

SELECTING PROFITABLE ENTERPRISES OR SELLING THE FARM

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THE ARGUMENT

Most farmers are notoriously bad at knowing what to charge for their products. They cope with the vagaries of nature better than pricing outputs sufficiently to cover costs and to provide enough money for farm growth, and their living expenses. This is perhaps because agricultural education still emphasises production and neglects accounting. Consequently, this paper attempts to combine the two and will concentrate on three things:

1. the price that a farmer must set for a product, to meet basic costs and four other often unrealised costs associated with farm growth and living standards. This price is the "asking price" for each of the farm's enterprises.
2. comparing the asking price of the product to its prevailing market price. This comparison will produce one of four possibilities.
3. examine each of these possibilities and suggest what the firm should do in each case.

The procedure to calculate asking price is called budgeting. Once the asking price is determined, it is compared with the market price. If the market price is greater, then the farm makes more money than it expected. If the market price is smaller then one of two things can happen. Either the farm makes less money than it wanted to, but it still makes more than its costs. The other is that it makes a short or long term loss. If it is short term, then the farm can survive for a bit. If it is long term then the farm will either have to close before it loses all its equity or produce something else. Thus the asking price indicates whether a farm should or should not be in that line of business.

METHODOLOGY

The paper uses simple numbers to illustrate the essential points involved in making these decisions on the farm's future. However, the percentages and proportions used in the paper are realistic. They are calculated from historical averages in USDA national statistics and are therefore fairly accurate. For example, most US farms will typically have around 75%, 17% and 8% of their total costs allocated to cash costs, depreciation and overhead costs respectively (van Blokland 1, USDA 1).

THE BUDGETING PROCEDURE FOR CALCULATING ASKING PRICE

There are three types of costs involved in all production. These are cash, depreciation and overhead costs, which summed together, make up the conventional total costs recognised by accountants. Cash costs are the items the firm pays cash for and they typically make up at least 75% of the total costs on most farms. They are, consequently, the most important costs to control. Cash costs include labour, chemicals, fertilisers, fuel and repairs, marketing, insurance, rent and interest on loans.

Depreciation costs include all the items that the IRS allows a firm to depreciate. These are items which are not completely used up in a production period. Farm examples include vehicles, machinery, equipment, breeding stock and buildings. Fruit and nut trees may also be depreciated when they start bearing. While depreciation is not a bill that can be paid like weekly labour, it is recorded in an income statement as a tax deductible expense and adds cash to the cash flow. Thus the cash flow shows when there is enough cash available for replacing any depreciable asset. This decision is helped by running a sinking fund which holds the cash gained from depreciation allowances.

Overhead costs are the costs associated with running the farm's office. They include office staff, equipment and furniture, office expenses, accountant and attorney fees, publications, educational courses, business travel and business entertainment. These usually make up some 8% of these firms' total costs.

Assume a farm produces STUFF and that the per UNIT cash costs are \$7.50, depreciation is \$1.50 and overhead is \$1.00. Therefore the total costs of producing one UNIT are \$10.00. If the current market price per UNIT is also \$10, the firm covers its total costs but does not make money. This is because there is no money left for firm growth nor for the owner's family to live on. In business terms, the firm has no return to management. A return to management typically has to cover four additional costs. These costs apply to all firms everywhere so they are not unique to green firms nor to agriculture. These additional costs are :-

1. the owners' income taxes and social security, medicare and medicaid i.e FICA
The amount paid depends largely on whether it is a corporation, partnership or a sole proprietor firm as well as how much it earns. Consequently the firm's role largely depends on government fiscal policy even though firm ownership changes and tax management can help to reduce taxes.
2. re-investing in the firm. This charge is for firm growth and the amount invested is decided by the owners. It is possible, for example to delay investment if current times are bad. Likewise, it is possible to invest heavily in good times.
3. principal payments. The amount is usually set by the lender for green firms, simply because many owners do not provide, or are able to analyse the necessary financial documents to make this decision. Those that do, will depend on the firm's net cash flow to decide when and how much to pay and then present their case to the lender. The best principal payment schedules are set jointly by the owners of the firm and the firm's lenders.
4. withdrawals for owners' salaries. These are what is spent on living expenses, which also include personal investing for retirement and college for children. The amount allocated depends on the firm's owners. Note that in corporate finance, the re-investing and principal payments are called retained earnings, while the

owners' salaries are dividends.

