MARKETS WITH SPATIALLY DISPERSED PRODUCTION

7.1 SPATIAL DISPERSION

In Chapter 5, we discussed price and trade relationships involving localized product sources and localized markets. This treatment of point-trading models can be extended readily to situations in which resources are for the most part ubiquitous, where production is widely dispersed through space, and where consumers also are scattered over a broad geographic expanse rather than concentrated at a single point.

In agricultural production the basic resource is land, so that farming by its very nature is carried on at a multitude of points in space—at millions of farmsteads. Thus, any particular market for a given commodity may be served by thousands of farms distributed through hundreds of square miles of farming country. In manufacturing, as in agriculture, the customers for a particular plant may include wholesale and retail distributors scattered across a very large geographic area, while final consumers are even farther dispersed and segregated through space. Economic models that treat explicitly the spatial dimension of market price are, therefore, of widespread interest.
7.2 SITE-PRICE SURFACE

For convenience, we use the term *site price* to refer to the price of a product at a particular location or site. A product site price is derived from a particular base market price; that is, it is the market price less transfer cost from the particular site in question. We can think of a *site-price surface* as a representation of the spatial pattern of site prices oriented to a given market or set of markets.

Consider first the case of an isolated market surrounded by an agricultural area in which only one product is grown. The site-price surface for such an area is illustrated in plan view and in cross-section view in Figure 7.1. Let us suppose that a single uniform price $P_m$ is established for this crop at the market center, indicated as 25 cents per pound (point a) in the cross-section view. Farm-to-market transfer costs also are taken as given. The price $P_f$ at any farm location is therefore equal to the market price less the appropriate transfer cost $t$ which, in turn, is a function of distance from market $f(D)$. The resulting *site-price function* may be written as

$$P_f = P_m - T = P_m - f(D). \quad (7.1)$$

This site-price function is illustrated for the cross-section at RS in the upper diagram of Figure 7.1, where farm prices are shown to be decreasing with distance from market.

The cone-shaped, site-price surface can also be represented in plan view, as in the lower diagram. Here, the concentric circles represent contours of equal farm prices. An *isotim* (Palander) is the locus of points corresponding to the sites for which a specified transfer cost is required to move a unit of product to a particular market center and is, therefore, a special type of isoprice contour. Since the isotims in Figure 7.1 reflect a given market price less transfer costs that increase with distance at a decreasing rate, the farm price structure falls off with distance from market, but at a decreasing rate. For this reason, the more distant isotims are drawn with radii that increase at an increasing rate to reflect the longer distances covered with a given increment in transfer cost. Notice also that the farm price immediately adjacent to the market is *not* equal to the market price but differs from it at least by terminal charges $ab$.

At present, we defer any discussion of the case of a concentrated production point surrounded by scattered consumers, but the reader will recognize the similarity between the production area and the market area cases. In the latter, prices *delivered* to consumers will represent the central price *plus* transfer costs, and the site-price surface will resemble an inverted cone or funnel.
7.3 THE LAW OF MARKET AREAS

Up to this point we have treated the case of an isolated market in an agricultural region. Consider now the case involving several markets which compete for available supplies. What principles govern the allocation of the producing territory among these markets?

Suppose that you were a farmer in a region producing a crop that could be sold in any one of several markets. For each alternative market outlet the price at your farm would be represented by the market price less the appropriate transfer cost. Should one of these site prices be higher than any other, you, operating on a free-choice basis and in your own best interest, would select it as the market to which you would ship your crop. Notice that this decision involves only market prices and transfer costs, since your production costs are unaffected by the market selection.

By chance, a farmer may find that a particular set of market prices and transfer costs for two alternative markets result in exactly identical net prices at his farm location. Under these conditions, the choice between
these two markets would be a matter of indifference to him. A neighboring farmer located a little closer to market A would find a slight advantage in shipping to A, although a neighbor on the other side would find an advantage in market B. Apparently, this farmer is located on the competitive margin or boundary between the two markets. This free-choice principle gives rise to what Fetter has called the “law of market areas.” This law asserts that the boundary between two competing markets is the locus of points so situated that the site prices (market price net of transfer cost) for shipments made to the competing markets are equal. In algebraic terms, this law can be expressed as follows:

\[ P_a - t_a = P_b - t_b \]  
\( \text{(7.2)} \)

or, in terms of market price difference, as

\[ P_a - P_b = t_a - t_b \]  
\( \text{(7.3)} \)

where

- \( P = \text{market price} \)
- \( t = \text{farm-to-market transfer cost} \).

and

subscripts = alternative markets, A and B

Notice that in equation (7.3) the law is restated in such a way that the boundary between any two markets is the locus of points for which the difference in transfer cost to each market is a constant and is equal to the given difference in market prices.

