

# Economic and Financial Analysis of Alternative Uses of Agricultural Land

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## I. INTRODUCTION

### A. *The Objective*

Few doubt the need for farmers and other private landowners to open up their lands to the public for recreational and nontraditional purposes. Also, few doubt that this cannot be achieved by government fiat or by armed coercion. Given the imminent desocialization of land in the former Communist countries of Eastern Europe, it is unlikely that American landowners will suffer the fate of the kulaks, that is, be forced to subject their land to national priorities. Because the stick is unavailable, the only alternative is the carrot.

The government, the market, or some other institution must provide efficient incentives to induce the landowner to share his land with the public. Government grants are not likely, given the size of the federal budget deficit, the public debt, and the dearth of funds available from state treasuries. Private philanthropy also appears unlikely; it is difficult to imagine the Rockefeller or Ford Foundation making cash grants to landowners to induce them to share their land with urban and suburban folk. The only other potential source of incentives is the market.

Because economic and financial incentives predominate in a market economy, one must ask whether those incentives exist for the landowner seeking to enter nontraditional enterprises. The objective of this Article is to identify, specify, and analyze the economic and financial issues that confront the farmer or other landowner who wishes to try his hand, and his land, at alternative enterprises that will be socially useful and environmentally safe.

There is an extremely wide range of land-using enterprises that a diversifying farmer may wish to consider,<sup>1</sup> and the possible economic, jurisdictional, and geographic environments increase such diversity. Hence,

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1. Alternative uses of agricultural land include fee hunting, waterfowl, small game and big game hunting, fee fishing, aquaculture, catch-your-own fish farms, petting zoos, bed and breakfasts, hayrides, medicinal herb gathering and production, tree farming, firewood sales, pick-your-own fruit and vegetable fields, campground rentals, and nature trails.

any initial discussion of the economic and financial issues involved must be fairly general. Detailed discussion of a specific enterprise in a particular region of a particular state involves a more focused analysis, something akin to a feasibility study. This is beyond the scope of this Article, which focuses on issues that affect revenue, cost, financing, and taxes, and hence, the profitability and liquidity of these new enterprises. This Article poses the major questions that the landowner should ask and, where possible, suggests some answers. Still conscious of the wide diversity of these new enterprises, the Article offers a few tentative recommendations for farmers who have decided to get involved.<sup>2</sup>

### *B. The Role of Economic and Financial Analysis*

A proper, timely, and thorough economic and financial analysis should give the landowner a relatively realistic picture of the prospects, problems, and possibilities facing the contemplated ventures. The analyst should be neither a San Diego Chicken, that is, an expensive cheerleader, nor a pessimistic Chicken Little. He should "tell it like it is," or it is likely to be, and let the landowner decide whether the rewards are reasonable and the risks worth taking.

All analysis is based on assumptions. The analyst should clearly state the assumptions in advance and not after conclusions and recommendations are found to be unrealistic or unworkable.

## II. ASSUMPTIONS

It is necessary to outline a few assumptions about the farmer or other landowner<sup>3</sup> and the economic situation to be faced. The assumptions are as follows:

- A. The farmer needs new sources of income and additions to net worth, not just new sources of debt and frustration. The alternative enterprise should not be just another shortcut to the bankruptcy court.
- B. The farmer wants net income from the enterprise venture (revenue minus costs and taxes) to be positive, significant, and comparable to what the farmer can earn elsewhere.
- C. The farmer's current or concurrent operation is not a cash cow; it cannot provide investment funds for the new enterprise.

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2. The analysis uses, with a few exceptions, nontechnical language that a non-economist should have no difficulty understanding and explaining to a farmer or other landowner. Also, masculine words refer to both male and female persons.

3. Farmer, landowner, and entrepreneur will be used interchangeably throughout this Article.

- D. The farmer wants cash receipts from the new enterprise to be greater than cash payment obligations from it, thereby providing a positive cash flow.
- E. The farmer has substantial management skills that can be applied to the new enterprise, and the farmer does not have to learn many new skills.
- F. The farmer's participation in the alternative enterprise does not adversely affect his performance in his principal activity. Hence, he can serve two masters.
- G. The farmer can obtain the services of a diligent, competent, and honest attorney and a similarly endowed accountant.
- H. The farmer wants the demand for the new product to be fairly matched with the ability to supply it. No entrepreneur wants the quantity of the product demanded and the price paid for it to be totally out of alignment with the ability to supply it.

### III. IDENTIFICATION, SPECIFICATION, AND DISCUSSION OF ECONOMIC AND FINANCIAL ISSUES

It is important to identify the types of economic and financial issues that will affect the profitability and liquidity of the landowner's new enterprise. Once identified, these issues can be clearly specified and thoroughly analyzed.

