III

1. 1950 Census of Ag 2(ch 10):775
2. Ibid 2(ch 12):Table I
3. Computed from data in 1950 Census of Ag 2(ch 10):775;
Ibid 2 (ch 12): Table I; "Survey of Consumer Finances"
10; and INCOME DISTRIBUTION 83.
4. Described in Bowman. She refers to it as the "Gini con-
centration ratio, a usage probably truer to history
than that adopted here.
5. Sources for the various countries are as follows: Denmark,
1953 Danmarks Statistik Arbog 50; Sweden, Freund 237-8;
Germany, Oppenheimer; Rumania, Roberts 370-1; United
States, 1950 Census of Ag 2(ch 10):775; Egypt, Warriner
35; Brazil, FACTS FOR FARMERS Aug-Sept 1955; Venezuela,
Hill, G., et al 24; Chile, Carroll
6. Computed from 1945 Census of Ag 2:82
7. Computed from 1950 Census of Ag 2(ch 10):842
8. 1940 Census of Ag 3:84
9. Ibid
10. Ibid
11. Ibid: 88 et seq. There may have been a few more such states
in 1940. Lack of resources kept the author from the
time-consuming process of checking the less likely
possibilities. In 1950 there were almost certainly
more because from 1940-50 the value of real estate
rose a good deal more on farms 1,000 acres and over
than on all farms. (See Table 30, below).
12. Ibid
13. 1910 Census of Ag 5(ch 12):883. Unfortunately the Census
grouped these data only by number of tenants, not by
acreage. Were they grouped by acreage the acre values
might not rise so much, or at all, with size. But it
seems probable they would not fall nearly as much as
they do when the small cropper units on valuable land
are taken as the individual "farms".
14. Bachman and Jones 73
15. Levy, Hermann, 228
16. Ibid
17. Ackerman and Harris 58
18. Ibid 435-6
19. Nelson, Lowry, 143
20. Hammar and Muntzell
21. Cash 35
22. Craven 158
23. Raper 91
24. Woofter et al

25. Ibid 201, 217. There were also some regions displaying the opposite contrast. For additional instances from the Southeast see Rogers; Miley 583; Weaver 38-46
26. Goodrich 72. For similar observations on a broader scale see Hammar 779.
27. 1910 Census of Ag 5:271-2. Cf also Wilcox and Hendrix 26, re Indiana.
28. Hamilton and Parker. Also cited in Schroeder. For an example from the Sierra Nevada Foothills see Weeks et al 20-4.
29. Roberts 42, 46
30. Ibid 360
31. LAND REFORM 20, cited in note.171.
32. Gay 259
33. Ibid 260
34. Warriner 81-90,
35. Jacoby 174, 186
36. Computed from Jacoby 182; and Hardie B20 (sic)
37. Freund 225-6. Note that his statement applies to tillable land only. Poor pasture and woodland was often held in large units.
38. 1900 Census of Ag 1:xcii, xc; and Turner, OWNERSHIP UNITED STATES 12-18
39. Computed from 1900 Census of Ag 1:314
40. Computed from 1953 DANMARKS STATISTIK ARBOG 50. Strictly, these data are for "properties", not operating units. But as there is in Denmark only very little tenancy the two are not likely to be very different.
41. Carrion 70, 85
42. Computed from 1950 Census of Ag 2(ch 12): Table I
43. Computed from INCOME DISTRIBUTION 83
44. Baker 22
45. Ibid 26
46. From ILLINOIS FARM ECONOMICS July-August 1947, Table i. Cited in Wilcox and Cochrane 55
47. THE LAND 1:205
48. 1950 Census of Ag 5(Part 6):51
49. Goodrich et al 72
50. Hamilton and Parker
51. "Analysis of the Ownership..."
52. AGRARIAN PROBLEMS...
53. Jacoby 142, 163
54. Ackerman and Harris, ch 13
55. What Size Farms..." 148
56. 1940 Census of Ag 3:80. Cf also Weeks, "Factors Affecting Selling Prices ..." 514
57. Ibid 3:148
58. Lee, J. Karl, 95-98. Cf also Poli 31, for similar data from the Imperial Valley
59. Levy, Hermann, 71
60. Ibid 158, 228
61. THE LAND 2:530-1. For parallel data on Denmark see Jensen 294-305; Gronborg 4; for Hungary see EUROPEAN AGRICULTURE 150