### 7.4 Boundaries Between Competing Markets

Intermarket competition for a single product is illustrated in Figure 7.2. The diagram is comparable to Figure 7.1, but here we show the site-price surface of farm prices around two competing markets, A and B. We assume that the price in market A is fixed, and we illustrate the effects of three different levels of price at market B: (1) the price at B equal to the price at A with a maximum site price of \( c \), (2) the price at B somewhat lower than at A with a maximum site price of \( d \), and (3) the price at B considerably lower with a maximum site price of \( e \). Notice that again in this diagram the market price lies above the peak on the site-price surface because of terminal costs (equal to \( Bc \), etc). At points \( f \) and \( g \) transfer costs are equal to market price, and site prices are zero.

We first examine case 1. From Equation 7.3 we may conclude that with equal prices in the two markets the competitive boundary will
FIGURE 7.2 The allocation of production sites between two competing markets.

consist of all points where the difference in transfer costs is equal to zero— that is, where the transfer cost to \( A \) is exactly equal to the transfer cost to \( B \). Therefore, so long as the transfer cost-distance function holds true for shipments made in any direction and regardless of the particular form of this function, the boundary must be the locus of points where the distances to the two markets are equal. This is indicated in the plan view of the diagram by points such as \( h \). Here, the alternative distances are equal; the alternative transfer costs are equal; and, hence, the alternative site prices must be equal. Furthermore, it follows that this market boundary is the perpendicular bisector of the straight line connecting markets \( A \) and \( B \).

If the price in market \( B \) falls below that in market \( A \), as in case 2, the market boundary is pushed toward \( B \). Some producers to the "east" of the perpendicular bisector now find it profitable to ship to \( A \) rather than to \( B \). The new boundary is again the locus of points for which the difference in alternative transfer costs is constant and equal to the difference in market
prices, but these points are no longer equidistant from the two markets. If transfer costs are a linear function of distance, the boundary can be restated in terms of a constant difference in distances to the two markets, and the market boundary would be a hyperbola. But with a curvilinear transfer cost function, the controlling factor is a constant difference in transfer cost and not a constant difference in distance. The resulting curve is not a hyperbola although, under the circumstances, it might well be called an economic hyperbola. This is illustrated by point $k$ on the line $Ikn$ with transfer costs $t'_n$ and $t'_b$. Notice that this boundary extends to the zero price edge of the area for market A at points $l$ and $n$ (actually, only to the no-rent margin, as we shall show later when we consider production costs) and that the “eastern” boundary for market B is a segment $lmn$ of the circle centered on B that represents sites having zero at-farm prices.

In those situations in which transfer costs are properly expressed as a curvilinear function of distance throughout their entire range and in which production areas extend over long distances, these economic hyperbolas will eventually completely enclose the market with the lower price; that is, the high-price market will extend beyond the outer margin of the supply area for the low-price market. This is illustrated by case 3 where the price at B is quite low relative to A. With a maximum price of $e$, the site-price surface around B now resembles a secondary cone on the flank of a large volcano, as the cross-section view along the line $RS$ shows. The plan view illustrates how the small supply area for B is completely surrounded by the supply area for A.

Observe that the encirclement of a lower priced market stems from the different slope or gradient of the two price surfaces. If the transfer function were linear, the margin between the two markets would be a hyperbola, as discussed above, and the larger market would never encircle the smaller; the limit would be where the price cone for the lower price market just touches the cone for the higher price market, and the supply area for the smaller market becomes a straight line starting at B and extending infinitely away from A. This straight line would represent the path of tangency between the two price cones, possible only with linear transfer functions. On the other hand, if transfer costs are linear but with a steeper slope for the low-price market than for the high-price market, the boundary will be a perfect circle centered somewhat to the “east” of B. With curvilinear functions the boundaries will completely close, as indicated above, and the particular shapes will depend on the curvilinearity of the price surfaces in the relevant ranges. The only generalization than can be made is that market boundaries will always be economic hyperbolas with all points representing constant differences in transfer costs to the two competing markets.
AN EXAMPLE OF INTERRELATED MARKETS