#### *A. General Issues*

There are at least two sets of general issues that every entrepreneur faces when deciding whether to start a new enterprise. These issues include the choice of business entity and the location and accessibility of the site chosen to carry on the enterprise.

Regarding the business entity, the landowner must select from the sole proprietorship, general partnership, limited partnership, S corporation, and C corporation. The entrepreneur, with the assistance of an attorney and an accountant, must determine which business entity will realize the greatest level of after-tax net income. These two professionals must study the entrepreneur's individual situation and be aware of the legal and financial costs, benefits, advantages, and disadvantages of each business form. This advice has a cost. Because each landowner will be in a unique situation, any meaningful generalization would be impossible.

Second, the entrepreneur must decide whether the location and accessibility of the site give rise to issues that affect the viability and the profitability of the enterprise. Because buyers of the entrepreneur's product must travel to and from the land and the entrepreneur must transport

items to it, the location and accessibility of the site of the land will be extremely relevant. The resulting disadvantages of travel and transportation cannot be ignored. For example, a perfectly attractive facility might "turn off" some customers if they have to spend too much time getting to and from it. Also, the distance of the land from the nearest urban center must be carefully considered to determine whether location is likely to contribute to relatively low transportation costs, or the opposite, in the new enterprise.

### *B. Tax Issues*

Taxes are a cost of doing business and a major determinant of the incentives or disincentives available to landowners. The farmer is no stranger to difficult and complicated tax issues, and will have to contend with a few more should he decide to open his land to outsiders. Insofar as some taxes become due regardless of profitability, it becomes necessary to examine their incidence and effect before starting any enterprise. The entrepreneur must, with input from an attorney and an accountant, determine as precisely as possible how the establishment and operation of a new enterprise increase tax liability at the federal, state, and local levels.

*1. Federal Taxes.*—At the federal level there are payroll taxes, such as the Social Security tax imposed by the Federal Insurance Contribution Act (FICA)<sup>4</sup> and the unemployment tax imposed by the Federal Unemployment Tax Act (FUTA).<sup>5</sup> These taxes become due and payable regardless of whether any revenue is earned or whether the enterprise is profitable. If the enterprise is profitable, the landowner becomes liable for income tax,<sup>6</sup> and if the landowner is a sole proprietor or a general partner, he becomes liable for self-employment taxes.<sup>7</sup> Of course, the form of the landowner's business will affect the incidence and the amount of taxes paid. The relevant point here is that regardless of the form used, the incentive provided by the market to the farmer or other landowner for sharing land will have to be shared with the federal government, among others. This means that the size of the incentive cannot be too small if it is to induce landowners to share their land.

The landowner will, in all probability, have a family that stands to inherit the property. One concern of potential heirs is that the burden of federal estate taxes<sup>8</sup> might force them to sell the property to pay the

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4. I.R.C. §§ 3101-28 (1989).

5. *Id.* §§ 3301-11.

6. *Id.* §§ 1-3.

7. *Id.* §§ 1401-03.

8. *Id.* §§ 2001-2622.

Government. Section 2032A of the Internal Revenue Code alleviates this concern. This statute allows the decedent's property to be valued at its (farming) income-producing potential, rather than its speculative and higher "market value" if certain conditions are met.<sup>9</sup> Section 2032A(b) and (c) require the land to be in a "qualified use" for minimum periods before and after the landowner's death. Insofar as an alternative use of agricultural land is not a "qualified use" under section 2032A, the land loses its eligibility for a section 2032A valuation.<sup>10</sup> A nonqualified use includes land that is not used as a farm or in another trade or business, or that is used for an enterprise in which the landowner or a family member does not materially participate.<sup>11</sup> For example, leasing land or other property to a hunting club is not considered a trade or business in which the owner materially participates, and hence is not a "qualified use." It disqualifies the property from receiving a favorable estate tax valuation under section 2032A. The property will be taxed at the value reflected by its best and highest use, that is, at its market value. The estate tax liability will thus be higher and the heirs will face an increased possibility of having to sell the property to pay the estate tax. The result will be that a farmer who seeks to share his land with the public may cause his heirs to lose it altogether. This certainly is not good estate planning, and the landowner will need to consult an attorney to determine the likely impact of the alternative enterprise on the tax liability of the estate. One can be sure that potential heirs will not be supportive of the new venture if it may cause them to lose all or a significant part of their inheritance.

2. *State Taxes.*—At the state level, insofar as the state has an unemployment tax, the landowner may be liable for this tax on payments made to employees even before any income is earned. If the state has an income tax, the net income from the venture will be subject to the income tax. This further reduces the profitability of the venture, and is yet another disincentive to the landowner. Also, most states have a sales tax statute that imposes duties on sellers to collect, record, and remit sales tax payments to a state bureaucracy. Insofar as the fulfillment of these legal duties tax the resources of the fledgling venture, it loses more of its attractiveness.