62. 1950 Census of Ag 2(ch 12): Table I
63. Land fertility may be depleted, but that occurs, where it occurs, usually more slowly than capital normally depreciates. And a large part of the value of land is never depleted: its site relative to markets, water, sunshine, temperature zones, subsoil, etc.
64. Davis and Mumford 34
65. Computed from 1930 Census of Ag 3(1):18
66. Bachman and Jones 55
67. In this age when not everyone any longer reads the Hebrew Prophets it is perhaps well to explain that allusion by citing Isaiah 5:8: "Woe unto them that join house to house, that lay field to field, till there be no place, that they may be placed alone in the midst of the earth!"
68. Hammar
69. Saloutos and Hicks 25; Cf also INTERSTATE MIGRATION 3258, testimony of Professor Paul Taylor
70. Goodrich, Allin and Hayes 71
71. Johnson, D. Gale, 642
72. Cited in Wilcox and Cochrane 500
73. Duerr et al, 14
74. Wilcox and Hendrix 2-3. Cited from Duerr et al, 53-5
75. Goodrich, Allin and Hayes 76-7
76. Goodrich 75, 514-6; Weeks et al, "Possibilities of Rural Zoning" 49-50; Duerr et al
77. "Crofters..." 602-3. Cf also Freund, 227 et seq, on Sweden; and NY TIMES July 14, 1950, p. 9, on Kashmir, where before the recent land reform small farmers were idle 6 to 8 months of the year.
78. Wilcox and Cochrane 81
79. Warriner 84
80. For studies of such areas see Lee, J. Karl; REPORT ON LARGE LANDHOLDINGS: Poli; Melcher; Wilson and Clawson.
81. Cf Ely and Wehrwein 125
82. The costs of subdividing land are largely costs of providing smaller farms with their own separate units of capital like fences, aqueducts and access roads, which would otherwise have been provided on a less intensive scale. The additional cost per acre is not due to the land's as such being imperfectly divisible in space, but to these capital items. For example, fencing for 10 acres costs more per acre than fencing for 100, just as a barn for 10 acres costs more per acre than a barn for 100. Most subdivision costs, therefore, can be counted as capital improvements which cost more per acre when provided separately for smaller acreages. To be sure these expenses are incurred because the land is divided, but so are the additional costs of smaller barns, houses, etc. And all result in the same outcome, that the land is served by more capital per acre, more evenly distributed over the land.

This easy divisibility of land in space does not alter nor contradict the fact that land is very imperfectly divisible in time, hence arduous for impecunious farmers to finance. Indeed, one can sum up in one phrase the forces that lead to dwarf farms by noting that small buyers divide land minutely in space to fit their finances because they cannot divide it in time.

83. Weeks, "Suggested Approach ..." 15. Professor Weeks' reasoning is closely parallel to that of this paragraph.
84. The average net product of land, at n acres, equals the average output at n minus the average cost at n .

The marginal net product of land, between n and $(n + 1)$ acres equals the average net product at $(n + 1)$ plus the acreage at n times (the increase of average output minus the increase of average cost). More briefly:

$$ANP_n = AP_n - AC_n$$

$$MNP_{\substack{(a=n) \\ (a=n+1)}} = ANP_{(n+1)} + a_n (\Delta AP - \Delta AC)$$

85. Bachman and Jones 41-2
86. Heady 369
87. Ibid 752. Cf also 708
88. Renne, LAND ECONOMICS 258
89. Schultz, "Capital Rationing ..."
90. Schultz, PRODUCTION AND WELFARE ... 53
91. Wilcox and Cochrane 128
92. Ibid 58
93. Ibid 55
94. Not all economists make this error. David Weeks has defined optimum land utilization as that which supports the largest permanent population at the highest standards. (Forestry vs Agriculture" 962)
95. As for example in Knight and Hines 347; and more elegantly in Stigler, THEORY OF PRICE 115
96. 1940 Census of Ag 3:35. Land was reported at \$23.2 billions, implements and machinery at \$3.1 billions. By now the latter figure probably has grown more, percentage-wise, than the former, but as there are no data on land values separate from buildings after 1950 there is no knowing for certain.

