

The Modern Development of Classical Rent Theory

By CONWAY L. LACKMAN

ABSTRACT. Modern *rent theory* evolved considerably from rent's classical definition as an *unearned increment* and rests today on the classical footing that part of rent enters price. Rent on *marginal land* arising from *opportunity cost* becomes a cost and affects *price*. However, no synthesis could be made with the classical view of rentless margins with rent no part of price. *Alfred Marshall* developed *Adam Smith's monopoly* theory to where short run quasi-rent arises from fixed land supply, introducing rent as a cost which may be price-determined. The *diminishing returns* theory followed Malthus' concept that when successive lands are cultivated, they are more and more inferior. The *productivity* theory of *John Bates Clark* integrated rent theory by defining rent as the discounted value of the marginal product of land. Land of equal quality and unlimited supply would have a zero marginal product and be rentless. Measurement of Clarkian rent has been developed through the *Cobb-Douglas production function*. Under perfect competition, rent will determine the efficient *allocation* of various lands ranked by their respective marginal products. Variance of rents around the marginal product of land stemming from the institutional frictions of *imperfectly competitive conditions* are measurable and represent extensions of the Clarkian theory into a modern theory of rent resting on classical footings.

I

INTRODUCTION

IN AN EARLIER ARTICLE, we developed the base for the classical theory of rent (1). Price is considered to be determined by cost of production at the margin; there will be no rent at the margin, therefore, rent is price-determined. If marginal land should bear a rent, price determining forces are posited to be operating at the intensive margin which would be considered rentless. These conclusions are consistent with a real cost theory of value. Yet there was left undeveloped in rent theory the elements of competing land uses and scarcity, on which the early writers through David Ricardo failed to reach a consensus, and the application to urban land. It is these elements with which we concern ourselves in this paper.

II

RESTATEMENT OF CLASSICAL RENT THEORY

WRITERS UP TO RICARDO'S TIME considered only rural or agricultural rent. Urban rents were of little importance at that time and had no rela-

tion to the corn laws. These writers considered the rent paid by "raw produce" as a whole and said nothing about rent paid by particular agricultural produce. Since they considered only rural rent and reduced all kinds of raw produce to one, they did not develop the idea of competing uses causing rent to arise at the margin. Rent does not enter into the costs of production and therefore has no effect on price. It must be remembered, however, that the concept of opportunity cost had not been developed at the time.

JOHN STUART MILL

Period of transition. John Stuart Mill's statements on rent represent a period of transition. Rent, said Mill, is the effect of a monopoly which cannot be prevented from existing. Even so, land will command a price only if the demand for it is greater than the supply. Although in total, land is not scarce, fertile and well situated land is scarce and therefore yields rent.

Mill agreed with Ricardo that rent is a surplus; the amount yielded by better lands above that yielded by the worst land in cultivation (2). In answer to Richard Jones, Mill observes, "This is not, and never was pretended to be the limit of metayer rents, or of cottier rents; but it is the limit of farmer's rents" (3).

Mill endeavors to distinguish between payments made for original powers of the land and those made for capital expended on the land. The former are clearly rent (4). In the case of the latter, he states, "but with regard to capital actually sunk in improvements, and not requiring periodical renewal, but spent once and for all in giving the land a permanent increase of productiveness, it appears to me that the return made to such capital loses altogether the character of profits, and is governed by the principles of rent" (5). In other words, capital spent to increase the fertility of land raises the rent of such land because "equally fertile land commands an equal rent, whether its fertility is natural or acquired" (6). To this extent, Mill finds himself in accord with H. C. Carey who considered all rent the effect of capital expended.

Mill attempts to clarify the apparent contradiction in Ricardo's explanation of rent regarding the statement that rent arises only because land is scarce and of unequal quality (7). Mill points out that even if all land were of equal quality, those lands nearest the markets would yield a rent equal to that advantage. Beyond this, he points out that given the assumption of equal fertility of the land, rent would still be measurable from the intensive margin.

In the relation of rent to price, Mill agreed with the earlier writers. He observed that costs of production varied from one farm to the next. The price of products, however, is determined by the cost of those units which are produced at the greatest expense. In other words, price is determined at the margin of cultivation. This margin of cultivation is rentless. "Rent, therefore, forms no part of the cost of production which determines the value of agricultural produce" (8). In Mill's eyes, rent is no burden to the consumer as it is not a part of price (9).

