

List of topics to use as examples in the presentation

The following outline presents discussion topics to use in conjunction with the RDFinancial (Readers Digest Condensed Financials) Excel template. This template was designed as a teaching tool to work with producers, lenders and others in agriculture to teach concepts of financial analysis. The intent is to help agriculture producers understand why they should pay closer attention to financial analysis. It is not intended to teach how these financial statements should be prepared, only to provide some motivation for follow-up educational activities in the area of financial analysis.

This script accompanies a slide set that can be used with agricultural groups, with the realization that each instructor will modify the slides and this script to make it their own program. There are several introductory and ending slides in the accompanying PowerPoint that are not covered in the discussion below as these are the slides most likely to be changed or deleted to match the circumstances.

Numbers used in the sample entries listed here are meant to demonstrate financial analysis concepts and interaction of financial statements. If you have built your own version of RDFinancial, these numbers may not match your example. The discussion is still valid, just substitute your numbers.

Abbreviations used:

FFSG	Farm Financial Standards Guidelines
SOE	Statement of Owner Equity

Owner Withdrawals from the business, Family Living Expense

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Concepts: **Interaction of financial statements**
 Need for all financial statements
 Impact of family living withdrawals on the business

Discussion:

- 1) Start with this example when using the spreadsheet. It is very easy to complete and demonstrates the nature of interaction among the financial statements.
- 2) Make sure participants take note of the initial values for net worth, net income, cash flow values and the “discrepancy” in the Statement of Owner Equity. The best way to do this is to provide a separate one page handout of the Statements page of the spreadsheet showing all the initial values. This acts as a good reference throughout the remainder of this presentation.
- 3) Before zeroing out Owner Withdrawals, discuss the relationship between the Cash Flow Statement and the Income Statement.
 - a. Why are the bottom lines not the same?
 - b. The cash flow may be negative or positive but will virtually always be different than the net income on the Income Statement.

- c. The initial state of the spreadsheets may show an initial change in equity that is negative or positive. Where did the number shown come from and what determines this number? Regardless of the initial state, deleting the Owner Withdrawal amount entered on the cash flow will illustrate the relationship between the financial statements.
 - d. You can spend as much time with these questions as you can afford but it is probably better to ask them as rhetorical questions and move on.
- 4) Now, zero out “Owner Withdrawals” on the Cash Flow Statement. Discuss the following:
- a. Net Income did not change. Why? Family living withdrawals are not an expense to the business.
 - i. Do not get hung up on forms of business ownership and tax treatment issues.
 - b. Change in Equity and Net Income are now identical. What does that tell you about growth in equity over time?
 - i. It must come from being profitable and the income statement measures profitability.
 - ii. Comment, the initial state of this spreadsheet did show a profit. What does this tell you about the potential impact of owner withdrawal on the financial health of the business?
 - 1. The resource base must be large enough (generate enough profit) to support the family structure that is overlain on the resources owned or controlled through leasing, etc.
 - 2. Poor (low) profitability does not necessarily mean the poor management, it could simple be too small.
 - c. The Discrepancy figure on the SOE (Statement of Owner Equity) is still zero. Why? The SOE is linked to the cash flow via the “Withdrawals and Other Outflows” row on the SOE.
 - e. Ending cash balance on the balance sheet and Net cash flow are now the same.

You may want to ask participants, before you zero out owner withdrawal, what statements will be affected and how. Don’t worry about specific numbers. Simple questions, will equity increase or decrease, will net income increase or decrease?

- 5) Other possible examples that come up in discussion would be how to handle off farm salary, wages, etc. used to support the farm business or the family living expense. To show the impacts of this, restore the original Owner Withdrawals dollar amount listed in the cash outflow for family living and enter an “Other NonFarm Inflow” of \$XX.xx on the inflows side of the cash flow statement.
- a. What statements change and why? Note that the Income statement does not change. This is NOT “business” income, but an inflow of cash. Not all inflows are income for the business being analyzed.
 - b. Note that equity does increase by the dollar amount entered (\$XX.xx) and is clearly shown as a “Non-Business Inflow/Contribution on the SOE. This equity increase is not a result of business performance.