Actually the relative importance of machinery is greater than the figures indicate, as the price of land is very high relative to its current contribution to gross output, and also because even in 1940 the "land value" figures included all improvements other than buildings. But after these qualifications it remains strikingly true that any computation of "efficiency" which totally disregards land inputs is worthless.

97. Stokdyk 82
 98. Bachman and Jones 33
 99. Ibid 33
 100. Heady 376
 101. Wilcox and Cochrane 56
 102. Lee, J. Karl, 1-3. In this area most of the land was in holdings much larger than those figures: about 32% of the farmland and 18% of the cropland in units over 15,120 acres; 62% of the farmland and cropland both in units over 320 acres; and only 16% of the farmland and 21% of the cropland in units under 80 acres. (Wilson and Clawson 39, 41 and 64) Strictly this latter study includes two less counties than Lee's, Fresno and Kings, but if anything that should reduce the concentration, as large parts of both those counties are well subdivided in irrigation districts. However, the Wilson and Clawson study is incompletely applicable in that it applies to ownership units, which tend to be more concentrated than operating units. Also, neither is very satisfying on the question of water supply relative to farm size. But the data allow ample room for those defects, and yet remain impressive.
103. Myers 434 ff. A parallel study of Scandinavian farming by Ludwig Nanneson is cited in Mead, W.R., 174
104. Pike, H.W.
 105. "El Solyo..."
 106. Balchin
 107. Miley 583
 108. San Francisco CHRONICLE, Letters, 11-30-55
 109. Benton
 110. Black, PRODUCTION ECON. 547-8
 111. Holley, Winston & Woofter 2
 112. Stapledon 190
 113. "World's Largest Ranch" 50
 114. San Francisco CHRONICLE, 11-1-55
 115. Mill 265. Cited from Laing, JOURNAL OF A RESIDENCE IN NORWAY
 116. Ibid 149
 117. Lee, J. Karl, 4, 7, 37, 128
 118. Ibid 98-9; also Wilson and Clawson 23. Cf note 102
 119. Heady, McKee & Haver 431, 442
 120. McCorkle 12, 13
 121. EXEMPTION OF CERTAIN PROJECTS 149-52
 122. Carpenter 30, 42
 123. Parker and Hamilton
 124. 1940 Census of Ag
 125. Bachman & Jones 73
 126. Stokdyk 80
 127. Poli, Japanese Farm Holdings 2, 10; Poli & Engstrand 356; Millis 800; National Defense Migration 11313, 11341 ff.

128. Holley, Winston & Woofter 93
129. World's Largest Ranch 60-1, 96
130. 1948 Stockholders' Report, Kern County Land Co. 15;
Exemption of Certain Projects 942-3; Violations of
Free Speech 22796-8. After 1941 the company began slowly
to develop these lands, and by 1954 had increased the
gross cattle revenues to several millions. The over-
ripeness of these lands is attested to by the fact
that in each year since 1941 the cumulated income
ensuing from the improvements has exceeded the cost
of the improvements cumulated to the preceding year
(1949 Stockholders' Report, Kern County Land Co., p. 8;
and ensuing reports)
131. Black et al 439
132. Carrion 342
133. Gronborg 4
134. Brasse-Brossard
135. Computed from 1900 Census of Ag 5(1):186-7
136. The present analysis assumes constant net income and
capitalization rate. For the general case see
Chapter VI.
137. 1945 Census of Ag 2:156
138. There is, of course, no one optimum size, the optimum
varying with the individual. But the individual's
capacity is only one of several factors affecting the
optimal operating unit, and the other factors, techno-
logical ones, do not vary with individuals. And the
financial circumstances of individuals, which deter-
mine the ownership unit, vary much more than their
working capacities, due to the cumulative effects of
inheritance, credit rationing, linkage of risk, com-
pound interest, the advantage of a good start in life,
family connections, social position and so on. There-
fore it seems plausible that, while operating econo-
mies may prescribe medium sized farms, financial con-
siderations, varying widely with individuals, prescribe
a vast range of farm sizes, and tend to pull owner-
operations away from medium sizes toward extremes.
139. 1910 Census of Ag 5:883
140. Ibid 882
141. Woofter et al xxiv
142. Ibid 35-6
143. 1900 Census of Ag 1(Part 1):lxxxviii-xcii
144. Wilson and Clawson, Tables 3 and 5, p. 29
145. Ibid 63
146. Turner, ...NORTH CENTRAL STATES 38
147. Turner OWNERSHIP ... 41. Cf also Wiecking 31; Warriner
passim; and Roberts 14
148. Cf for example Poli 25
149. Warriner 22-3
150. Meyers 12