The types of taxes that the venture could be subject to are limited only by the creativity of the state's tax law writers. Entertainment taxes are one possibility. Insofar as these taxes add to the price of the landowner's product or its complements, they may reduce the demand

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9. *Id.* § 2032A(e)(7).

10. *Id.* § 2032A(b)(2).

11. *Id.* §§ 2032A(b)(2), (b)(1)(C)(ii).

for the product, and have a negative impact on the venture's revenue.

3. *County or Local Taxes.*—At the county or local level, property and school taxes add to the landowner's cost of doing business. Barring a substantial cut in the tax rate, the landowner's property taxes will increase when he makes improvements on the land and thereby increases its value. The same can be said for school taxes. These taxes become due and payable regardless of whether any revenue is earned by the venture. Finally, the county and local tax ordinance writers may be as creative as their state counterparts, and may be unhampered by a constitutional provision, such as the Hancock Amendment in Missouri,<sup>12</sup> which limits their ability to impose new levies. The landowner must seriously consider whether the success, the appearance of success, or just the mere appearance of the venture will induce the local taxing authorities to squeeze more from it by way of new types of levies.

### C. *Non-tax Governmental Issues*

Notwithstanding the ideology of the free market, the operation of a business is subject to intense regulation by the state. Businesses must comply with laws and regulations that impose cost-producing duties. The alternative venture, like any other business, will be subject to governmental regulation on a host of issues. This increases the cost of doing business and, hence, the profitability and liquidity of the new enterprise. Such matters may have the capacity to nickel-and-dime the enterprise into unprofitability and to consume a substantial part of the entrepreneur's time. For example, there may be one or more permits or licenses that the entrepreneur must obtain before beginning to operate. Because the permits and licenses cost money, they reduce profits and liquidity. Any analysis of the economic and financial issues facing a new enterprise must therefore take into account the economic costs of complying with duties imposed by government regulations and social legislation. Examples of the latter include worker compensation and unemployment insurance laws, local zoning, and environmental regulations. As with payroll taxes, the costs of complying with these statutes must be met regardless of the earning power of the enterprise.

### D. *Product Market Issues*

Barring government largesse, economic incentives arise from the market. Of primary concern is the product market in which the landowner hopes to sell goods or services. Entrepreneurs should be aware of the significant features of the new market they are seeking to enter and

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12. Mo. CONST. art. X, § 10(c) (amended 1978).

consider how these will affect the ability to sell their products and earn revenue. For example, entrepreneurs must know the nature of the demand they face or will face. Will it be strong or weak, sustainable or passing? Is the demand for the product seasonal or year round? If seasonal, what is the possibility for market creation during the dead season? How many months of the year can the landowner expect a revenue flow? Similarly, entrepreneurs cannot be ignorant of the existence or the nature of other products in that market competing for the consumer's limited dollars. Are they substitutes for or complements to the landowner's product? Entrepreneurs must be aware of the income characteristics of their customers: whether they are high income, middle income, or a combination of both.

The landowner must be aware of competition in the product market. He must consider how easy it is for other new entrepreneurs to enter the market and whether his success will breed a multiplicity of imitating competitors. If there are no legal, financial, or other barriers that make entry into and survival in the market difficult, the landowner will have to learn to deal with competition. Will the market be similar to the traditional competitive product markets in which there are many sellers and little or no control over prices, but yet dissimilar because those markets have certain "safety nets" such as price supports and deficiency payments to reduce the risk of business failure? He must consider the income characteristics of his customers (high, middle, or low-income) and how these affect customers' ability to pay increased prices or pay for new products.

#### *E. Input Market Issues*

The landowner, like every other producer, will need inputs that are not available on the farm; hence, he must enter one or more input markets. These include various goods and services markets, the labor market, and the financial market. The characteristics of these markets affect the prices the entrepreneur pays. These, in turn, affect his cost structure, cost levels, and ultimately the venture's profitability, liquidity, and ability to survive. Any proper analysis must examine these markets to determine how their characteristics will affect the prices he pays. He must also examine the extent to which these input markets are similar to the "old" input markets faced by the landowner when he produced traditional commodities.

The old input markets the farmer faced were generally oligopolistic or monopolistic. They represent one side of the pincers that create the well known "cost-price squeeze" that keeps profits in farming relatively low.<sup>13</sup> Insofar as the landowner must enter input markets as a buyer,

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13. The cost-price squeeze refers to a situation in which the prices paid by, and

he must consider whether he will have to face yet another group of price-makers.

1. *Goods and services markets.*—The entrepreneur needs to ask whether the business will need regular and dependable supplies of goods and services. Can their delivery be arranged in advance? How dependable are the suppliers? What is the cost of supply guarantees? For example, would the entrepreneur have to contract in advance at unfavorable prices in order to be sure of delivery? He also needs to know whether the suppliers are monopolists or oligopolists, and must determine the extent of control they have over the prices they charge and his ability to negotiate lower prices.