- 6) Other examples that can be used to illustrate possible family living withdrawals in this spreadsheet.
 - a. Bringing back children to the operation.
 - b. Grandma and Grandpa retiring but do not move off the operation, still drawing all of their family living from the same resource base.
 - c. Increased health problems with the onset of old age. This can increase expenditures on medical expenses and/or significantly increase expenditures on health insurance.
 - d. These all provide opportunities to discuss the need to manage human resource risk and planning for the future with family goals and objectives in mind. And of course family communications.

Family living expense: Impact on financials from the form of business ownership.

Concept: **Form of ownership on the financial statements for a business**
Sole proprietor or corporation
The impact an imposed family structure can have on the financial performance of a business.

Discussion:

1. At some point the question will arise regarding a corporate form of ownership and the ability to deduct family living expenditures as expense for the business operation.
2. To illustrate this, zero out the Owner Withdrawal entry for family living and enter that dollar amount in the Other Cash Business Expense.
 - a. Net income is affected but cash flow is not. You have changed the cash outflow from a non deductible **expenditure** (it is **not an expense** when withdrawn from a sole proprietor ship) to a deductible expense. It is now both an expenditure and deductible expense.
 - b. With taxes turned off, see cell W9 on the Statements tab, the change in equity from beginning to the end of the year does not change and net cash flow does not change. Net Income does change and now the change in equity is identical to Net Income. This type activity helps demonstrate the nature of financial statement and decisions made that are tax management in nature, being able to take advantage of a new deductible expense, versus the business's financial position and performance. All management decisions are important, but it is also important to know which ones affect the productive resources and which do not, like tax management decisions.
 - c. SOE remains reconciled as the added expense is include on the income statement and the reduction in Owner Withdrawal, on the cash flow, is also eliminated from the SOE.
3. To help illustrate the financial implications of the selection of the form of business ownership, turn the tax calculations on and off after moving the other withdrawal to Other Cash Business Expenses in the Cash Flow Statement.

Government Payments: Dependency of the operation on these payments [To Top](#)

Concept: **Interaction of financial statements**
Need for all financial statements
Business sensitivity to particular changes
Explore breakeven levels

Discussion:

- 1) Make sure changes from previous examples are reset before starting this example.
- 2) Use the percentage adjustment to government payments to show the effects of a specific reduction. See row 1 of the Statements tab for the “Percent Gov. Payments” input cell. Assume the reduction is due to a policy change and is not related to any “productivity” changes. Makes life easy.
- 3) Try several percentage changes. What percentage change is a breakeven (defined as cash flow, amount of off farm income needed, etc. etc.) for the operation? You can also use the [Goal Seek function](#) to solve for this level.
- 4) What statements are affected and why? This is a cash inflow, which is also an income. Government payments impact all four financial statements.
- 5) Note discrepancy on the SOE is always zero. This particular transaction will always automatically reconcile.

Cost of Production [To Top](#)

Concepts: **Interaction of financial statements**
Sensitivity of the operation to small annual increases in the cost of production.
Economies of scale and economic efficiency

Discussion:

- 1) Use row 2 on the Statements tab of this spreadsheet to show the effects of a change, increase or decrease, in the cost of production of crops, livestock or both.
- 2) Implications for operation’s size, family withdrawal, need for off farm employment, need for a long-term approach (plan) to survive in ag.
- 3) Discussion about the Expenses tab of this spreadsheet. Where do you find information to enter your cost of production?
 - a. Enterprise budgets, which **must** be adjusted for depreciation and interest as these to costs are included elsewhere in the spreadsheet.
 - b. Own records or own cost of production estimates

Having Lots of Cash [To Top](#)

Concept: **Business Performance versus need to support business**
Implications for long term survivability

Discussion:

1. It can be illustrative to include an example of what having a lot of cash will do to the business financials. This is relatively easy to do in RDFinancial.
2. Add to the beginning cash balance, \$100,000 to reflect an operation that has lots of cash or has a source of cash readily available. This is entered on the Statements tab of the spreadsheet under beginning Cash On Hand.
3. Net Income (tax calculation off) and change in equity do not change. Net cash flow does change by the \$100,000 figure.
4. It may be more instructive to create a situation that shows a negative change in equity before the \$100,000 is added to the beginning cash balance. Increase family living, reduce income, increase costs, or some combination to achieve a negative equity change and then enter the \$100,000.
5. This illustrates that having a lot of cash does not change business performance and proves the old saying, What would you do if you had a million dollars, farm until it was all gone.
6. You must earn growth in equity.