Competitive Rental Concept. However, in a very short aside on non-agricultural rents, Mill introduces the competitive rental concept. Here, he intimates that non-agricultural land must pay at least as much rent as it would yield in agriculture. In fact, such land may have site value even beyond this amount. He cites Cheapside as an example, where people will pay a higher rent because of the "superior facilities of money-making in the more crowded place" (10). In other words, higher rent will be paid because of the scarcity of such sites.

Beyond this, Mill anticipated future developments by pointing out that there are cases of extra profit analogous to rent. He states, "All advantages, in fact, which one competitor has over another, whether natural or acquired, whether personal or the result of social arrangements . . . assimilate the possessor of the advantage to a receiver of rent" (11).

Mill's statements made no changes in the central core of Ricardian rent theory. Rent is still viewed as a differential surplus and is still considered outside of value. However, Mill begins the introduction of several strains of thought that become increasingly important in the literature on rent.

Competing Uses for Land. First of all, Mill considers the possibility of competing uses for land. In other words, if one wants to use a particular plot of land for residential purposes, one must pay for such land a price at least as high as such land could command in agricultural use. Besides this, a plot of land may have site value in excess of this amount. Here Mill is thinking of the scarcity of sites for particular purposes, such as the scarcity of land in the heart of an urban business district. Mill falls short of developing the opportunity cost concept treated most extensively by Davenport and Brown (12).

Mill deviates from the classical concept of the relationship of rent to price. Although in general he concludes that rent is not an element of cost of production, he admits that where rent represents a scarcity value, it does become a cost. In such an instance, rent becomes a part of price. It should be noted that Mill hedges his position here by stating that a case where rent does represent a scarcity value is more of a theoretical possibility than an actuality.

To this writer's mind, Mill's conflicting conclusions regarding the rent-price relationship are illustrative of a problem which has plagued discussions of rent to the present day (13). The problem is one of conflicting hypotheses. On the one hand, land is assumed to have no scarcity value; on the other hand, it is assumed to have scarcity value. The first assumption is the classical position. If land has no scarcity value, the margin will be rentless and the classical postulates follow. If, however, land has scarcity value, the margins will yield rent. Therefore, rent is a cost of production and must be a part of price. Mill makes the existence of these two hypotheses clear.

Profit May Contain Elements of Rent. The final major contribution which Mill makes to the advancement of rent theory is his observation that profit may contain elements of rent. This is the beginning of a trend toward extending the concept of rent to all the factors of production. Mill, however, only extends the concept to profits.

ALFRED MARSHALL

In Ricardian fashion, Alfred Marshall also states that rent is a surplus (14). He demonstrates that the amount of this surplus is that amount of excess yielded by the land in question over land at the margin. This is not a full theory of rent. This surplus produce may become rent under certain conditions. "The full rent of a farm in an old country is made up of three elements; the first being due to the value of the soil as it was made by nature; the second to improvements made in it by man; and the third, which is often the most important of all, to the growth of a dense and rich population and to facilities of communication by public roads, railroads, etc." He adopts the attitude that the line between improvements and the original powers of the land is blurred and with that infers that one can ignore the distinction. However, at a later point he refutes Carey by pointing out that the present value of populated land is much greater than the expenses of developing its value (15).

"*Quasi-Rent.*" In short periods, says Marshall, the income from appliances may be similar to rent. In other words, over the short period, receipts may exceed cost, creating a surplus (16). Marshall coins the term "quasi-rent" as "interest on 'free' or 'floating' capital, or on new investments of capital, is more properly treated as a sort of rent—a quasi-rent—on old investments of capital" (17). And thus even the rent of land is seen, not as a thing by itself, but as "the leading species of a large genus" (18). Quasi-rent will enter "normal supply price" in the short run, thus it cannot be considered a true rent. Quasi-rent would not arise

in long periods because supply can adjust to demand (19). In other words, the condition of fixed supply (which Marshall considered permanent in the case of land) becomes the basis of the extension of the rent concept (20).