2. *Labor markets.*—Insofar as the enterprise needs more labor than the landowner and his family can provide, he must hire labor in the local market. The entrepreneur must have a fair estimate of the labor needs of the business and whether sufficient labor will be available at the time he needs it. It will serve him well to know the seasonal characteristics of that market and the conditions, average wages, and other factors that cause them to increase. Also relevant is the extent to which distance and location affect labor availability, wages, and other labor costs.

3. *Financial Markets.*—The existence and characteristics of financial markets are also relevant to the entrepreneur. Unless the landowner intends to be self-financing, which is unlikely, he must consider whether credit will be available for financing the alternative enterprise, and must locate potential sources of financing for equity, debt, and trade for nontraditional enterprises. Specifically, he must determine whether rural lenders (private and public) are willing to finance new risky ventures in these days of tightened bank regulation after the farm crisis of the eighties and the ever-present savings and loan crisis. Will they be “credit-shy” because of their recent experiences? The entrepreneur must also investigate whether the public lending or guaranty agencies, such as the Farmers Home Administration and the Small Business Administration, will give favorable consideration to the new enterprise on the farm.

#### F. *Financing Issues*

Every business needs to be financed, and the landowner must choose from several alternatives, assuming that they are available. He must also

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hence the costs incurred by, the entrepreneur for his inputs increase at a faster rate than the prices received by him for his product. For the farmer, this is caused in part because he buys his inputs in relatively monopolistic markets and sells his output in extremely competitive markets. He is a price taker in both types of markets. Because profit is the difference between revenue (*i.e.*, price multiplied by output) and cost, it declines when input prices increase at a faster rate than output prices.



choose between debt financing and equity financing. He must identify all relevant factors that will affect the choice. Assuming that debt money is available, the after-tax cost of money and the conditions likely to be imposed by a potential lender will be major considerations. In turn, the terms of these credit arrangements will depend on the availability and willingness of lenders and the existence of less risky and more attractive investment opportunities on and off the farm. These alternative investments also determine the amount of capital likely to be invested, as well as the amount of control a potential investor might demand as a condition for contributing to the venture.

Careful financial planning is also necessary to maintain liquidity in the enterprise. Failure to plan will prevent the enterprise from being able to pay its debts as they become due. Unless he can obtain the required cash inflows from another source, the landowner will face impatient creditors. The assets and liabilities structure of these enterprises, specifically their potentially low current assets and high current liabilities, will produce a negative cash flow in some periods. The landowner must be aware of the implications of this and must have the necessary credit arrangements in advance to correct it. Failure to do so may result in the entrepreneur's qualifying for a bankruptcy petition.

#### *G. Control and Governance Issues*

The enterprise must be managed and directed by some policy-making and decision-making individual or group. Insofar as the landowner must share management and control with others, limits are imposed on his power to run the enterprise. These issues become particularly relevant when the entrepreneur must seek outside financing, and the lenders or investors impose conditions on the use of those funds. For example, financing sources usually will demand some control over the structure and operation of the enterprise. The extent and enforcement of such control and its effect on the profitability of the enterprise must be examined. If there is insider control by off-farm "outsiders," the landowner might be reduced to a worker without management power or control. One must ask whether a landowner would be willing to subject himself to this if the principal beneficiary is the public.

#### *H. Cost Issues*

Any analysis of alternative land use should look at costs before revenue because costs are more certain to be incurred than revenue is likely to be earned. The alternative use of agricultural land may take many forms. Each one will have its own unique set of costs. Certain categories of costs, however, will be common to every enterprise, and the landowner should be aware of them and their prominence in the

cost structure of his enterprise. Specifically, there will be developmental fixed costs, recurrent fixed costs, semi-variable costs, and variable costs.

Developmental fixed costs are incurred when land is developed for use in a given enterprise. It consists of a one-time expenditure that must be made before the improved land can be used to produce the new item. Hence, before a dime of revenue is received, developmental costs must be paid either with cash or with interest-bearing debt. Because developments to land usually last for more than one year, their cost, including the cost of financing, should be allocated to the fixed costs in the years in which they are used.

Developmental costs must be incurred before the venture makes a single dollar of revenue. Such items include legal fees, the cost of obtaining licenses and permits, and construction costs. Land development usually is not a particularly inexpensive exercise, and the possibility of cost overruns is very real. Hence, it is important that these costs be identified and estimated as precisely and as early as possible to avoid an unfinished development with no funds to complete it. The entrepreneur also must have some estimate of the length of the development's productive life and its maintenance costs. These will significantly affect the size of the entrepreneur's recurrent fixed costs and variable costs. A long-life, low-maintenance development will have a smaller impact on recurrent fixed and variable costs than will a short-life, high-maintenance development. Different types of alternative land-using enterprises require different types of developments.