Debt Load and Structure

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Concept: **Farm size, debt load, and debt structure**
Implications for off farm work to support farming habit

Discussion:

1. This spreadsheet, as distributed in March of 2007, has a 16.58% debt to asset ratio (see AssetLiability tab, row 22). The liabilities and associated principle and interest payments in this spreadsheet are not meant to mirror an operations exact situation. The primary purpose is to approximate the debt load and structure for an individual operation. Reminder: This spreadsheet is intended to teach some basic concepts and explore basic financial realities and should not be substituted for detailed financial analysis.
2. Debt load can be easily changed on the AssetLiability tab in rows 16 through 19, by changing the “Percent debt by Asset Type” column of numbers. This can be used to analyze total debt load and changing the debt structure between short and long term debt load. Interest rates and payment period can be changed in cell block H8 through I9 on the AssetLiability tab. Please read the help message built into cell H9 and I9.
3. Example: Change percent of debt on machinery & equipment (AssetLiability Tab) to 80%. Now what is the debt to asset ratio, shown in cell H22 on this tab. This changes net income by the amount of interest on the additional debt (taxes turned off). Interest is an expense and is included on the cash flow and income statement. The Operating Loan Carryover, Ending Balance Sheet on the Statements tab, may also change by the amount of additional principal payments. Principal payments are not an expense so are not included on the income statement. They are included on the cash flow and result in larger “annual”

- operating carryovers. **The bank is not going to like this.** This example addresses debt structure.
4. Reset to initial values. Use the undo icon provided by Excel. You can undo several levels of data entry.
 5. Change the Real Estate finance percentage to 50%. Debt to asset ratio is now approximately 36%. Review net income, net cash flow, and the operating loan carryover on their respective statements.

Further Analysis of Debt Load and Structure

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Debt load and debt structure can be explored further by changing the interest rate and the payment number that is entered in cells H8 through I9. The help messages built into these cells indicate possible ranges of values and how it affects the results.

To show examples for a complete refinance of short-term debt, look at the debt to asset ratio calculated before starting the example, cell H22 on the AssetLiability tab. This debt to asset ratio should be approximately the same before and after a complete refinance of short-term debt. Steps to complete this example would include:

- 1) Enter a 1 in the cell I9 to show that a complete refinance starts the new amortized loan in year 1 of the payment schedule.
- 2) Zero out cells G18, G18 and G19 to show the debt refinance/restructure.
- 3) Adjust long-term (real estate) percent debt by asset type, cell G16, until Cell H22 is the same percent as before starting the example.
- 4) Discussion items include:
 - a. Can the operation handle a different debt structure after a refinance of short term debt, most probably due to and extended period of unpaid debt rolled into operating loan carryovers (in RDFinancial).
 - b. What does all this mean about proactive management strategies to assure survival in agriculture.

Three types of contributed or distributed assets

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Concept: **Measuring Business Performance**
Need for more than one or two financial statements
Interaction of financial statements

Discussion:

- 5) There are three basic types of assets that can be contributed to an operation. Two of these are listed in the current asset section of the balance sheet and the other in the Non-Current section.
- 6) The type of contributed or distributed asset will have a different impact on the financial statements and their bottom lines.
 - a. Current Asset Section

- i. Cash
- ii. Near Cash: Assets such as grain, hay, market livestock or other similar inventoried assets that can easily be converted to cash.
- b. Capital asset: Any type of long term capital asset, most likely land, machinery, equipment, or breeding livestock.