The relation of quasi-rent to cost is not completely clear. In a footnote, Marshall says quasi-rent is "no part of cost under any conditions," but "the confident expectation of coming quasi-rents is a necessary condition for the investments of capital in machinery and for the incurring of supplementary costs generally" (21). Here Marshall reasons that quasi-rent is not part of cost in the short-run because it is not part of prime costs. Since quasi-rent disappears in the long run this seems to exempt it from any connection with cost. However, quasi-rent does enter price in the short run whether it is called a cost or not. Marshall's reasoning on this point fails to be convincing. Stating that quasi-rent is not a cost does not eradicate the fact that if it enters price it must be a cost. This inconsistency focuses attention on the broader problem of Marshall's attempted synthesis of market costs and real costs (22).

To Marshall, costs are made up of effort and waiting. In other words, all costs are real costs. It thus follows that price is based on real costs. This, of course, is the familiar classical position. On this basis, rent, which it is impossible to define as a real cost, is not a cost and therefore plays no part in the determination of price. Having reiterated this position, Marshall proceeds to contradict himself again and again. It has already been shown that quasi-rent enters price in the short run. Beyond this, Marshall speaks of the possibility of marginal land yielding rent in which case rent would be part of price. Marshall himself always circles this problem by returning to real cost considerations. His discussion of the meteoric stones is the best illustration of this. The stones are absolutely fixed in supply and will be distributed by the price system to their most important uses. It seems clear that there will be no marginal no-rent stones. If the stones must be used in production, the price of such production must be high enough to cover the cost of using the stones. Thus, the "rent" in this case is clearly price-determining. However, instead of viewing the problem from this standpoint, Marshall returns to real cost considerations by discussing the fact that regardless of who receives the rent, the productivity of the stones will not be altered (23).

Marshall's problem is one of synthesizing a real cost theory of value with market or opportunity costs. By implication, Marshall's position seems to be that in the long run marginal producers will have the alternative of moving to no-rent land. Thus, rent need not enter price in the

long run, and in the long run all costs will be real costs. In the short run, rent may enter price, but Marshall still avoids titling rent as a cost.

It must be remembered that Marshall's background was Ricardian. He was impressed by the comparative fixity of land and the fluidity of capital. As has been pointed out, his whole analysis of rent is based on real cost or the social point of view. How much does it cost society in terms of human effort to get anything produced? From this point of view Marshall is no doubt correct because rent is certainly not a human cost. However, it seems illegitimate, even impossible, to jump from real costs to money costs.

"Scarcity Rents" and "Differential Rents." Marshall distinguishes between "scarcity rents" and "differential rents" (24). He states that one should use whichever approach best fits the situation. If the situation is one where supply is clearly limited, the scarcity approach would be the most direct. For example, land in the heart of a city business district is utterly fixed in supply. However, it would be legitimate to measure such rent by the differential method. The rent would then be measured as the differential surplus over the less productive marginal use of such land (25). In this instance, the intensive margin is used for comparison. By inference, the intensive margin is rentless.

The above illustration also serves admirably to show that the existence of inferior land is not required in order to determine rent. Should the land in question be of equal quality, the intensive margin would still be operative. In other words, it is not necessary to compare the use of better land with the use of inferior land. A differential comparison may be made of the most advantageous uses of the better land with the marginal uses of the same land.

Marshall also notes that it is incorrect to state that the existence of inferior land tends to raise rents on the better lands. Should there be no inferior land, the better land would have to be cultivated more intensively, thus raising the price of the produce, thus raising rent (26).

Marshall makes no significant changes in the central core of classical rent theory, but makes a significant step forward with the introduction of the quasi-rent concept. This concept is explicitly limited to durable capital, although Marshall notes that it is conceivable that something similar to quasi-rent might apply to other factors of production (27).

To this writer's mind, Marshall's most significant contribution to rent theory is one he never intended to make. That is, his failure to effect a synthesis between real costs and market or opportunity costs forced a re-appraisal of the classical position. This failure opens the door for modern

theories of value and the view that rent is an element in cost of production.