The prewar geographic patterns of milk consumption and production in New England are indicated in Figure 7.3. These maps are based on production and consumption estimates by towns and show the surplus or deficit of production relative to consumption. As such, the data are comparable to the "excess supply functions" discussed in Chapter 5 but with the assumption that demands and supplies are perfectly inelastic—a not too unrealistic assumption in the short run. The boundaries to theoretical milksheds consistent with competitive market prices and minimum transfer costs are shown in Figure 7.4. Although this analysis is oversimplified by using airline distances, by combining milk and cream and by assuming that only whole milk will be delivered to market, and by representing an average situation instead of showing seasonal variations, the empirical results are nonetheless of considerable interest.

The major markets, Boston and Providence, were surrounded in the theoretical analysis by a semicircle of secondary markets in Connecticut, central Massachusetts, and nearby New Hampshire and Maine. Although some supplies were obtained locally for the major markets, competition forced them to reach beyond to surround the secondary markets and to compete directly with New York City in western Vermont. Actual milk-

FIGURE 7.4 The theoretical milksheds for New England markets, 1939. 1, Boston; 2, Providence; 3, New Haven; 4, Springfield; 5, Lowell-Lawrence; 6, Hartford; 7, Bridgeport; 8, Worcester; 9, Portland; 10, Manchester; 11, Fitchburg; 12, Pittsfield; 13, Lewiston; 14, Nashua; 15, Burlington; 16, Bangor; 17, Berlin; and 18, New York City.


Milksheds were found to overlap to a considerable extent, but the general pattern in New England in 1939 was remarkably similar to this theoretical and simplified allocation of milk supplies. A comparison of actual and theoretical market prices, however, revealed persistent and quite significant deviations: a situation that was not surprising in light of the general dependence of the fluid milk industry at that time on noncompetitive pricing mechanisms.

For a completely general treatment with a number of competing markets, the final equilibrium will involve the demand functions in every market, the transfer functions, the location of producing areas, production cost conditions, and the resulting patterns of production density. Supply functions for each market will represent the aggregation of producers’ marginal cost curves, but the allocation of producers and producing territory will involve prices in all markets and not simply the price in a given market. The result will be an interdependent set of supply relationships so that an increase in the price in any market will influence the quantities received in all markets and, thus, will influence all market prices. The equilibrium set of market prices will involve an interrelated set of free-choice supply areas consistent with the economic law of market areas.
7.6 MINIMIZING TRANSFER COSTS

The law of market areas has focused our attention on prices in competing markets, on the geographic structure of prices around these markets, and on the allocation of producing or consuming territories through the free-choice response of firms and individuals to these prices. A valuable characteristic of these competitive market or supply areas, however, is that they involve the lowest possible pooled transfer costs for all markets under consideration.

Consider a farm located at any point \( Y \) in the area serving two markets, \( A \) and \( B \). From our earlier discussion, we know that this point will lie on the boundary between the two markets if the difference in transfer costs to the alternative markets is exactly offset by differences in market prices and that it will fall in one or the other market supply area if transfer cost differences are more than or less than price differences. In equation form these conditions are given by

\[
\text{point } Y \text{ on boundary: } t_{yb} - t_{ya} = P_b - P_a \quad (7.4)
\]

\[
\text{point } Y \text{ in } A \text{'s area: } t_{yb} - t_{ya} > P_b - P_a \quad (7.5)
\]

\[
\text{point } Y \text{ in } B \text{'s area: } t_{ya} - t_{yb} > P_a - P_b \quad (7.6)
\]

where \( P = \) price at market center
\( t = \) transfer cost from farm to market

\( a \) and \( b = \) the markets
\( y = \) the farm.

Through these free choices, the entire area will be allocated among competing markets. Demand and supply will be in equilibrium in each market, and the competitive equilibrium will involve a particular set of market prices and the associated system of boundaries among supply areas.