There will, of course, be some firms that have no debt and therefore have no principal payments. Similarly, some firms do not want to get any larger and will therefore not re-invest for growth. The firms that lose money will not pay income taxes. But the majority of firms will be faced with allocating any surplus money above total costs into all four of these additional costs.

These additional costs will be presented as a proportion of the total costs. The assumptions on these proportions are calculated averages that also come from national statistics (USDA 2). For example, the four and a half percent of total costs allocated to owners' income taxes and FICA contributions means that if a green firm spent a dollar on costs it would also pay 4.5 cents in taxes and FICA. The assumptions may appear somewhat heroic but they are based on USDA statistics and the author's experience and are pretty realistic. That, perhaps, is the main point.

Assume, therefore, that income taxes and FICA are \$0.45 per unit, or a little over 4% of total costs. Likewise, re-investment is \$1.75, or 17.5% of the total costs, which is perhaps the minimum necessary to keep one of these firms viable today in terms of firm growth. This proportion means that the firm will roughly double in size every seven years. In other words, it will take seven years for a firm to grow from \$250,000 in annual sales to \$500,000 (van Blokland 1).

Principal payments are set at \$0.80, or 8% of total costs, which is about as much as these firms can afford to pay under current price conditions for green firms. This proportion means that if lenders unwittingly set principal payments which are much higher than this, the firm will have to allocate too much of its cash to pay principal and will therefore not have sufficient to grow or to meet living expenses (Ibid.). For example, if a green firm has to pay \$1.50 cents per unit in principal (15% of total costs), both growth and the owners will suffer, unless the firm has a product that is currently earning

atypical returns.

Finally, assume that the owners withdraw \$1.00 per unit for their living expenses, or salary. This is a 10% return on total costs (something similar to a return to management), and total costs are essentially what they have invested in the production process. This is usually the payment that gets adjusted downwards first if the firm faces hard times. These four additional costs sum to \$4.00.

The asking price of each unit produced by the green firm is therefore the total costs of cash, depreciation and overhead, or \$10, plus these additional costs of \$4. Thus the asking price of this firm is \$14.00 per UNIT. This is the price that the firm wants in order to meet all its costs, including income taxes and FICA, growth, principal and owners' salaries. Put another way, the firm's and the family's future financial plans depend on them getting \$14 per UNIT.

THE FOUR POSSIBLE SCENARIOS

There are only four possible outcomes, once asking price is determined. These will be presented as different scenarios. Scenario #1 sets the market price greater than asking price. Scenario # 2 makes the market price less than the asking price but greater than total costs. Scenario # 3 places the market price less than asking price and less than total costs, but greater than the cash costs. In scenario # 4, the market price is less than asking price and less than cash costs.

Scenario #1. Assume the market price is \$15 per UNIT. Total costs are covered and there is \$5 available to pay the four additional costs. This is a good situation because the firm only planned for \$4, and has an extra \$1 per UNIT to play with. The result obviously depends on how the owners allocate the \$5. The \$15 market price will probably result in higher income taxes, so instead of paying \$0.45 per unit, say it rises to \$0.50. There is \$4.50 left to share among the other three charges. The owners can (1) re-invest more in the firm, (2) pay off principal quicker, (3) increase family

withdrawals, or (4) do a little of all three. The decision is not easy because the more that is allocated to one of the three alternatives, the less there is for the other two. This allocation decision can often separate the good managers from the pack. (Drucker).

Scenario #2 sets the market price at \$13.00 per UNIT. Total costs are covered but there is only \$3 left to meet the other four costs when the firm wanted \$4. Obviously taxes will fall, say from \$0.45 to \$0.40. The remaining \$2.60 ($\$3.00 - \0.40) must now be shared among investing, principal and salaries. Probably, the firm will reduce family withdrawals and therefore reduce its 10% return. This will maintain the principal commitments of \$0.80, leaving \$1.80 ($\$2.60 - \0.80) re-investing and salaries. This situation is typical in most small firms. If the market price is lower than asking price, the firm will sacrifice either or both investing and salaries. The good news is that the firm is still making money.

Scenario # 3 sets the market price at \$9.00. This is insufficient to cover the total costs of \$10 so the firm inevitably loses money. But it does cover the \$7.50 cash costs and therefore leaves \$1.50 over ($\$9 - \$7.50 = \1.50) to meet some of the depreciation and overhead costs. This is the classic example given in most microeconomic textbooks (Ferguson et.al.) In the short run the firm must produce, because all depreciation costs and most overhead costs will continue whether the firm produces or not. For example, a vehicle depreciates whether it is driven or sits in the garage.