FRANK W. TAUSSIG

Like Marshall, Taussig is Ricardian in approach. He restates the classical position that because price is determined at the margin, intramarginal producers will receive surplus gains. These surplus gains are economic rent. Beyond this, Taussig maintains that rent is not the specific product of land but arises only because of a shortage of superior land. If land were unlimited, it would still be used and would still yield a product. However, there would be no rent and no idea of specific productivity (28).

Taussig takes mild issue with Ricardo over the idea of "original and indestructible" powers of the land. Taussig observes that fertility may be maintained or even replaced by careful husbandry. It is, therefore practically impossible to determine how much of the fertility of a plot of land is due to the "original" powers of the land and how much to man-made improvements and very difficult to ascertain the precise amount of economic rent on any particular plot that has been under cultivation for considerable periods of time. However, "when once permanent improvements have been embodied in the land, the effect is precisely the same as if nature had made the land good" (29). Even though capital has been sunk in the land, the return to this capital is governed by the principles of rent rather than the principles of interest.

Given the difficulty of isolating economic rent, Taussig concludes that a single tax would be administratively impossible. He suggests that the same effects could be realized through public ownership of land. However, he also discards this idea as impractical, because he feels the incentive of private ownership is necessary to have improvements in the art of agriculture. He suggests an alternate proposal in the form of appropriating all future increases in rent, but this too presents great administrative difficulties. Taussig concludes that all things considered, it is wisest to leave present arrangements undisturbed (30).

Taussig maintains that urban rent is essentially the same as agricultural rents—arising because of differential advantages. These advantages primarily take the form of location. The principle of diminishing returns also applies to urban sites, so here again there is an intensive as well as an extensive margin. As in the case of agricultural land, the rent of urban land is not a cost and thus is not price-determining (31).

Taussig, firmly classical in his position, upheld the view that rent is a

surplus in the form of a differential, measured from either the extensive or intensive margin (32). Further, these margins will be rentless with the resulting conclusion that rent is not a part of price (33). The primary contribution of Taussig to the classical theory is his neat finishing touch on some of the subtleties of the theory.

Ricardo's definition of rent (loosely phrased) as "original and indestructible powers of the soil" was especially open to criticism. Taussig fills the gap here by showing that the classical principles of rent apply whether the powers of the soil are original or man-made. Mill also dealt with this problem.

It may also be recalled that this writer concluded that Henry George brought the classical position to its logical conclusions (34). Under classical assumptions, rent indeed appears to be an unearned increment. This brings up the proposition that if rent is unearned, it should be proper to take this amount away from the landlord in the form of a tax (the basis for the single-tax proposal). Taussig answers this proposal without compromising his own position on rent. Because he believes it practically impossible to isolate economic rent, he concludes such a tax would be impossible to administer. Clearly, it would not be desirable to tax the return on the capital sunk in the land, even if such return does take the form of rent (35).

By this time urban rents were becoming increasingly important and in recognition of this fact, Taussig undertakes a clear extension of classical theory to this problem. Again, nothing significant is added to the theory but a gap is filled. He observes that in essence urban rents are identical to agricultural rents (36).

Taussig's straight-forward style and clarity depart on the question of rent. How could Taussig have written an entire chapter on urban rent and apparently have seen no inconsistency in the classical position with regard to the relationship of rent and price? As long as a writer discusses only agricultural land, the possibility of no-rent marginal land is conceivable. However, in discussing urban rent it seems that the most cursory glance at a business district must rule out no-rent land at the margin. For a business, marginal land can not be thought of as being outside the city limits. If no-rent marginal land is available it must exist within a tightly circumscribed area. The assumption that such land does exist appears completely invalid. Likewise, the assumption of a rentless intensive margin appears completely invalid. Also, the assumption of a rentless intensive margin appears illegitimate. It is just plain impossible to argue away the fact that such land is scarce. This does not mean that

the rent of such land can not be measured by the differential approach. It is meant to show the futility of trying to maintain the Ricardian position that rent is not a part of price, in the case of urban business district rents.

III

CONCLUSIONS

GENERALLY RENT THEORY at this stage remains on classical footings. However, a minor chord has been sounded regarding the relationship of rent to cost and thus to price. Cost of production is still thought of in terms of real costs. The new classical position seems to be that *part* of rent enters into price. In other words, should marginal land bear a rent because of the opportunity cost principle, rent would become a cost, thus affecting price (37). The difficulty of resolving this proposition with a real cost theory of value is obvious, and no successful synthesis was made.