Contributed and Distributed Capital Assets

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Concept: **Measuring Business Performance**, i.e. what the business resources are able to accomplish

Discussion:

- 1) **Cash contributions:**
 - a. Gifts, inheritance, off farm salary and lottery winnings are examples of cash contributions. Buying lottery tickets is included in family living withdrawals.
 - b. To show the affect of this type of cash inflow, enter a dollar amount, say \$100,000 as an entry in the inflows side of the cash flow statement under "Other NonFarm Inflows."
 - c. This amount is immediately offset in the SOE as a Non-Business Cash Inflow, a contribution to the future operation of the business and/or family.
 - d. The SOE remains in balance.
 - e. Equity shows a large positive change but the SOE identifies it as a contribution.
 - f. Net income does not change, i.e the business did not generate this growth in equity.
 - g. The cash is entered into the cash flow stream of the business and all the financial statements show the correct information.
 - h. Reset to the initial state before going to the next example.
- 2) **Cash Distributions** should be entered on the outflows side of the Cash Flow Statement.
 - a. Enter a distribution in "Other Cash Outflows (Not Expenses)" or in "Owner Withdrawals."
 - b. The distribution enters the cash flow stream and ends up as part of the ending cash balance on the Balance Sheet.
- 3) **Near cash contributions (grain, hay, market livestock, etc.):**
 - a. In this system of financial statements, there is no correct way to enter this type of transaction. The business resources clearly do not produce this contribution. The contribution should therefore be identified as a non-business activity.
 - b. The design of this spreadsheet, a very condensed form of a full set of financials, will make automatic adjustments on the Statements tab that do correctly reflect this activity.

- c. On a full set of statements, this entry would take place on the Balance Sheet, being careful not to make an accrual adjustment as an income on the Income Statement. Another entry, offsetting the Balance Sheet entry, is made on the Statement of Owner Equity, showing the contribution and clearly identifying it as not produced by the business.
 - d. An entry on this system of statements on the ending balance sheet is automatically adjusted on the Income Statement. This gives credit to the farm business for producing this asset, because it appeared in the ending inventory. This is not correct for a contribution.
- 4) Near cash distributions (grain, hay, market livestock, etc.):**
- a. A Near Cash asset such as grain, hay, feed, market livestock, etc., that is produced on or purchased and held in inventory by the operation and then given to another should be shown as a reduction to the ending balance sheet inventory value(s) of the asset.
 - b. An automatic adjustment is made to the Income Statement showing the affect the distribution had on the business resources and financial condition of the operation.
 - i. Negative adjustment to income on the Income Statement for grains held for sale or market livestock.
 - ii. In the case of feed inventories being given away (distribution), there is a positive adjustment to expenses.
- 5) Capital asset contributions:** Example: Grandpa passes on and leaves you his herd of prize horses (a capital asset) valued at \$75,000.
- a. Enter this on the AssetLiability tab in cell F31.
 - b. The Cash Flow and Income Statements do not change on the Statements tab.
 - c. The balance sheet changes and the SOE is out of balance by \$75,000.
 - d. Enter \$75,000 in cell O32 of the SOE to get this statement back in balance and the system of financials reconciled.
 - e. This entry clearly indicates business resources did not generate the increase in equity.
- 6) Reset to the initial state before proceeding to the next example.
- 7) Distributed capital assets:** An example might be a father giving a son/daughter crop land or breeding livestock to help him/her get started in agriculture.
- a. The asset would disappear from the ending balance sheet having an immediate one-time impact. Remember, this set of condensed statements measure current business position and most recent (past) reporting period for business performance, e.g. historic measures.
 - b. This impact will probably be long term as part of the income generation capability of the operation is now gone and this is not reflected in the cash inflows or outflows nor the income and expenses.
 - c. Capital asset distributions should be made on the AssetLiability tab in the Capital Asset Purchase/Contribution/Distribution section starting in cell B24. These entries will cause the SOE to show a discrepancy figure. Adjusting entries must be made on the SOE to clear the discrepancy figure.