Recurrent fixed costs are incurred in every production period and are the same regardless of the level of output. As with all costs, the entrepreneur needs to minimize them, but attempts to do so could result in a small "plant size," low levels of production and hence, low levels of revenue. These, in turn, affect profitability and liquidity. The sum of each year's developmental fixed costs and recurrent fixed costs equals the enterprise's total fixed costs for that year. Regarding recurrent fixed costs, the entrepreneur should have a reasonable estimate of not only their absolute size, but their share in total costs.

In a land-based enterprise, fixed costs are likely to be fairly high, both absolutely and relatively. Relatively high fixed costs in an enterprise usually imply that throughput must be relatively high before the enterprise reaches the "breakeven point," the level of output at which total annual revenue equals total annual cost. Given the high probability that most alternative enterprises might be seasonal businesses, the entrepreneur should consider the possibility that he might never arrive at the breakeven point. This means that he always will be in a "loss" position in which there are no financial incentives.

Variable costs are those that change with the level of output. As output increases and the use of variable inputs increases, variable costs

must increase. It is in their management that the entrepreneur may have the greatest flexibility in controlling costs.

Variable costs represent the one area in which the landowner may have some control after he has started a business. Insofar as he can buy more or less of a good or service or substitute a less costly for a more costly item, he can exercise some control over his costs. If he buys a relatively necessary item from a monopolist or an oligopolist, however, he lessens his control. Given the wide diversity of alternative enterprises that use agricultural land, it is difficult to say whether this control over costs can ever be significant.

The entrepreneur also should be sensitive to the importance of energy costs, transportation costs, advertising and marketing costs, and professional fees. The timing of these costs and their relationship to the seasonality of the business must also be considered.

The significance of energy costs cannot be overemphasized. In addition to a firm's direct expenditures, these costs also are reflected in the prices of non-energy input purchases. The entrepreneur must determine his cost structure's sensitivity to changes in energy costs. If sensitivity is high and if energy prices appear to be moving upward steadily, the entrepreneur will have almost zero control.

Because the entrepreneur will need the services of an accountant, an attorney, and other professionals whose services are fairly high-priced, he must determine what control, if any, he has over the rate charged and the hours billed. The absence of controls might produce high invoices from even the most conscientious professionals. These make the attainment of the "breakeven point" and profitability even more difficult.

Advertising and marketing efforts attempt to increase the revenue flow of the business. They carry a cost, however. Given the importance of these efforts to the success of any business, the decision is not whether the entrepreneur should use them, but what share of his total budget he should devote to them.

Insofar as the rural operation needs transportation services, the entrepreneur must decide whether to buy them or provide them himself. If he chooses the latter, he must decide whether to buy or lease the necessary capital equipment. Each alternative has its own financing implications. Again, given the wide range of land-using enterprises and situations, it is difficult to say which alternative is generally best.

There are some types of costs that are a hybrid of fixed and variable costs. They contain a fixed element and a variable element that are inseparable. These types are referred to as "semivariable costs," and give the entrepreneur some flexibility, something less than in the case of variable goods. When these items are relatively small, they do not merit much concern. As they become larger, however, the entrepreneur must take a closer look at them. A good example is liability insurance

that has a fixed minimum payment and a variable portion dependent on the level of business revenue. This arrangement has serious implications for the profitability of the enterprise and the incentive it provides to the landowner. It amounts to giving one's insurer a "super-equity" interest in the business. Because an equity interest holder receives a fraction of the *net* income of the enterprise and the insurer receives a share of the *gross* income of the business regardless of its cost, the insurer is much better off than a normal equity holder. Hence, the term "super-equity" interest. The landowner needs to think carefully about whether he wants to enter a business that requires not only compulsory payments to three different levels of government before he has earned one penny, but also that he give a super-equity interest to his insurer.

Regarding each category of cost, the entrepreneur must have some idea of the "total" and their "average" level per unit of output. It is essential that the entrepreneur have, before starting operations, some estimate of total fixed costs per year, average fixed costs per unit of output, total variable costs per year, average variable costs per unit of output, total combined costs for the year, and average total combined cost per unit of output. If this last figure exceeds or is too close to the price he intends to charge, then he can be certain that his operation will be facing some unprofitable periods. It would be folly to incur substantial costs only to discover that the average cost of production far exceeds what anyone would reasonably pay for the good or service being offered.

The entrepreneur must be wary of the seasons' effect on his operations and, consequently, on his cash flow. If the farmer's operations are seasonal, he will face several months of zero revenue and positive costs. Appropriate financing arrangements must be made to avoid defaulting on due debts and the legal consequences of doing so.