To demonstrate that this allocation minimizes aggregate transfer costs, subject, of course, to the constraint that the supply-demand equilibria in the two markets are maintained, it is necessary to show that no exchanges of producers among markets will reduce transfer costs. Suppose that point \( Y \) is located in the supply area for market \( A \) and that another point \( Z \) is located somewhere in \( B \)'s area. Within the areas, these locations are quite general—they refer to any locations. Now let us reassign a unit of production at \( Y \) from market \( A \) to market \( B \) and, to compensate and so maintain market equilibria, reassign an equal unit of production at \( Z \) from \( B \) to \( A \). Changes in transfer costs \((\Delta t)\) then will be

\[
\text{for point } Y: \Delta t_y = t_{yb} - t_{ya} > P_b - P_a \quad (7.7)
\]

\[
\text{for point } Z: \Delta t_z = t_{za} - t_{zb} > P_a - P_b \quad (7.8)
\]

combined: \( \Delta t_y + \Delta t_z = t_{yb} - t_{ya} + t_{za} - t_{zb} > 0. \quad (7.9) \)
In words, we state that the change in transfer cost resulting from the shift of point $Y$ must be greater than the amount by which the price at $B$ exceeds the price at $A$; if this were not true, $Y$ would not have been in $A$'s area. Similarly, the shift of point $Z$ involves a change in costs greater than the price at $A$ less the price at $B$. The combined change in transfer cost, therefore, must always be greater than zero. Consequently, the free-choice boundary does involve minimum transfer costs. By testing more elaborate but similar systems of transfers among several markets, we discover that any system of transfers that maintains the competitive balance in all markets will result in transfer costs higher than the ones possible with the competitive areas.

Actually, we can proceed directly to transfer cost minimization without reference to market prices. Take the simple case of four regions where two have net surpluses of a particular commodity available for export, and the other two have net deficits that must be met through imports. To be specific, assume that regions $A$ and $B$ have deficits of 300 and 400 units, respectively, while regions $C$ and $D$ have surpluses of 200 and 500 units. It costs $10 per unit to transfer the product from $C$ to $A$, $25 from $C$ to $B$, $15 from $D$ to $A$, and $20 from $D$ to $B$. What pattern of shipments will minimize total transfer costs and also meet the restraints imposed by the above regional surpluses and deficits?

Clearly region $C$ cannot fully supply either importing region and the surplus at region $D$ is larger than the requirements at either $A$ or $B$. Several shipment patterns are possible: (1) $C$ could ship its entire surplus to $A$, while $D$ supplied the balance required at $A$ and completely supplied $B$; (2) $C$ could ship its entire surplus to $B$, while $D$ supplied the balance needed at $B$ and completely supplied $A$; or (3) both surplus regions could ship to both deficit regions—there being, of course, an infinite variety of such combinations. From our familiarity with location theory and an inspection of the above market requirements and transfer costs, it appears probable that the first alternative is the cost-minimizing solution. This involves shipping 200 units from $C$ to $A$ at a cost of $10 per unit, 100 units from $D$ to $A$ at $15, and 400 from $D$ to $B$ at $20 for a combined transfer cost of $11,500. Similar calculations for alternative (2) indicate a higher total cost of $13,500.

Alternative (3) provides a limitless opportunity for such calculations. Let us consider the case where $C$ ships 100 units to each of the two deficit regions with the balances coming from $D$; this would entail a combined transfer cost of $12,500. The fact that shipping a product from $C$ to $A$ results in lower total transfer costs than when all of $C$'s surplus goes to $B$ strengthens our belief that alternative (1) is the optimum. To be certain, however, let us consider changing this alternative by shifting a single pair
of production units. If one unit from C is shipped to B rather than to A, transfer costs will increase from $10 to $25; also, a compensating shift of one unit from D will involve a transfer cost of $15 rather than $20. The net effect, therefore, is an increase in total transfer cost of $10, thus, finally confirming that alternative (1) involves the lowest possible transfer costs.

Alternative (1) is diagrammed in Figure 7.5 where the four regions are positioned at distances proportional to the assumed transfer costs. Although the indicated solution is based entirely on transfer costs and market surpluses or deficits, there is a "dual" solution in terms of competitive prices. If we consider the price at D as the base, the prices at A and B will exceed this base price by the unit costs of transfer or $15 and $20, respectively. Moreover, the price at C is linked to A through transfer costs and must be $5 above the base price. Thus the transfer cost-minimizing solution also involves the determination of the competitive price structure. Here, we have indicated only the prices relative to the base; but if production costs (or supply functions) were given for the surplus regions, this would determine absolute prices. Suppose that production cost at C is equal to that at D, say, $10 per unit. Then the competitive prices will be $10 at D, $15 at C, $25 at A, and $30 at B. And notice that the amount by which the price at C exceeds production cost represents economic rent per unit of product.