151. The word "concentration" in the Lorenz Concentration Ratio refers to concentration of much land in the hands of a few people; and not to concentration of size distribution near the mean, but the opposite of that.
152. Computed from Roberts 370-1; and Freund 237-8.
153. In Ackerman and Harris 310
154. Inman and Fippin
155. Ibid 55
156. Computed from Ibid 7; Turner, OWNERSHIP ... 6 (footnote), 7; and 1900 Census of Ag 1(Part 1): lxxxvii-xcii. Cf also Banks 33
157. Turner, ...NORTH CENTRAL STATES 22-3. In 1900 it was 120 acres for in-county landlords, and 183 for out-of-staters.
158. Turner, "Absentee Farm Ownership..." 50-1
159. 1900 Census of Ag 1(Part 1):xc
160. Meyers 11
161. Stokdyk 81
162. For data on such large holdings see THE LUMBER INDUSTRY passim; Banks 37; REPORT ON LARGE LANDHOLDINGS ...; Gray, "Land Speculation"; Billington, "Origin ..." and WESTWARD EXPANSION; Beard 23, 49; Hibbard Chap. 12; Hedges; Livermore; Ely, "Outlines..." 116; Gates, opera omnia; and Harris, ORIGIN...
163. 1940 Census of Ag 3:75
164. Myers 491-4
165. Black et al 494-5
166. Packard 55. See Note 29, Chap. I for several other sources.
167. EXEMPTION OF CERTAIN PROJECTS 942-3; 972-3
168. "World's Largest Ranch"
169. "El Solyo"
170. REPORT ON LARGE LANDHOLDINGS..30
171. For parallel observations in foreign countries see Gay 265; Warriner 102; Ackerman and Harris Chap. 13; Hardie A7-A8 (sic); Crist 229-30; and LAND REFORM 20, from which we quote:

"In Venezuela, for example, within easy reach of the capital now there are fertile regions utilized for extensive grazing which, with a different system of land tenure, could become a market garden area for Caracas. In other regions, all the produce from the areas of intensive cultivation on less fertile and steeply sloping hillsides has to be transported by human beings or pack animals across less intensively cultivated fertile areas to the town."

"The pattern of land utilization is thus the reverse of that which market conditions and natural resources require. The hillside land, which is best suited for pasture and woodland, is intensively cultivated for subsistence crops by hoe culture which destroys the top soil, while the valley floors, more suited for arable cultivation, are used for grazing."

172. Schultz, ECONOMIC ORGANIZATION ... 303. Like D. Gale Johnson previously cited, Schultz apparently uses "capital" metonymically to include land (see footnote, 71 p. 221 this chapter). Inasmuch as the returns to capital, in the classical sense of the word, are quite low on small farms, due to the overcrowding of capital on them, he probably refers here to land alone.
173. Schultz, PRODUCTION AND WELFARE... 143-5
174. Ibid 142 et seq; Schultz, ECONOMIC ORGANIZATION ... 353-4
175. Myers 435, 447, 455, 487
176. Computed from 1945 Census of Ag 2:67; and 1950 Census of Ag 2(Chap 10):775. 1900 is the first year for which all data are available from which to compute LCR.
177. Preliminary Reports by States, 1954 Census of Ag
178. Computed from 1900 Census of Ag 1:230; and 1950 Census of Ag 2(12):Table I
179. Computed from "Survey of Consumer Finances", and CONSUMER INCOMES ... 96
180. 1950 Census of Ag 2(10):775
181. Computed from 1940 Census of Ag 3:78-9 and 82; 1950 Census of Ag 2:776
182. 1950 Census of Ag 2:774-5
183. Substituting 1945 data for the breakdown under 10 acres, where 1950 data are not available, as indicated in Table 31.
184. Many economists have attributed the maldistribution of labor relative to land primarily to the immobility of labor as such. But in view of the fact much of American farm labor is on wheels, and especially in view of the fact that in the 'thirties migration was primarily into the very areas where there was already the least land base per man, there seems little basis for that opinion. (Goodrich, 75, 514-6; Goodrich, Allin and Hayes, 71 ff.)