### *I. Revenue Issues*

The amount, timing, and sensitivity of revenue and the factors that affect them produce issues that are relevant to the viability of any business. In its simplest terms, revenue is the product of the good's price times the quantity of the good sold. Prices and quantity sold are therefore two vital variables that the entrepreneur must examine carefully. Revenue is at the heart of the market incentive. Without a certain minimum level, there can be no profit. The entrepreneur in an alternative enterprise should be aware of certain factors that influence the level of the revenue his enterprise earns. These factors are the uniqueness of the product, its price elasticity of demand, its cross-elasticity of demand, its income elasticity of demand, its price elasticity of supply, its price and pricing, and its output level.

Using "difference" as the criterion, every product is situated on a continuum ranging from the unique and highly differentiated to the homogeneous and fungible. A unique product allows the entrepreneur to charge a higher price than a similar nonunique commodity would bring. The process of product differentiation makes products more unique and less homogeneous so that the producer can ask a higher price. The entrepreneur considering an alternative employment for his land must consider whether his alternative product is more or less unique, whether it can be obtained only at his location or at a thousand other locations, and whether he can charge a differential for this uniqueness. The ability to charge a differential enhances the revenue of the enterprise and makes the achievement of profitability and maintenance of liquidity more likely.

The uniqueness of the entrepreneur's product and its location will be a major determinant of his revenue. If neither the location nor the product is particularly unique, the entrepreneur must consider the possibility that nearby landowners will enter the market, offer competing alternatives, and bid away his customers. If this is a real possibility, it limits the amount of flexibility available to the entrepreneur and hence his revenue. One area of limited flexibility is pricing.

Related to product uniqueness is the economics concept of price elasticity of demand.<sup>14</sup> Price elasticity of demand is based on the theory that the quantity demanded of a product is affected by the price charged for it and by several other factors. Price elasticity of demand seeks to measure the rate of change in the quantity demanded over a given time period in response to a unit change in the price of the commodity, holding all other factors that affect quantity constant.<sup>15</sup> It is a measure of consumer response to changes in the price of the commodity. The demand for a particular good (at a particular combination of price and quantity demanded) is either elastic, unit elastic, or inelastic, and each category has different implications for consumer expenditure and hence, revenue.<sup>16</sup>

In the case of elastic-demand goods, if the producer increases the price, revenue will fall.<sup>17</sup> If he decreases the price, revenue will increase.<sup>18</sup> The opposite holds with inelastic-demand goods: price cutting decreases revenue and price increases increase revenue.<sup>19</sup> In the case of unit elas-

14. See D. McCLOSKEY, *THE APPLIED THEORY OF PRICE* 136-39 (1985); W. NICHOLSON, *MICROECONOMIC THEORY: BASIC PRINCIPLES AND EXTENSIONS* 188-90 (4th ed. 1989).

15. D. McCLOSKEY, *supra* note 14, at 136; W. NICHOLSON, *supra* note 14, at 188.

16. D. McCLOSKEY, *supra* note 14, at 139; W. NICHOLSON, *supra* note 14, at 188-89.

17. D. McCLOSKEY, *supra* note 14, at 139; W. NICHOLSON, *supra* note 14, at 190.

18. D. McCLOSKEY, *supra* note 14, at 139; W. NICHOLSON, *supra* note 14, at 190.

19. D. McCLOSKEY, *supra* note 14, at 139; W. NICHOLSON, *supra* note 14, at 190.

ticity, any change in price produces a zero change in revenue.<sup>20</sup> Revenue is the same at all price levels, and the entrepreneur has no revenue incentive to change prices.

The price elasticity of demand of the landowning entrepreneur's new product will be either elastic, inelastic, or unit elastic. Because it will be a new product, he will not have the benefit of other producers' experience, and will have to make an intelligent guess. If it is a unique product provided at a unique location, the demand should be relatively inelastic, but if it is not a necessity and there are substitutes, the demand should be relatively elastic. Given the wide range of alternative products available from enterprises using agricultural land, it is difficult to make a general statement. Each entrepreneur must observe the conditions in his own situation and make an intelligent guess. He can then use this guess to guide his pricing decisions. The question will be at what level prices should be set in order to obtain the market incentive, to realize revenue levels high enough to make a profit, and at the same time meet the competition from alternative local, regional, national, and international attractions.

The goods and services produced by the entrepreneur will be both substitutes and complements to existing and new goods and services. Because all goods ultimately compete for the consumer's limited income, changes in the prices of complements and substitutes affect the quantity demanded of a good. This relationship is described by the concept of cross-price elasticity of demand.<sup>21</sup> If two goods are substitutes, an increase in the price of one is expected to lead to an increase in the quantity demanded of the other; if they are complements, an increase in the price of one is expected to lead to a decrease in the quantity demanded of the other.<sup>22</sup> An entrepreneur thus needs to know what goods and services are complements to or substitutes for his product and the extent to which price changes in the latter affect the quantity demanded of his product. Ultimately, the entrepreneur's revenue will be affected by price changes in all goods.