- 8) These examples are short term in nature and address the single year in which a contribution/distribution occurs. They do not address the application of those assets to productive use in future years. While this spreadsheet is meant to teach concepts and uses average data, measuring Business Performance is a year-to-year activity and results can be highly variable.
- 9) You must be profitable to stay alive in agriculture. You cannot depend on outside sources. Your business must generate profits and they must be enough to cover family living needs, whether they are included in corporate expenses or taken out of the business as a sole proprietorship. Profits must also cover other needs such as retirement, principle payments, outside investments, etc.

Changing the market value of capital assets

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Concept: **Measuring Business Performance**

Discussion:

1. Increases in market value of assets due to inflationary pressures can significantly affect the net worth of an operation during the year assets are revalued.
- 1) Occasionally, an operation in trouble will use this type of asset revaluation to cover up poor business performance but this can be entirely inadvertent, with the same result, masking poor business performance.
- 2) Preparing reconciled financial statements catches this and makes clear the true financial business performance of the operation during the analysis year.
- 3) To illustrate this, go to cell C74 of the AssetLiability tab of the RDFinancial spreadsheet and enter a number, say \$100,000 in the “Ending Asset Value Adjustment Total Dollars” column (column F).
- 4) Go to the Statements tab of the spreadsheet. You will note the SOE shows a discrepancy figure of \$100,000. The calculated ending net worth is \$100,000 less than the reported ending net worth. To eliminate this discrepancy, you must enter \$100,000 on the “Asset Value Change/Cont./Distrib.” line of the SOE. When this is done, the Discrepancy figure returns to zero and the financial statements are reconciled.
- 5) This clearly shows that the business did not generate the \$100,000 increase in net worth. It was introduced into the financial statements with the stroke of a pen.
- 6) Continually changing the market value of assets can produce financial results that can be very misleading with respect to measuring a business’s financial position and performance. An example would be changing market values of assets and getting a large positive increase in net worth while at the same time having a negative cash flow and/or negative net income. Maybe even worse is having a small positive net income and cash flow but a large negative change in equity, which can be masked by revaluing assets.
- 7) Conclusion, you must prepare a reconciled set of financial statements to measure business performance and producers should understand what role each of the financial statements plays in measuring business position and performance.

Can you buy equity when you purchase a capital asset?

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Concepts: **Measuring Business Performance**
Interaction Between Financial Statements
Only Income can increase equity and only Expense can decrease equity.

Discussion:

- 1) Question: Will equity increase, decrease or stay the same after you purchase a capital asset.
 - a. Equity will either decline or stay the same depending on how the purchase is made.
 - b. You can not buy equity. Increases in equity must be earned, assuming for a moment there is no change in market values of assets.**
- 2) Make sure everything is reset from the last example.
- 3) Before you start this example, note the amount of the ending net worth on the Statements page. This example should be completed in several steps with discussion at the end of each step.
- 4) Example: Go to the AssetLiability tab of the spreadsheet to 29. There is a block of cells that will allow you to show what an asset purchase does to net worth.
- 5) Step 1: Enter some dollar amount, say \$100,000 in column D under Machinery and Equipment, cell D29, to show the purchased of a tractor.
- 6) Check the Statements page.
 - a. Net Income did not change
 - b. Ending equity did not change
 - c. The discrepancy figure on the SOE is still zero.
 - d. Mach. & Equipment reported on the ending balance sheet did increase by \$100,000 but this value was offset by a reduction in any positive net cash flow listed before this entry and an increase in Operating Loan Carryover on the liability side of the balance sheet. These two numbers will sum to \$100,000. Cash Outflows shows \$100,000 for capital asset purchase.
- 7) Step 2: Go back to the Enterprise tab and indicate the tractor was 90% financed. Enter 90% in cell G29. The spreadsheet calculates a loan payment and this payment is added to the ending liability for machinery and equipment. The additional liability is split between current principal and long term principal on the balance sheet.
 - a. A simplifying assumption used here is there is no payment during the current year nor are other expenses like taxes and insurance incurred. Remember, do not get lost in the details. That is for a follow-up session.
 - b. Loan proceeds are added to the inflows side of the Cash Flow and cash outflow for the asset purchase remains unchanged on the outflows side of the Cash Flow.
 - c. With the addition of loan proceeds to the cash flow stream, a negative cash flow, as a result of the first step in this transaction, may now change to a positive cash flow and an Operating Loan Carryover created by the first step in this transaction may disappear.

