

CASH FLOW BUDGETING

Teacher's Manual

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The Cash Flow suite of materials includes presentation materials, case study and the cash flow budget tool itself. As with many spreadsheet tools, there are tradeoffs between user friendliness, accuracy and depth. This Cash Flow Budget tool is more involved than many cash flow spreadsheets in that there is more specificity in planning marketing of products, estimating marketing costs, analyzing debt repayment and sensitivity analysis.

Following is information for the instructor including:

- Description of Materials
- Preparing to teach – tips
- Explanation of the tabs in the spreadsheet

Materials

Instructors Materials Only

1. “Cash Flow Budgeting – Teacher’s Manual.doc” (this document)

Presentation/Workshop Materials

1. “Cash Flow Budgeting - Explained.doc”
2. “Cash Flow Budgeting – Explained.ppt”
 - a. The word and PowerPoint file complement each other and are an explanation of the purpose, value and structure of cash flows. The intended use is for both learners and instructors. These could be a self-learning set of materials.

Case Study Materials

1. “Cash Flow Budgeting – Case Study KEY.xls” [for instructors]
 - a. Complete answers of the case study.
2. “Cash Flow Budgeting – Case Study STUDENT.xls”
 - a. Spreadsheet that the student would use in completing the case study.
3. “Cash Flow Budgeting – Case Study.ppt” (PowerPoint presentation)
 - a. Each slide is information or directions for participants working their way through the case study.

End-Use Materials

1. “Monthly Cash Flow.xls”
2. “Quarterly Cash Flow.xls”
 - a. Monthly and quarterly cash flow spreadsheets ready for use.

Preparing to Teach - Tips

The materials accommodate two levels of teaching

1. The basics of Cash Flow Budgeting – What is it and Why do it.
2. Case Study Practice

Basics of Cash Flow Budgeting – What is it and Why do it.

Materials needed:

- “Cash Flow Budgeting - Explained.doc”
- “Cash Flow Budgeting - Explained.ppt”

The word file and PowerPoint presentation complement each other and can be used in a classroom setting or by end-users themselves. They provide an explanation of:

- the purpose of cash flow budgeting,
- the value to the farm manager,
- examples of the value,
- tips and structured thinking on how to increase cash flow,
- how to construct a cash flow budget and
- “quiz” questions for interaction between teacher and student.

Depending on how far into the process a teacher wants to go and how much audience participation is desired, the Basic Cash Flow Presentation is approximately 1-2 hours. The very “awareness only” basics could be 30-45 minutes.

Case Study Practice

The case study practice is intended to follow the presentation of the basics or could stand on its own for a more advanced audience. Materials needed include:

- “Cash Flow Budgeting – Case Study KEY.xls” (for the instructor)
- “Cash Flow Budgeting – Case Study STUDENT.xls” (student spreadsheet)
- “Cash Flow Budgeting – Case Study.ppt” (PowerPoint presentation)

The planning of all cash flow revenues, expenses, debt service etc. for every month or quarter involves lots of entries. A case study that started with a blank cash flow would take a long time, be repetitive and likely be confusing as different students work at different rates. Therefore, the cash flow budget case study is partially completed and the workshop proceeds with participants completing the rest of it and, in the process, learning about how cash flows are organized and how this spreadsheet tool works. The initial result is a negative cash flow, so the

second part of the case study walks participants through management decisions in correcting a negative cash flow.

The “KEY” spreadsheet has all the answers. Both the key and the student’s case study spreadsheet have the cells needing information shaded in a distinctive blue color. This helps both teacher and student to more efficiently find their way around the spreadsheet.

An alternative to strictly following the case study step by step decisions is letting the participants play. This is especially useful after the first part of the case study when the initial work is complete, but the cash flow is negative. One could follow the rest of the case study to correct the negative cash flow, or just let the participants play at figuring out how to get the cash flow positive.

Before starting the case study, it may be best to take time and explain and show the ‘CASH FLOW’ tab and the other tabs. The other tabs are for more specific estimating of entries on the cash flow. The next section provides an explanation of each tab.

Explanation of Cash Flow Budget Spreadsheet Tabs

The Cash Flow Budget spreadsheet includes several tabs (worksheets) that provide means and help in developing the cash flow budget. Following is a short description of each tab.

‘Title’ Tab

Provides contact information for questions and comments.

‘CASH FLOW’ Tab

This is the prize and all other tabs are there to support and provide information for completion of the ‘CASH FLOW’. The structure and contents of this tab will be explained in detail as the case study information is entered and assessed. Note, the information and results from the other tabs IS NOT automatically entered into the ‘CASH FLOW’, all information must be manually entered. There are places on the ‘CASH FLOW’ tab where information from other tabs is shown, but it is only for information and will not be a part of the math of the ‘CASH FLOW’ until the user manually enters the information. Thus, one can do a full cash flow without ever using the other tabs, they are there to facilitate depth of planning only.

General steps for completing the cash flow include:

- Begin by entering the beginning balances for cash on hand, term debt principal balances and operating loan principal balances at the top of the ‘CASH FLOW’, rows 3, 4 and 5.

- Enter last year's cash inflows and outflows (green-shaded column E). This is not required, but it does give historical perspective and context for the estimates.
- Enter the annual total projections for cash flows this year (green-shaded column F). Often it is easier to start with the total estimated cash flows for the year before splitting it up into each quarter or month. Plus, it is a good comparison to last year as well.
- Now the hard work! Enter the cash inflows and outflows each time period (monthly or quarterly) for the year in the yellow-shaded cells. Note, any gray-shaded cells are either for information only or are formulas that sum up a category.
- Gray-shaded cells K, L and M are for user information.
 - o Column K shows the sum of all entries for the year, sum of quarters or months.
 - o Column L shows the difference between the Projected column F and the sum in column K. It is a way of determining that all inflows and outflows that were projected have been accounted for somewhere in the quarters or months.
 - o Column M simply takes the Projected column F and divides by four if quarterly cash flow or by twelve if monthly cash flow. It shows what an equal distribution across the time periods would be.