Energy will, in all probability, be a necessary complement for the enjoyment of the product. The landowner must expect rising energy prices to reduce the demand for his product and lower energy prices to have an opposite effect. Because the enjoyment of substitute products is also dependent on expenditures on energy, however, the change in sales will not be as great. The point worth noting is that any investment

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20. D. McCLOSKEY, *supra* note 14, at 139; W. NICHOLSON, *supra* note 14, at 190.

21. See W. NICHOLSON, *supra* note 14, at 190-91; R. POLKINGHORN, MICRO-THEORY AND ECONOMIC CHOICES 107 (1979)

22. W. NICHOLSON, *supra* note 14, at 191; R. POLKINGHORN, *supra* note 21, at 107.

made by the landowner to attract business could be "held hostage" by energy price movements. The landowner should be aware of this before he commits himself to an enterprise that, if unsuccessful, might result in the loss of his land. Taking the analysis further, both uniqueness and elasticity of demand affect the price and the pricing decisions of the entrepreneur who must decide at what level prices must be set, when they should be changed, and by how much they should be changed.

Another relevant elasticity concept is the income elasticity of demand, which measures the percentage change in quantity demanded of the product per unit change in consumer income, with all other factors affecting demand held constant.<sup>23</sup> As consumers' income rises, they may spend less of their increase in income on the product, as in the case of food, or more of their increase in income on it, as in the case of recreation and entertainment. This result has implications for producers in the two types of industries. In the first type of industry, with decreased (proportional) consumer spending, it is obvious that the expansion possibilities of the industry, and the firms, are rather limited. In the second, the expansion possibilities are more favorable.

Income elasticity of demand suggests mixed prospects for some alternative land-using enterprises. Insofar as the landowner's enterprise is associated with a high level of discretionary income in the hands of consumers, he can expect an increase in business as per capita income increases. Yet, as income becomes more unevenly distributed among the population and relatively fewer consumers are able to buy his product, the increase in business will be dampened.

Because revenue is also determined by the level of output sold, the entrepreneur must determine his desired or optimum output level. Because output is dependent on the resources invested in the enterprise and the level of costs incurred, the entrepreneur must have some idea of the minimum level necessary to make a profit in order to realize the economic incentives from devoting his resources to production for the public. It is necessary that output be relatively stable, dependable, and predictable. The alternative entrepreneur must attempt to identify the physical and other constraints on the level of output, such as the size of facilities, weather variables, crowd control, vandalism control, and local regulations. Because increases in demand usually bring increased revenue, the entrepreneur should be aware of his ability to meet an unexpected surge in demand.

The elasticity of supply is a concept that measures the response of quantity supplied to changes in the price of the product or in other

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23. See W. NICHOLSON, *supra* note 14, at 190; R. POLKINGHORN, *supra* note 21, at 108.

factors.<sup>24</sup> It is based on the theory that the price received for a product, along with other factors, affects the amount produced. Hence, price elasticity of supply measures the rate of change in quantity supplied per unit change in the price of the product, with the other factors held constant.<sup>25</sup> The concept measures the extent to which a price change acts as an incentive to make a producer increase or decrease output.

The entrepreneur must have some estimate of his price elasticity of supply because if the new enterprise is a price taker, it must respond to prices set by the market for the same or similar products. It is important for the entrepreneur to know, if only tentatively, the extent to which his enterprise can respond to changes in the market price of its product or substitutes. This knowledge will prevent the landowner from producing commodities that he can only sell at a loss or from failing to produce commodities for which consumers are willing to pay remunerative prices. In either case, he forgoes a profit opportunity and completely misses the market incentive that is supposed to reward him for sharing his land with the public.

#### *J. Miscellaneous Issues*

The entrepreneur must make allowances for personal events and characteristics that could affect his ability to manage the enterprise and make it profitable. These would include illness, personal emergencies, personal temperament, and ability to deal with strangers, to name a few. Also, he must be aware that the government, at any level, could at any time impose laws or regulations that might completely upset even the best-planned efforts to run a successful business.

#### *K. Comparing Competing Alternatives*

A landowner may have several possible alternative enterprises from which to select. A selection must be made only after all the issues affecting and affected by each enterprise are analyzed and a conclusion is reached as to which is the "best" choice. A choice must take into account the objectives and resources of the landowner and the assumptions made earlier.