CHAPTER IV

1. Ely, "Land Speculation" 127
2. Lewis et al 22
3. Pigou 142-3
4. That is, nearest the present, where the future values are least discounted.
5. Even urban sites are occasionally "conserved", as Ely professed in his doctrine of "ripening costs", in the sense that use plans extend over time and apparent present disuse may be an integral part of a use plan that promises higher future returns. But this would only explain sporadic appearances of misuse. We are dealing with a chronic problem. For more on this point see Section C, this chapter.
6. TO PREVENT SPECULATION ...S. 21. Testimony of Mr. Romans. He also alluded to two lesser "speculators".
7. Billington, "Origin..." In more recent times, Bureau of Reclamation land settlement specialists have observed that new farmers generally tend to break more land than they can profitably farm with the capital at their disposal. FARM EXPERIENCE STUDIES xiv. Cf Danhof, 320, footnote
8. "Acreage Limitation..."61
9. To add to the confusion in 1949 the first party "accused of land speculation" by the Bureau of Reclamation on the Columbia Basin Project was not the seller, but the buyer who had met his price! (Huffman 63)
10. FEDERAL RECLAMATION BY IRRIGATION 112
11. TO PREVENT SPECULATION...S. 16
12. FEDERAL RECLAMATION... 116
13. Hedges 232
14. Fisher, E.M., "Speculation..." 154
15. Gray, "Land Speculation" 64. Cf also ibid 68 where he makes "land speculation" virtually synonymous with private property.
16. Chambers, "Farm Land..." 687
17. Chambers, ibid, and RELATION...
18. George 255
19. Brannen and Sanders 7
20. Goldenweiser and Truesdell 70
21. Cornick, PREMATURE SUBDIVISION... 159. Cornick distinguishes land "value", capitalized from the current income, and land "price", which includes the "speculative" component.
22. TO PREVENT SPECULATION...S. 25
23. Goldenweiser and Truesdell 70
24. THE LUMBER INDUSTRY 181

25. Ely adopted a parallel terminology. He designated such holders "mere speculators". (Ely, "Land Speculation", 124).
26. A sharp line divides the problem speculator from other speculators. Ability to use land depends on individual traits, and all individuals differ. Individual sites also differ. There is, for each site, one and only one individual who is the best user. Anyone else who outbids him for title is a problem speculator. Thus, if quibble we must, we can carry this definition down to the finest point. Of course in practice we generally deal with much broader distinctions. For a fuller treatment of the point see Chapter V, Objection 1.
27. Ely, "Land Speculation" 127
28. Ely, "Outlines..." 104
29. Simpson and Burton 44
30. Land may also be "unripe" in the sense that the holder expects construction costs to fall in the near future, and awaits a chance to erect his buildings cheaper. But, again, this does not explain why the land was cleared of its former improvements, or otherwise unfitted for its previous use so prematurely.
31. Many writers seem to think not. E.O. Heady, for example, states: "Uniform interest rates would prevail in the long run under a competitive credit market." (Heady 559 footnote). See also citations on p. 350, below.
32. Scherman 88
33. Such an observation often evokes criticisms against the "time-preference" theory of interest. But it neither stands nor falls with that theory, or any particular theory of interest. It is simply an observation of fact: individuals differ, and there are barriers in the market between them. Any valid interest rate theory must admit of that fact. The time-preference, loanable funds, productivity of capital, and liquidity preference theories all do admit of it (as well as of each other, as Somers has so deftly shown). Keynes incorporated it most explicitly into his liquidity preference theory of interest (Keynes 144, 208).
34. Hoyt 120-1
35. MONTHLY REVIEW, Federal Reserve Bank of San Francisco, Jan. '52, p. 57; Wilcox & Cochrane, p. x. Cf Mezerik 30, on the acquisition of Tennessee Coal & Iron by U.S. Steel. Cf also Greeley, 18 and 58, for the same phenomenon in timber. In slack times the only sellers were the "hard pressed", and at all times the need to meet interest payments was an important factor controlling the rate of cutting.
36. Keynes 144-5