Mention of production costs emphasizes that competitive allocations not only minimize transfer costs but also the combination of production and transfer costs. If production costs differ from location to location, this must be considered in determining market prices and the allocation of territories. By including production costs or costs for other appropriate functions such as processing, warehousing, and marketing, the aggregate of these costs will be minimized. Moreover, these market equilibria and allocations will represent the maximum aggregate returns to producers.

![Figure 7.5](image)
that are possible with the restraints of perfect competition and also the minimum aggregate expenditures by consumers.

Although it was a simple matter to discover the cost-minimizing solution in the previous example, this would not be true if many alternative sources and markets were involved. To determine the cost-minimizing shipments of dressed broilers from 14 major producing centers to 43 important markets in the United States, for example, would be most time-consuming and complex if approached by such direct comparisons. Fortunately, the transportation model (Chapter 5) for dealing with point-trading problems makes it possible to consider such involved situations and to select the program that is optimum and consistent with our market and transfer cost theory. The results of a 1955 programming study of the broiler industry are illustrated by the shipment patterns in Figure 7.6.

We now find that our discussion of spatially dispersed production and consumption leads us back to our earlier treatment of point-trading models. This is as it should be, since there exist an infinite number of combinations of production points and consumption points. In some situations, the spatial dispersion approach used in the present chapter will be most efficient in dealing with real-world problems. In others, the use of point-trading models will be preferable. The point to be made here is that

FIGURE 7.6 The transportation-cost-minimizing shipments of broilers among 14 producing centers and 43 deficit areas in the United States, 1955. [Source. W. R. Henry and C. E. Bishop, North Carolina Broilers in Interregional Competition].
the economic framework underlying the two is identical, and the choice will be based purely on the grounds of computational convenience.

We have pointed out that the theory of competitive intermarket prices has a dual solution in terms of the allocation of areas and the minimization of transfer costs. We have also pointed out that minimizing transfer costs can be approached directly, in which case the dual solution is the structure of competitive market prices. However, it must be emphasized that they are only "shadow" prices and that they are not essential to the transfer cost-minimizing solution. Even if actual prices depart materially from the shadow prices (and so from competitive market prices), costs will be minimized through the system of area allocations consistent with competitive prices. In this event, however, it will no longer be true that aggregate producer returns are maximized or aggregate consumer expenditures minimized.

7.7 PRODUCTION COSTS AND IRREGULAR TRANSFER COSTS

When production costs are included in the analysis, we have suggested that it is possible to determine absolute prices rather than prices relative to one market taken as base and, also, that the allocations among markets will then minimize combined production and transportation costs. The inclusion of production costs, however, will not change the location of the competitive boundaries among markets. Let us assume that each section in our earlier problem is characterized by a particular production cost (as in the case of production itself, we assume that the production cost is uniform within sections and varies between sections). At some point Y, the production costs are given and may be represented by \( c_y \). The condition for point \( Y \) to fall on the competitive boundary between markets A and B, then, is given by

\[
P_a - t_{ya} - c_y = P_b - t_{yb} - c_y.
\]

With the constant \( c_y \) appearing on both sides of this equation, it is apparent that boundary conditions are the same as in the case that involves only transfer costs: the boundary is the locus of points where the difference in transportation costs to the two markets is a constant and equal to the difference in market prices.

Notice that this same conclusion holds true for erratic differences in transfer costs if the differences affect equally the transfer costs to alternative markets. A good example is afforded by the influence of production density costs. Transportation from farm to city often involves truck routes that collect the product from a number of points. With such collection
routes rather than point-to-point transportation, transfer costs will have two components: (1) the direct hauling component, involving the travel of the truck from a distant producing area to and from the market; and (2) the collection component, related to the farm-to-farm movement in the producing area as load is assembled. The first component is comparable to the point-to-point transportation that we have been using, and transfer costs can thus be regular functions of distance from market. The second component, however, is not related to distance from market, since it involves movements only in the distant producing district, but is definitely influenced by the density of production.

Suppose that a truck has capacity for 100 units of product. In a district where density is high (say, 20 units per mile of road) collection mileage will be relatively low and, therefore, the second transportation cost component will be low. With low density, however, collection mileage and costs will be high. But these high or low collection costs will hold true regardless of the market destination and, hence, will not influence the competitive allocation of producing territories among markets.

