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AN INTRODUCTION TO THE TEXAS CROP AND LIVESTOCK BUDGETS*

Estimating the production costs and returns of farm enterprises for planning purposes is a difficult, but important, task. Timely and accurate cost of production estimates are necessary: (a) to make input use decisions, and to arrange for operating capital requirements, (b) for enterprise selection, (c) to estimate the potential profitability of capital investment decisions, and (d) to develop marketing strategies and assess their impact on costs and returns.

Budgeting is a deceptively simple tool which can be used for analysis of problems ranging from day-to-day detailed choices to major questions about the size and type of farm business. Budgeting, as a management tool, is the testing and estimation of likely outcomes from decisions before they are implemented. Enterprise budgets are both a product of and the basic building block for the planning process.

The Texas Crop and Livestock Budgets are projected enterprise budgets jointly prepared by the Texas Agricultural Extension Service (TAEX) and the Texas Agricultural Experiment Station (TAES) to assist farmers and ranchers in estimating "real" economic costs and returns of production, in current dollars.¹ The information presented in the budgets is prepared as a management planning guideline and therefore is not intended to recognize or predict the costs and returns from any particular farm or ranch operation. It is suggested that users modify the budgets to fit their individual situations by making changes in yields, input levels, prices and other factors. A column titled "Your Estimate" is provided on each budget to make modifications convenient. Furthermore, the expiration date on each budget indicates updating is necessary.

* Prepared by Robert H. Jenson, Assistant for Management Analysis, Department of Agricultural Economics, Texas A&M University, College Station, February, 1986. This paper is designed to accompany the distribution of the Texas Crop and Livestock Budgets (TAEX) and is reviewed and updated annually.

1 Alternative procedures are mixed in their method of handling the impact of inflation on costs, or attempt to estimate nominal cash costs of production either before or after relevant taxes. In fact, most budgets are a mixed bag of nominal, real, before-tax, after-tax, cash and non-cash concepts and procedures.

The 1988 crop budgets include the anticipated government deficiency payments for cotton, corn, sorghum, barley, oats and wheat. To qualify for these payments producers must be in compliance with the government program for the respective crops. In evaluating the whole farm situation proper acreage adjustments and fallow acreage costs must be included when determining costs and returns per acre. Budgets for "set aside" land are included in several of the districts. Some of the crop budgets include the cost from the "set aside" budgets. In using budgets for crops that are in the government program, care must be taken to correctly account for "set aside" land.

The budgets also include several enterprises that require an establishment that may include one or more years of providing inputs before realizing any income. Enterprises that require this type of establishment include pasture and hay enterprises and orchards or groves. Budgets for these enterprises generally include a *Perennial Crop* line listed in the fixed cost section and are usually preceded by an establishment budget. The cost of establishment is amortized at an interest rate and number of years defined in the *Perennial Crop*. This works well for enterprises like hay and pastures where a single year of establishment is required. Enterprises with several years preceding production followed by some years of increasing production before reaching a mature production level require budgeting techniques beyond the capabilities of most enterprise budgeting analysis. *Perennial crop* values may provide an estimate of amortized costs, but capital budgeting analysis using net present value or internal rate of return as well as cash flow analysis would be required to adequately determine the profitability of these types of enterprises.

Procedure

One of the major problems involved in enterprise budgeting is the lack of information concerning the amount of production which will result from a particular combination of inputs. Information for the Texas Crop and Livestock budgets is assembled from published and unpublished sources. The data are obtained and continually revised with the cooperation of farmers, ranchers, and agribusiness firms through informal surveys and personal contacts. Data

supplied by these sources are confidential and provide average values which are used in developing and revising budgets. Scientific sampling techniques required to produce statistically reliable estimates, however, are not used due to time and cost limitations. When possible, published information from the Texas Statistical Reporting Service and published research from the Texas Agricultural Experiment Station (TAES) are used in preparation of the budgets. Regionally based agricultural economists provide leadership in assembling the data and constructing the budgets.

The input levels used, the combination of inputs and machinery operations, and the type and length of ownership of machinery and equipment are *not* necessarily profit-maximizing. They are only believed to be representative or typical for the specified geographic area.

Budget preparation is a time consuming task involving numerous data and mathematical calculations. A computer program has been developed to aid in budget preparation. The TAEX budgets are prepared using the Microcomputer Budget Management System (MBMS).² This computerized tool stores and retrieves base data, prices, and other factors; calculates machinery, capital, and labor costs; organizes the costs and returns in a variety of formats; and performs a number of budgeting analyses.

Terminology Used in Budgets

An *enterprise budget* is an economic recipe for the production of a commodity usually expressed in terms of the production unit (e.g., per bushel, per head, etc.) or by a common resource (e.g., per acre of cropland). It is a statement of all expected revenues and expenses, both actual and imputed.

There are three general types of costs that make up the total economic cost of producing any farm commodity. These are variable costs, fixed costs, and overhead costs.

Variable costs (sometimes referred to as operating costs) are those short-run costs that may

² McGrann, James, M., Kent D. Olson, Timothy A. Powell and Ted R. Nelson, "Microcomputer Budget Management System User Manual." Dept. of Agricultural Economics, Texas A&M University, College Station, February 11, 1986.