37. Schikele, "Farm Tenure..." 240. Schikele continues:
 "Many an encumbered owner-operator is starved for capital. He is sinking his savings into land equity and is left dry on operating capital. . . Any banker, however, can know relatively few farmers well enough to judge their characters, and those few are much more likely than not to be well-to-do, with easy access to credit almost regardless of their character. Results: lack of capital on farms where it is scarce and could contribute most to production expansion, and abundance of credit available to farms where no more is needed." Cf also Nicholson, who found the same pronounced tendency in markets for corporate securities. Cf also Wilcox & Cochrane 96
38. Hicks, POPULIST REVOLT, passim; Mead, REPORT OF INVESTIGATIONS... 4; FARM TENANCY 44
39. Gray and Turner. Cf also Cox, Ely and Hibbard 33
40. Mason 105
41. See note 134, Chap I, and pp. 114-115, Chap I; and Robbins 31
42. Packard 56-8
43. Heady 573
44. "Under existing institutional facilities a farmer is allowed to rent a larger volume of capital (in the form of farm land and buildings) than he is permitted to borrow." And: "A Corn Belt farmer with less than \$5,000 is not permitted to establish a firm of optimum size.... When a farmer makes the shift from renting to owning, his income is likely to be lowered." (Schultz, "Capital Rationing..." 314, 317)
45. Wantrup
46. Ely and Wehrwein, 135, 139.
47. Stigler, Theory of Competitive Price 175
48. Reder 36. See also 44
49. Brannen and Sanders 8
50. Jones, William O.

CHAPTER V

1. INVESTIGATIONS... 19. Some hint of the Japanese' high productivity is seen in their producing in 1941 almost 50% of the west coast truck crops from only 2.9% of the cropland (Poli and Engstrand 357). Of course this does not mean they outproduced Caucasians by 50/2.9, for they specialized in truck crops. But there is ample evidence that they tended to produce a good deal more per acre. See Poli, "Japanese Farm Holdings..." 10; Millis 800: NATIONAL DEFENSE MIGRATION 11313, 11341, 11815, 11824. Jacoby has noted a parallel in lower Burma, where Indian immigrants' "lower living levels enabled them to rent land at higher prices than the Burmese farmers." (Jacoby 85).
2. Birckbeck, cited in Johnstone 130. Cf Danhof 320 for many similar observations.
3. Knight 138. John R. Commons has summarized a study of the assets of 4,047 "millionaires" and concluded that an unusually high proportion of their assets were in land (Commons 253. Cf also Mezerik 56). Cf also Chapter III, above, where it is shown that larger landholdings have less capital per dollar of land value; and Chapter VI, below, where an explanation for this condition is offered.
4. Hedges 237. The Biharra Company of Egypt has also pursued this policy with success. Warriner 46-7
5. Mead, REPORT OF INVESTIGATIONS... 5. Cf Huffman 103
6. Black and Allen 408-9
7. Sometimes erroneously called diminishing marginal utility of income
8. Goldenweiser and Truesdell 70
9. INVESTIGATIONS OF LAND SETTLEMENT... 20
10. REPORT ON LARGE LANDHOLDINGS 31
11. FARM TENANCY 55
12. "The returns to the efficient farm operator who owns and works his land can be much higher, of course, than that received by the absentee landlord." ("Why it Costs More..." 94)
13. Many English farm landholders, according to the WESTMINSTER BANK REVIEW, are "businessmen who look upon a farm as a secondary source of income, a place to invest their profits, a pleasurable weekend occupation, a home for their retirement, or a means of 'living well off the land'." ("Farm Income...")