In algebraic terms, the difference in transfer costs to two markets is $t_{yb} - t_{ya}$ and will become $(t_{yb} + k_y) - (t_{ya} + k_y)$; but since the collection cost term $k_y$ is the same regardless of market destination, this reduces to the original form.

Irregularities in the transfer cost and distance relationship can result from factors other than collection densities, of course, and some of these factors will affect different markets in different ways. This is equivalent to saying that the isotims around each market will not be regular circles centered on the market. These irregularities will certainly modify the shape and the location of competitive boundaries between markets. But these changes are in results and not in method or principle; the boundaries will still represent the locus of points where differences in transfer costs are equal to differences in market prices. The graphic determination of these boundaries will be more complicated, since it will be necessary to draw irregular systems of contours representing transfer costs around each market rather than to use concentric circles; but, with this modification, the determination of boundaries proceeds as above.

7.8 APPLICABILITY TO REAL MARKETS

We have developed in some detail the pure theory of markets in space and have discovered that, under perfectly competitive conditions, the equilibrium of a system of these markets involves, on the one hand, a set of interdependent and interrelated market prices and price surfaces sur-
rounding markets and, on the other, a complex of market area or supply area boundaries within which transfer costs (and as appropriate, other costs) are minimized, returns to sellers in the aggregate are maximized (within the structure of perfect competition), and aggregate expenditures by consumers minimized. Whether this theory has relevance to real markets depends in large measure on the similarity of conditions in real markets to the ones essential to perfect competition. They include items such as the absence of monopoly elements, the homogeneity of the products under consideration, and the general availability of perfect knowledge about supply, demand, and price conditions in all alternative markets. Even without the more careful analysis of real markets that will be developed in later chapters, we can state with assurance that the conditions of perfect markets are never completely satisfied by conditions in real markets.

In spite of this fact, our theoretical models do provide important insights into the operation of the real market and pricing systems. Many individuals make careers of arbitrage — buying in one market in the expectation of selling at a profit at another market location. A wholesaler on the strawberry auctions in Connecticut buys berries for resale in upstate New York. A butter merchant in Iowa watches price quotations at New York, Chicago, and San Francisco and makes shipments when he believes that the prices at those markets will more than cover the Iowa price plus transfer costs. A Sunkist cooperative rolls a car of oranges eastward toward Chicago, but changes in market conditions en route may dictate a final destination in New Orleans, St. Louis, or Boston.

Arbitrage is thus viewed as part of the free-choice mechanism that determines prices and production-consumption allocations. Even under the best of real conditions, however, it is clear that knowledge is imperfect, that intermarket transfers cannot be made instantaneously, and that marketing decisions involve a considerable amount of risk and uncertainty. The strawberry buyer may arrive in Syracuse to find a brisk market and may sell his load at an unexpectedly high profit; or he may find that many other truckers have arrived in Syracuse with strawberries, and the perishability of his product leaves him little alternative but to sell for what he can get, even though this represents a substantial loss. The car of citrus may hit a favorable market or, even with several reroutings, it may reach "the end of the line" only to find a local glut. Sales in eastern markets at prices too low to cover freight charges are not novel experiences for California growers.

Under these conditions, intermarket prices cannot be kept in perfect alignment through marketing decisions. Although arbitrage is an effective adjustor, prices must move out of line by some amount to bring this
mechanism to life. Consequently, prices tend to oscillate around normal relationships following a type of "cobweb" like that we discussed in an earlier chapter. Perhaps, this matter can be explained best by a physical parallel: arbitrage is similar to the thermostat that regulates temperatures in your home. Variations in temperature operate through the thermostat to turn your furnace on and off, but some actual drop in temperature is required to activate the system. Moreover, after the furnace starts there is a time lag before room temperatures respond. The result is that temperatures, like market prices, fluctuate around or "hunt" for the equilibrium level without actually achieving it except for brief and sporadic periods.

An examination of many actual markets reveals marked regularity in the space economy—regularity reflecting the operation of the forces considered in the foregoing theory. Of course, in some cases, there are major departures between the actual and the theoretical structures of perfect competition, but, as we shall learn, these differences may in themselves be of great interest.

SELECTED READINGS

Spatially Dispersed Production