The conflicting conclusions regarding the relationship of rent to price are symptomatic of the existence of two separate hypotheses underlying the problem. The traditional classical assumption of rentless margins produces the logical conclusion that rent is no part of price. The assumption of rent at the margin produces the opposite conclusion—namely that rent is a part of price. Much economic talent has been wasted in fruitless controversies over the rent-price relationship. Most of these controversies could have been avoided if more scrupulous attention had been paid to underlying assumptions.

Three essential theories of rent emerged. The monopoly theory posited scarcity as the cause of rent (38). The diminishing returns theory posited that rent is a surplus which resulted from declining returns on additional inferior lands brought under cultivation. The productivity theory argued that rent is the discounted present value of the marginal productivity of land which may arise from differential advantages among land parcels as a result of locational and fertility differences.

The monopoly theory as developed by Smith argued that rent is a monopoly price and limited land gives rise to rent. Services of land are costless (labor and capital have a cost) hence rent arises from monopoly. Later, Smith retreats admitting that land interests are not a single seller therefore not a monopoly (39).

Mill stated that rent can arise from scarcity, hence monopoly, but that such cases were rare. Mill provided Marshall with the basic postulates of rent theory: If land has no scarcity value the margins are rentless and classical theory holds. If land is scarce, the margins yield rent which becomes a part of production and is price-determined (40).

Marshall supports the theory for the short run stating that fixed supply

creates rent or quasi-rent. Quasi-rent (cost or not) does not enter price in the short run. In the long run, land is not fixed and movement to no-rent land means all costs are real. Marshall recognizes market and opportunity costs determined by supply and demand but is unable to synthesize this concept with real cost (41). His theory of rent became the cornerstone of modern theory by introducing rent as a cost which may be price-determined. Taussig, an advocate of scarcity as a cause of rent, would not assign a cost to rent. He felt the "powers of the soil" could not be measured, nor could rent, which could not be price-determined (42). He amplified the difficulties of measurement encountered in the productivity theory.

The diminishing returns theory as stated earlier was a Ricardian detour to keep rent out of price. However, the theory did recognize that different output rates have different costs (43). Ricardo's differential productivity was built on Malthus' concept that successive lands brought under cultivation are inferior (44). Neither felt rent was monopoly-based, but rather (especially Malthus) that rent arose from the bounty of nature, a notion Ricardo later ridiculed (45). Mill introduced the competing use adjustment thereby enriching the differential returns concept (46).

The productivity theory was built by John Bates Clark on the preceding theories and served as the integrating framework for rent theory. Rent is the discounted value of the marginal product of land as a factor of production and is, hence, price-determined with an accounting for opportunity cost (47). The marginal productivity of land diminishes as inferior land is increasingly used in production. The monopoly theory of scarcity explains market supply influence such as locational or fertility advantages on the marginal productivity of land, hence, differences in urban and agricultural rent can arise. While all the foregoing theorists agreed that rent was a differential surplus, there was no conclusive theory or agreement on assumptions that either intensive or extensive margins are rentless, hence rent is not a cost and no part of price.

This then was the beginning of the theory of rent and eventually has led to our present day marginal productivity approach. J. B. Clark found in George's "Unearned Increment" his generalization of rent theory (48). Land adds (an increment) to the total product, *i.e.* a marginal product of land. Rent arises because of the productivity of land in question. If all land were of equal quality, and were unlimited in supply, the marginal product of any given plot of land would be nil (49). The whole of the product would belong to labor and capital, and rent would be non-existent. If all land were of equal quality, but scarce, rent would arise and would be

equal on each plot of land with a given application of labor and capital. This rent would be equal to the marginal product of the land. Rent would be measured by withdrawing an individual plot of land from use and determining what effect this would have on total product. Further, if land were not only scarce but of unequal quality rent would also arise. Again, the rent would be equal to the marginal product of the land and would be measured in the method described above (50).