14. Keynes 144
15. Justice McBride, concurring opinion in regard to water rights of Hood River. 114 Oregon 122 at 190-91
16. Huffman 42; Akagi. See also Arrington
17. Clawson 302-6
18. Colean 127 et seq
19. Ostrogorsky 204 et seq
20. Jacoby 44
21. Levi. 25:10
22. Levi. 25:23
23. Levi 27:24
24. Deut. 19:14
25. Ely & Wehrwein 190-1
26. Deut. 15:1-2
27. Robbins, passim
28. Ackerman & Harris 245
29. Teele, IRRIGATION IN U.S. 78
30. Smith, Bert
31. Hutchins, Selby & Voelker 79
32. Weeks & West 54
33. Clark, Colin, in THE FINANCIAL TIMES, 9-10-53
34. Bacon 85-7
35. Jewkes 194
36. Chap IV
37. Wilcox and Cochrane 175
38. Weeks and West 35
39. Ely, Hibbard and Cox 14
40. INVESTIGATIONS OF LAND SETTLEMENT... 17
41. FEDERAL RECLAMATION BY IRRIGATION 114
42. TO PREVENT SPECULATION...H. 10
43. Simpson and Burton 44
44. "A City - 200 Miles Long?"
45. INVESTIGATIONS OF LAND SETTLEMENT... 7
46. Lewis et al 31
47. "Oil Leases: Like Reno -- You can't win just watching. You have to take a chance. Send for information." (Advertisement, San Francisco CHRONICLE, March 22, 1953)
48. Lewis et al Appendix 2; Shannon and Bodfish
49. The Uthwatt Report, cited by Spengler, Edward H., in THE AMERICAN CITY November 1942 p. 49
50. NY TIMES August 11 1935
51. Walker Chap 9; Lasch Chap 6
52. Weeks and West 31, 36, 38 et passim
53. INVESTIGATIONS OF LAND SETTLEMENT 12
54. Ely, Hibbard and Cox 12
55. Ibid 14
56. Chambers, RELATION... 33. Cf also Hunter and Nuekols 8
57. Keynes 154-5
58. Bittenheim 217
59. Cornick, PREMATURE SUBDIVISION... 11

60. Ely, "Land Speculation" 131
61. Joseph Balestier, a contemporary, cited by Hoyt 30
62. Martineau, cited by Hoyt 30
63. Bутtenheim 219
64. Hoyt 387-90
65. W. C. Hill, cited in Vanderblue 118
66. Vanderblue 122. For an entertaining profile of the most prominent Florida boomer, Addison Mizner, see Johnston
67. Scherman 35. Original source Bureau of Internal Revenue STATISTICS OF INCOME (not in bibliography)
68. Scherman 109. Original source Department of Commerce LONG TERM DEBTS IN THE UNITED STATES (not in bibliography)
69. "Holdouts, those who refuse to sell except for arbitrary or unreasonably high prices, have long been and will continue to be a major problem." Bутtenheim 223
70. See Abbott; and Rienks. Mitchell reports the same problem in Korea and Japan (Mitchell 22-3), and it is familiar in most settled areas, the United States not excepted. Weeks observed in the Sierra Nevada foothills that, after preliminary subdivision that was excessive for later needs, "speculative mineral values and other factors have inhibited subsequent consolidation into appropriately sized livestock ranching units." (Weeks et al, 30-1)
 Buck reports that in China local custom forces sellers to offer their land first to adjacent holders (Buck 25). Such a custom, whatever its virtues in that environment, would tend to encourage concentration, since larger holders are adjacent to more pieces than smaller holders. Indeed even without this custom this longer boundary line gives the larger holder in all countries greater bargaining power and more buying opportunities, and must tend to favor concentration.
71. THE LUMBER INDUSTRY 2:10
72. Ibid 1:96. The particular study is of course now out of date.
73. Cited in Bутtenheim 254
74. A PROGRAM... Introductory pages by Walter Blucher
75. "Urban Lands" 34
76. Bутtenheim 254
77. PROGRESS REPORT 10. Cf Aschman
78. A PROGRAM... 13-14
79. Aschman 243
80. Beatty
81. Wiecking 30