If the firm does produce, it loses \$1.00 per unit, or \$10 total costs minus \$9.00 market price. If it does not produce, it saves the \$7.50 invested in cash costs but must still pay \$2.50 for depreciation and overhead, thus losing \$2.50 per unit instead of \$1.00. There is, however, no money available for the other four costs so living expenses must come from savings or borrowing. There will be no investing and principal payments will probably be deferred. Obviously if this market price turns out to be the typical price for the future, the firm cannot continue production for ever. But it should continue to produce in the short run.

This time period will depend on several things. If the firm has financial reserves available it can continue to finance production by drawing on these reserves. Or it may produce at a loss temporarily simply to increase market share as airlines do when they heavily discount tickets, but make sure that they are covering their cash costs. Or the firm may need to sell inventory at a discount to avoid spoilage. But it cannot continue to produce in the long run if it does not at least cover its total costs.

In scenario # 4, assume that the market price is \$7.00 per UNIT. This price does not even cover the cash costs of \$7.50 per UNIT. Consequently the firm should stop production, unless there is some way of reducing cash costs to below \$7. No firm can produce indefinitely if it does not cover its cash costs. If it does, it will deplete its equity until it becomes bankrupt. The owners must decide whether the market price will consistently remain below the cash cost level of the firm. If this seems likely, the firm has two choices. These are to sell the firm or produce something else. There are no other alternatives.

Obviously, all these scenarios assume that the market price stays fixed during the production period. While this may be unrealistic, the main point is that the scenarios cover all the possibilities that arise when asking and market prices are compared. These comparisons inevitably lead to the actions presented with each scenario. This is where this methodology becomes brutally realistic and therefore extremely valuable.

COMMENTS

Asking price is a vital decision making concept. It forces an integration of production performance via the cash costs. It then incorporates the firm's structure through depreciation and overhead. It combines the owners' short term goals by including salaries and the long term objectives of investment and growth through retained earnings. The firm and its management are then tested by a fair judge, the market place, against the price it offers.

The asking price is the culmination of enterprise budgeting. But budgeting is not exact. It is always a forecast of the future and as this future gradually becomes the present, things change. So should the budget and consequently so does the asking price. Thus any budget must be altered constantly to incorporate new events, so that as the future becomes the present, there are no major surprises for the firm's investors.

The asking price is often the determining factor in deciding what to produce and how to allocate the returns from this production between re-investing, principal payments and the owners' salaries. Even though prediction is difficult, it has to be done. Without predicting asking price, the whole concept of firm production is guesswork and hope. Every firm makes most, if not all, of its decisions from asking price. Winners stay, losers leave.

This paper has shown that the asking price of a marketable product is more than the costs of producing it. The asking price serves as both a short term sales trigger and a longer term comparison of the health of the firm relative to the competition in the market place. The firm can only make money if it covers all its costs, namely the traditional total costs and the four additional costs. In the example used here, adding the four additional costs increases the price above total costs by 40%. This increase was chosen because a 40% addition is fairly standard in business accounting (Weston et.al. and van Blokland 3). If the firm had no debt, the increase would be smaller. If the firm had a less aggressive re-investment programme the increase would be less. The point really is not the magnitude of the charges but the fact that these charges must be included in budget calculations for the firm and its owners to survive and prosper.

The methodology presented here is recognised under GAAP and practiced by accountants in similar form in all firms across the world. This allows uniformity, comparison between geographically dispersed firms and acceptance and conformation to recognised standards. It all fits together thus: if the firm's total costs are subtracted from the UNIT's sale price (times the number of UNITS sold), the result is the net firm

income for that period, usually a quarter. Owners' income taxes and FICA are then subtracted from net firm income, to get net income, which is the bottom line for all firms. Net income is the source for principal payments, firm re-investing and owners' salaries. All net income is consumed between these three. In corporate finance, retained earnings (principal and re-investing) increase the firm's equity and the remainder (living expenses or salaries) is paid out as dividends.

It is possible to link the enterprise budgets of a firm to the firm budget by adding up the enterprise budgets, and then when sales are included, convert the firm budget to an income statement. This statement, along with the enterprise and firm budgets provide practically all the data necessary for the subsequent cash flow. Things fit nicely if the asking price includes total costs and the four additional costs. Things don't fit at all if any of the four additional costs are excluded. So budgeting needs to be done right at the start. This paper attempts to show how to get to the starting line in good condition.

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