The "Final Net Cash Flow" shows the math result of all cash inflows minus all cash outflows. Note, that on the spreadsheet it can be a negative number, but in real life it can **NEVER** be negative. In real life, something else will happen, the most likely of which may be that bills will go unpaid, loans unpaid and higher accounts payable and credit cards. The point is that in real life, something will happen that causes the "Final Net Cash Flow" to be zero or positive. So, if your spreadsheet bottom line is negative, then that is a strong signal for you to proactively plan how it will get back to zero or positive, rather than real life dictating that for you.

'Market Sales' Tab

The 'Market Sales' tab is a marketing plan providing a place to estimate prices and quantity of sales for major products produced including corn, soybeans, milk, feeder cattle and fat cattle. It also enables the incorporation of marketing tools such as forward contracts, options, and futures. Yellow- and green-shaded cells are for user input.

The worksheet is split into three major areas - grain sales, milk sales and market cattle sales. The subtotals from each of these areas will be shown on the 'CASH FLOW' tab, but only as information. Users must still enter the total sales for each month or quarter on the 'CASH FLOW' tab. This provides flexibility for users to be very specific about their marketing plans or they can ignore the 'Market Sales' tab and just enter totals on the 'CASH FLOW'.

The 'Market Sales' tab accommodates marketing plans. For example, if a user has purchased one 5,000-bushel corn PUT option with a strike price of \$3.75 then \$3.75 and \$5,000 bushels

can be entered. The user also has the flexibility of entering a higher price if they feel it is warranted. Price and marketing information should be entered as follows:

- Cash Sales only: Estimated sales price and amounts to be sold.
- PUT Option: Strike price or estimated market price, whichever is higher, and amount to be sold under the option contract.
- Hedge: Hedge price and amount to be sold under the hedge contract.
- Forward contract: Forward contract price and amount to be sold under the contract.

Begin by entering the type of marketing (cash, option, forward contract or hedge) in column C followed in column D by how much will be sold in total in that way (bushels, cwt, lbs, etc.). Enter the estimated price and specific quantity sold each time period in the yellow-shaded cells.

Column I and J calculate if the total quantity specified in column D has been accounted for. The weighted average price and weighted average total sales are automatically calculated at the bottom of each section.

Note, the cost of marketing and hedge losses are estimated on the next tab.

'Marketing Costs' Tab

The 'Marketing Costs' tab enables a user to estimate the costs of marketing and enter that as an expense item on the 'CASH FLOW'. The 'Marketing Costs' tab will provide an estimate of marketing costs from:

- Option premiums
- Hedge losses
- Brokerage costs

This tab is only applicable if options or futures contracts are used. Like the 'Market Sales' tab, the results are transferred to the 'CASH FLOW', but only as information. Users must manually enter marketing costs each time period even if they completed the 'Marketing Costs' tab.

'Current Debt Schedule' and 'Debt and Interest Calculators' Tabs

These two tabs provide different ways to estimate interest and principal that is to be paid in the next cash flow season. The 'Current Debt Schedule' tab is a worksheet primarily for recording current operating and term loans, dates of payment, interest rates, and estimated cash interest and principal payments. This tab is the one to use to estimate the cash debt service that will go on the 'CASH FLOW' tab.

The 'Debt and Interest Calculators' tab is an extra. It is not really needed for finding information for the 'CASH FLOW' tab¹. Instead it is just for the interest of users to have multiple ways of analyzing the use of debt capital in the farm business. Calculators include:

- Table 1: Operating Loan Calculator
 - o This table enables the user to enter the principal balance, interest rate and months of accrued interest before the next payment in order to calculate interest that has accrued. Note, the same can be accomplished in the 'Current Debt Schedule' tab by using actual dates.
- Table 2: Term/Installment Debt Calculator
 - o This table enables the user to enter the original loan balance when the loan was created, interest rate, loan length and the current payment being made this year. From that information the interest and principal due this year is calculated. The table accommodates both annual and monthly payments.
- Table 3: Principal, Interest, Total Payment and Remaining Balance for each Year/Month of a Loan
 - o Given the beginning loan amount, interest rate and loan length, this table shows the interest and principal paid for each year/month of the loan. A very useful feature of this table is that it shows the impact (interest saved) of additional principal payments.

'Sensitivity' Tab

The 'Sensitivity' tab is not needed to construct the 'CASH FLOW'. Its value is the ability to analyze the sensitivity of the cash flow budget to changes in prices, production and costs of production. It enables the user to play "what if". For example, if the cash flow is based on corn prices of \$3.50/bu then what happens to cash flow results if prices are \$3.20 or \$3.80 or if production is 210 bu/ac instead of 180 bu/ac?

The 'Sensitivity' tab reads information from the 'CASH FLOW' and 'Market Sales' tabs. Thus, both of these tabs must be completed before the 'Sensitivity' tab can be used.

The top part of the sensitivity tab shows the original situation as it exists on the 'CASH FLOW' and 'Market Sales' tabs. The middle section titled "Changes in Prices, Production and/or Costs" enables the user to calibrate the 'Sensitivity' tab (column B) and then shock the cash flow with different prices or production (column F for corn, milk and soybean sales and column C for feed and other costs). The results of any cash flow changes are showed in the green-shaded section at the bottom titled "Resulting Changes in the Cash Flow."

¹ Since it is not needed for the 'CASH FLOW', it was very tempting to eliminate this tab. However, it does provide some handy calculators for analyzing debt capital and therefore was left for users.