Ag Decision Maker

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Partial Budgeting: A Tool to Analyze Farm Business Changes

Business owners must often make decisions about changes they are either contemplating making or that have to be made. Many of the decisions are incremental, such as adding land, expanding or reducing an enterprise or changing how an enterprise is managed. The partial budget is a useful tool for farm managers when these situations arise.

A partial budget helps farm owners/managers evaluate the financial effect of incremental changes. A partial budget only includes resources that will be changed. It does not consider the resources in the business that are left unchanged. Only the change under consideration is evaluated for its ability to increase or decrease income in the farm business.

Partial Budgeting Principles

Partial budgets are based on the principle that small business changes have effects in one or more of the following areas.

1. Increase in income
2. Reduction or elimination of costs
3. Increase in costs
4. Reduction or elimination of income

The net impact of the above effects will be the positive financial changes minus the negative financial changes. A positive net indicates that farm income will increase due to the change, while a negative net indicates the change will reduce farm income.

Partial Budget Components

A partial budget consists of two columns, a subtotal for each column and a grand total. The left hand column has the items that increase income while the right hand column notes those that reduce income for a farm business. The budget can be divided into four parts.

1. Added Income. This area is usually an estimate if a new enterprise is to be added. Use realistic yields, product quality, and prices. Over estimation may lead to incorrect decisions and possibly reduced financial performance when the change is meant to improve it. When deciding on a projected price, use average prices from the markets where production is most likely to be sold. Also use average quality unless the change under consideration is meant to improve crop or livestock quality.

Income increases may come from expansion of an enterprise. If the expansion is minor, current production quantities, quality and average prices are reasonable approximations to use. But if the expansion is large, during the early production periods, lower yields and quality may result due to start-up difficulties. Keep this in mind when estimating changes in income.

2. Added Costs. This is the first section of Column 2. List all increased expenses due to the change being considered. Most of these will be costs of production for the new enterprise. This list may also include non-cash costs such as labor and depreciation. For example, it might be appropriate to include unpaid labor to be certain that the operator is equitably paid for his/her labor and management input. A depreciation charge, if included, will help analyze whether there is a return on the investment that the operator makes.

3. Reduced Costs. Obvious items for inclusion in this section would be crop or livestock expenses no longer incurred. These costs could be reductions or total elimination of certain expenses. Examples include seed, custom work, repairs, veterinary expense, interest expense and paid labor. Inclusion of non-cash costs such as unpaid labor and depreciation would provide a full economic analysis instead of just changes in cash costs.

Robert Tigner
Nebraska extension educator
rtigner2@unl.edu

IOWA STATE UNIVERSITY
Extension and Outreach

4. Reduced Income. Items to include here might be reductions in product sales, such as corn, feeder pigs, apples or milk, rental income, custom work income, or USDA payments. Another consideration here may be reductions in yields due to reduced planting or harvest timeliness. When custom operators are used or ownership of equipment is shared, some cropping operations may not be completed in as timely a manner as desired in some years. This can reduce quality and yields that reduce farm income. Accurately estimating this factor can be difficult, however.

Partial Budget Summary

Summarization of the of the above four partial budget components is the last step in partial budgeting. Total each of the two factors in column 1 and write this result on the column 1 subtotal line. Repeat the process for column 2. Then take column 1 (added income/reduced cost) and subtract column 2 (increased costs/reduced income) to arrive at a projected net return from adoption of the change under consideration. A negative number indicates the change as considered will reduce whole farm income. A positive number indicates that the change will be profitable.

A Decision Tool is available to help you prepare a Partial Budget, www.extension.iastate.edu/agdm/wholefarm/xls/c1-50partialbudgeting.xlsx.

Example

The example below illustrates how a partial budget can be used to analyze the decision to purchase replacements for a cow-calf herd rather than raise them. Heifer calves that would have been held back from the herd can now be sold, resulting in additional income. Some costs for developing the heifers will no longer be incurred, such as feed, health and labor costs. Other costs, such as land ownership and depreciation on facilities, would probably not change, so they can be omitted from the budget. On the negative side, the cost of purchasing a bred heifer appears as an added cost. There is no reduced income entry, since cull cow sales would be the same for either alternative. In the example, the projected net change is negative, indicating that it would be more profitable to continue to raise the replacement heifers. However, if suitable bred heifers could be purchased at a lower price, the result might be different.

Conclusion

Partial budgeting can be useful in the decision process farm owners and managers use to decide on alternative uses of resources they have in their businesses. Partial budgeting is a systematic approach that can assist the manager in making informed decisions. But this budgeting process can only estimate possible financial impacts, not assure them. Management decisions and chance can change the projections. These may result in better or poorer than expected performance. Repeating the analysis using different assumptions about key variables will give some idea about the degree of risk involved in making the proposed change.

Partial Budget Example: Switch from Raising Replacement Heifers to Buying Heifers

Added income due to change:		**Added costs due to change:**	
Sell raised heifer calf: 500 lb. @ $1.20	$600	Purchase bred heifer:	$1,200
Reduced costs due to change:		**Reduced income due to change:**	
Pasture maintenance	$ 20	None	
Grain fed	$ 40		
Supplement and mineral	$ 45		
Hay fed	$120		
Health, utilities and other costs	$ 55		
Labor	$ 50		
Subtotal	$930	Subtotal	$1,200

Net Change: $930 - $1,200 = – $270 (subtotal from column 1 minus subtotal from column 2)