The Clarkian marginal productivity analysis suggests the need for a production model wherein the relationships between marginal (one unit) changes in input and resulting changes in output can be explicitly examined. Just such a model was the Cobb-Douglas production function developed to establish replicable laws of production and, by no means incidentally, test the marginal productivity theory (51). Their production function took the form: $X = L^{\alpha} \cdot K^{1-\alpha}$, where X is output, L , labor and K , capital. The marginal product of any factor, (L, K , or land if it were included) is the first partial derivate co-efficient of that factor, *e.g.*, for labor: $\frac{dL}{dX}$. By adding or withdrawing a unit of labor, while holding technology and quantity of other factors constant, *i.e.* maintaining a partial equilibrium condition, we can find the marginal product of labor. Similarly, by withdrawing a unit of land where land is explicit in such a model, we can find the marginal product of land (52). Where it is difficult to maintain partial equilibrium conditions, the model is less useful. However, the Cobb-Douglas model firmly rooted in Clark's theory has served as the basic widespread measurement of productivity and factor shares (53).

In passing, it should be noted that in reality the marginal product of any piece of land will vary with its use. Thus, a piece of land may yield a marginal product of 100 units if used for truck farming and 700 units if used for manufacturing widgets. If the value of the truck farm produce is greater than the value of the widgets, the land will be used for truck farming. Thus it is seen that the marginal product is important for determining to what use land will be put. Like any other factor of production, land will tend to shift to that use which can pay the highest rent. Under perfectly competitive conditions, the amount of rent any use can pay is determined by the marginal product of the land in that use. For example, if we ordinarily rank land according to the size of its marginal product by each category of production use, we could allocate efficiently the use of that land and measure the rents on it in production.

Under the imperfectly competitive conditions of the real world, how-

ever, we would find a variance of the rent from the expected marginal product for each land use, one created largely by institutional frictions. For example, factors of production are not completely mobile, such that they can move to land where marginal productivity is relatively higher. Further, the size of the rent variance would be different for different land uses partially as a result of institutional bargaining between landlords and government regulation of landlords and tenants. Should the rentier be more powerful, rent is likely to exceed the marginal product of the land. Should tenants be more powerful, *e.g.* in presence of a union or tenants association, rent may be less than the marginal productivity of the land. Conditions in the markets for which the land is producing may have analogous effects (54).

These complications by no means defeat the Clarkian approach to rent determination. Our observation of rent as the marginal product is a view of the system at rest, as is the ocean without frictional winds or tides. The task is to measure the frictions more precisely, rather than abandon the roots of modern rent theory.

Rutgers University
New Brunswick, N.J. 08903

1. Conway L. Lackman, "The Classical Base of Modern Rent Theory," *Am. J. Econ. Sociol.*, 35 (July, 1976), pp. 287-300.
2. J. A. Schumpeter, *History of Economic Analysis* (New York: Oxford Univ. Press, 1954), p. 561 and fn. 17. Mill clung to Ricardian rent theory but he felt requisiteness of land plus its scarcity were sufficient concepts to explain rent.
3. J. S. Mill, *Principles of Political Economy*, Vol. 1, 7th Ed. (London: Cooperative Publishing Society, 1908), p. 408.
4. Schumpeter, *op. cit.*, p. 560.
5. Mill, *Principles*, p. 408.
6. *Ibid.*, p. 413.
7. Schumpeter, *History*, p. 560.
8. Mill, *Principles*, p. 455.
9. Mill, however, in attempting to quantitatively justify that rent is not an element in the cost of production, upon examination renounced it, leaving a muddle but a fertile one from which Marshall built anew. See Schumpeter, *op. cit.*, pp. 604-5.
10. *Op. cit.*, p. 458.
11. *Op. cit.*, p. 459.
12. See H. J. Davenport *Economics of Enterprise* (New York: Macmillan Co., 1913), pp. 190-91 and Ch. 13, and H. G. Brown *Economic Basis of Tax Reform* (Columbia, Mo.: Lucas Bros., 1932), pp. 151-165. Brown's contributions are summarized in Will Lissner, "In Memoriam: H. G. Brown, 1880-1975," *Am. J. Econ. Sociol.*, July, 1975, pp. 246-48.
13. Schumpeter, *History*, pp. 676-77. States with Mills' requisiteness and scarcity we do not find the assertion of a productivity theory of rent that might have been expected. We do find Say's concept of incomes as factor prices inserted into Ricardian Rent Theory "without betraying any symptom of logical discomfort."
14. A. Marshall, *Principles of Economics*, 7th Ed. (London: Macmillan & Co., 1930), p. 156.
15. *Op. cit.*, p. 934.