82. TAX COLLECTION... See also TAX DELINQUENT LAND...
Before 1895 California foreclosed and sold delinquent land immediately, allowing a one year redemption period. Now many lands have achieved virtual tax exemption through protracted delinquency, moratoria, compositions, and lengthening redemption periods. The same holds for many states. See Buttenheim 250-53. That source is now somewhat dated, but it would be a Pangloss indeed who would aver that the problems there described have all been solved.
83. Buttenheim 29. For other studies see Melcher 91-6; EIGHTH BIENNIAL REPORT 102; "Tax Survey of Young County..."; THE LUMBER INDUSTRY 3:184-7; Packard 55; Murray 327-8; Aull, TAXATION OF FARMERS... Simpson, Herbert D., TAX RACKET... 77; REPORT ON LARGE LANDHOLDINGS 5,22-6; THE LAND 648 et seq
84. My personal belief is that attempts to enforce better land use by direct administrative controls have raised insoluble administrative problems, and disappointed their authors -- except insofar as these were administrative empire builders
85. Taylor, DECLINE...
86. Powell. See also the following articles in the Encyclopedia of Social Sciences: Entail; Perpetuities; Alienation; Landed Estates
87. San Francisco CHRONICLE December 17 1952
88. Powell 989-92
89. Buttenheim. Cf also Grebler 26. Concerning dower rights see Jome 31
90. Harris, "Legal Aspects..." 8-9
91. Powell 992
92. Schikele and Norman 180. So lax was the administration of the Henry Miller estate that one trustee, Houchin, is now posthumously accused of fraudulently conveying trust lands to himself (San Francisco CHRONICLE, August-December 1955 passim). If a trustee might go that far, what might he not do to the land he administers?
93. Stanford University has a 9,000 acre campus, approximately one-third the area of San Francisco, held in inalienable charitable trust. That is one acre per student. Not until recently, 65 years after the original grant, have the trustees made an effective effort to develop parts of "the farm" for income. Even yet they are reserving 4,000 acres for "campus use". NY TIMES November 28 1954
94. Pomfret Chap 2. Cf also Abbott, re France
95. du Bois, Ayres J., 552

CHAPTER VI

1. Cf Chap II, above, pp. 137-41
2. Goldenweiser and Truesdell 67. Cf also Gray and Lloyd;
3. See Chap V, above, Objection II. Cf also Danhof 320; "Acreage Limitation..." 7-8; Billington, "Origin..." 205; Mead, REPORT OF INVESTIGATIONS... 5; and Gates 2
4. Gray, "Land Speculation", 67. Cf Ely, "Outlines..."
5. Simpson, Kemper, 7-8, 74; Report of Commissioner of Internal Revenue on Corporation Income and Excess Profits Tax Returns for 1939; Berle & Means
6. Haig; EIGHTH BIENNIAL REPORT... 191, 198-9, 101; Grebler Chap 8; Colean 79-80; Olcott, BLUE BOOK passim
7. The following sources indicate that larger firms tend to hold a higher ratio of land to other productive inputs, in the specified industries. Hydro-electric power: NATIONAL WEALTH... 77, 79; Anthracite: NATIONAL WEALTH... 86-7; Jones, Eliot, 107 ff.; REPORT, U. S. Coal Commission, 38. Molybdenum: Asch. Lumber: THE LUMBER INDUSTRY I xxii, 35-6, 106, 132, 208; Ibid II 156, 165; Greeley 12-13. Publishing: "Hearst" 52-3; Marion 58, 66. Aluminum: Muller Chaps 2 & 4; Burns 39. Steel: THE STEEL INDUSTRY 372-8; Fetter 76, 369; Stocking and Watkins 117; Moody, TRUTH ABOUT TRUSTS 144-7, 202; CONTROL OF IRON ORE 132 ff. Sulphur: Montgomery
8. Moonitz; Lutz; Henderson; Wallich; Meade and Andrews; Ebersole.
9. See Lamartine-Yates 146: "The smaller a man's acreage, the more important that he should have a large turnover, and that means livestock and market garden products rather than cereals."
10. Stokdyk, 82; Chap III, above, p. 240

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