### IV. SUMMARY AND CONCLUSIONS

A landowner seeking to convert his land to alternative profitable uses must consider a wide range of economic and financial issues before

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24. See W. NICHOLSON, *supra* note 14, at 408-09; E. MANSFIELD, *MICROECONOMICS* 29 (1979)

25. W. NICHOLSON, *supra* note 14, at 408-09; E. MANSFIELD, *supra* note 24, at 29.



making a final decision. Failure to do so might put him in a situation of high costs, high taxes, numerous competitors, and weak demand for his product. He might also face a new cost-price squeeze situation, not unlike the one traditionally faced by agricultural producers. Worse, he will not have the safety net of agricultural programs that have allowed some farmers to survive the old cost-price squeeze. In order to avoid "going back to the future," the farmer must look at the economic and financial variables very carefully.

#### V. TENTATIVE RECOMMENDATIONS

In spite of the risks involved, there will always be some entrepreneurs who, for one reason or another, want to enter an industry. They can benefit from some general recommendations to reduce costs and taxes, increase throughput, and prevent product prices from falling. Because of the wide range of alternative uses of agricultural land, it is not possible to offer specific and detailed recommendations.

It is important that the farmer not overlook any opportunity for cost reductions that do not adversely affect the quantity and quality of his output. One fruitful area would be purchasing from suppliers who do not have significant market share or control, who are not price makers, and who are willing to negotiate prices. This purchasing would allow the landowner to obtain better terms and possibly lower prices.

Given the great significance of the wide range of tax levies, he must, like all other entrepreneurs, adopt strategies that reduce his taxes at every level and must rely heavily on his attorney and accountant. Given the wide range of combinations of possible enterprises, business forms, and tax situations, it is difficult to offer specific tax reducing proposals. One is tempted to mention a strategy of lobbying federal and state tax writing authorities to mitigate the burden of taxation faced by those who wish to pioneer these socially useful and non-polluting uses of agricultural land. Lobbying is not cost-free, however, and it is doubtful whether these new enterprises will have the funds to do so.

Probably the most promising strategy for the entrepreneur is market development. The landowner must adopt a strategy to inform the world about his product, seek out those most able to buy the product, and encourage them to buy it in quantities large enough to make his enterprise profitable and liquid. Advance contracting offers some possibilities. The landowner could sell his product in advance of the season. This would, if successful, increase his revenue and his liquidity. Also, it would assist him greatly in financial planning. Similarly, the entrepreneur would do well to offer his product to group buyers such as schools, day care centers, senior citizen centers, churches, clubs, civic groups, unions, and corporations. This is generally more efficient than dealing with one buyer at a time.

The entrepreneur would do well to use some of the institutions of the existing travel and leisure industry. One of these is the travel agent. Travel agents and other middlemen have the access to consumers that the entrepreneur does not. They can at least make the consumer aware of the existence of the service and allow him to choose between it and other traditional alternatives, such as a trip to a theme park or to a foreign country. For example, a stay at a hunting preserve might be offered as an alternative to a tropical cruise. Of course, the entrepreneur would have to offer some financial incentive to the travel agent and this might take the form of a discount or a fee. By discounting large numbers of "tickets" to travel agents, the entrepreneur can receive the benefit of group contracting and access to a much wider market of buyers.

The issuing of coupons is yet another device for reaching a wider market. Although it does not give the entrepreneur the same degree of control as do sales to groups or travel agents, it does produce contact with thousands of potential buyers, some of whom might be interested in staying at a rural bed and breakfast or experiencing a bit of the farming lifestyle. To an entrepreneur with relatively high fixed costs, relatively high current liabilities, and relatively few current assets, this option, like all revenue raising devices, should not be ignored.

The entrepreneur must also consider the option of discounting to the general public. This might be extremely necessary during a period of low demand, and there may be consumers who might be willing to purchase, for a discount, in the off season.

The possibility of joint selling by entrepreneurs in similar alternative businesses should also be considered. Entrepreneurs could combine and appoint a number of selling agents, such as travel agents, who would allow consumers to choose from different alternative enterprises. Hunting or fishing enthusiasts could then have a much larger selection of possible sites offered by entrepreneurs.

Like all other sellers, the entrepreneur runs the risk of the price of his product falling to unprofitable levels at the time of actual sale. This could be detrimental, especially if it occurs after the entrepreneur has done his financial planning on an assumption of higher product prices. He must therefore have strategies for avoiding this risk or of passing it on to someone better able to bear it. One possibility is to negotiate advanced sales of the product at fixed prices or to contract with large organizations on similar terms. Also, his block sales to travel agents could be negotiated at fixed rates.

One final conclusion needs to be drawn. If the market is the only practical source of incentives to induce the landowner to share his land with the public, if the market incentive has to be shared with federal, state, and local governments, among others, and if the market is fraught

with substantial uncertainties, then one must ask if the market can ever provide a realistic incentive. In the absence of a realistic incentive, and in the absence of government compulsion, the prospects of a landowner choosing an alternative use for his agricultural land and, hence, of greater public access to private lands, are not terribly overwhelming.