16. Schumpeter, *History*, pp. 937-38 shows, however, that rent as surplus is no more confined to natural agents than it is to productivity income and derives no surplus over opportunity cost though their revenues may exceed Marshallian real cost.
17. Henry W. Spiegel, *The Growth of Economic Thought* (Englewood Cliffs, N.J.: Prentice-Hall Inc., 1971), p. 569.
18. Marshall, *Principles*, p. 412.
19. *Op. cit.*, p. 569.
20. Schumpeter, *History*, p. 935.
21. Marshall, *Principles*, p. 421.
22. *Op. cit.*, pp. 935-36. If land is fixed in the short run, quasi-rent appears as a direct analogue of Ricardian Rent Theory.
23. See D. A. Worcester Jr., "Reconsideration of the Theory of Rent," *American Economic Review*, Vol. 36, June 1946, pp. 258-77.
24. Marshall, *Principles*, Ch. 5, 7, and 8.
25. *Ibid.*, Ch. 5, 7, and 8.
26. *Ibid.*, Ch. 5, 7, and 8.
27. Schumpeter, *History*, pp. 994-5.
28. F. W. Taussig, *Principles of Economics* (New York: Macmillan & Co., 1915), pp. 55-75.
29. *Ibid.*, p. 77.
30. *Ibid.*, pp. 515-17.
31. *Ibid.*, pp. 81-85.
32. *Ibid.*, pp. 55-57.
33. *Ibid.*, pp. 59-62.
34. Conway L. Lackman, "The Classical Base of Modern Rent Theory," *Am. J. Econ. Sociol.*, 33 (July, 1976), p. 297.
35. Taussig, *Principles*, pp. 92-106.
36. *Ibid.*, pp. 85-91.
37. F. A. Fetter, "The Passing of the Old Rent Concept," *Quarterly Journal of Economics*, May, 1901, pp. 453-55.
38. Schumpeter, *History*, pp. 932-38.
39. Adam Smith, *An Inquiry Into the Nature and Causes of the Wealth of Nation*, (London: W. Strahan & T. Cadell, 1776), Ch. 11.
40. J. S. Mill, *Principles*, pp. 408-13.
41. Marshall, *Principles*, pp. 412-24.
42. Taussig, *Principles*, p. 77.
43. David Ricardo, *On the Principles of Political Economy and Taxation* (London: E. C. K. Conner, 1891), p. 49.
44. T. R. Malthus, *Inquiry into the Nature and Progress of Rent* (Baltimore: John Hopkins Press, 1903), pp. 23-27.
45. Schumpeter, *History*, p. 932.
46. Mill, *Principles*, p. 458.
47. Davenport, *Economics*, pp. 190-191, and Brown, *op. cit.*, pp. 151-65.
48. Spiegel, *The Growth*, p. 619.
49. P. H. Douglas, *The Theory of Wages* (New York: Macmillan & Co., 1934), pp. 37-40.
50. *Ibid.*, pp. 40-49.
51. C. A. Cobb, and P. H. Douglas, "A Theory of Production," *American Economic Review*, Supplement, March, 1928, pp. 139-165 and P. H. Douglas, *The Theory of Wages*, pp. 49-67.
52. Where land is not an explicit factor, it may be handled as a shift variable, much like technology.
53. See V. Edelberg, "An Econometric Model of Production and Distribution," *Econometrica*, July, 1936, pp. 210-25; A. A. Walters, "Production Functions and Cost Functions," *Econometrica*, April, 1963, pp. 1-53, and P. H. Douglas, *The Theory of Wages*, pp. 25-49 and especially pp. 37-49.
54. These parameters affecting rent determination as here discussed were first developed analogously for wage determination. See A. Kuhn, "Toward an Integration of Wage Theory," *Southern Economic Journal*, July, 1959, pp. 13-20.