- d. Net income is reduced by the amount of additional interest (accrual adjusted) on the loan and the change in net worth, if positive before this transaction is smaller or may have become negative, or if it was negative before the addition of the loan proceeds is now a larger negative number. The additional interest on the loan is calculated and shown on the AssetLiability tab in cell J29. Tax calculations are assumed to be turned off so it is easy to track dollar amounts through the financial statements without adjustments due to a marginal tax bracket.
 - e. The Discrepancy amount is zero on the SOE, due to the nature of this spreadsheet, adjusting all relevant financial statements in the right location.
- 8) Reminder: DO NOT get tied down in all of the details that are missed in this example. The concepts to get across are the linkages between the financial statements and that **you can not buy equity. You must earn growth in equity**, i.e. you must make the new asset earn its way by somehow increasing revenue and/or decreasing expenses. The only way for equity growth is through net income. At this point in the example, equity has actually decreased.
- a. This provides a good discussion point to help producers understand the basic nature of the individual financial statements and how they interact.
 - b. The assumptions about timing of events in this particular example help with tracking numbers through the financial statements but are not critical to the interpretation supplied here. For example, an asset could be purchased early in the year and when used, it could reduce operating expense, fuel and repairs, to lower total expenses for that year. **Do not get bogged down in the details.**
- 9) Step 3: To complete the last step in this example, assume you take some depreciation on this new piece of equipment during the year.
- a. Enter a figure of \$10,000 (10% of purchase price) on the AssetLiability tab in cell E29.
 - b. Depreciation is a non-cash expense. Hence the Cash Flow Statement does not change.
 - c. The Net Income on the income statement is reduced by the amount of depreciation entered.
 - d. The ending Mach. & Equipment inventory has been reduced by the depreciation amount.
 - e. The added depreciation expense makes the change in net worth either a smaller positive number, a negative number, or a larger negative number depending on its value before depreciation was added.

10) Conclusion, you can not buy equity, you must earn it.

Non-Business Income

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Concept: **Business earnings/income versus non-business inflows.** Note the use of the word inflows.

Discussion:

- 1) By now you have probably demonstrated this concept and can give a very brief review and move on. If not:
- 2) Enter a dollar amount for “Other Nonfarm Inflows” on the Cash Flow Statement, on the Statements tab of the spreadsheet.
- 3) Note this value is offset in the SOE and the financial statements remain in balance.
- 4) Net income does not change indicating the increased cash flow and change in equity were not generated by the business.
- 5) Some may suggest that the family inflows and outflows should be removed entirely from business financial analysis. While possible, this is not a standard procedure and it also eliminates many of the teachable moments from the discussion regarding the family structure business performance interaction and the ability of the resource base to support some type of family structure.

Non-Cash Income from the Current Assets Section on the Balance Sheet [To Top](#)

Concept: **Accrual adjustments are necessary to reflect business performance.**

Discussion:

- 1) Reset the spreadsheet to its initial values before continuing. Participants can then analyze the effects of each individual transaction without have to sort through cumulative affects of many transactions.
- 2) Most financial analysis today is cash based. This includes the preparation of tax information and a cash based income statement, if an Income Statement is prepared. Most often, the Schedule F is substituted for a cash based income statement. All accrual adjustments are ignored and hence reconciliation and a true measure of business performance is lost.
- 3) To demonstrate the nature of a reconciled set of financial statements, assume an individual keeps all of calves at weaning or does not sell the current years grain crop. We will use the livestock enterprise.
- 4) Note the dollar amount listed as “Mrkt & Cull Livestock Sales” on the inflows side of the Cash Flow Statement.
- 5) Use row 1 of the Statements tab and enter a zero for “Percent Livestock Revenue.” This zeros out all livestock revenue on the cash flow and reduces income on the income statement.
- 6) Ignore for a minute that all revenue was eliminated, i.e. cull revenue also.
Reminder: Teach the concepts.
- 7) An alternative approach is the use a number that shows some cull revenue but eliminates the revenue from calf crop sales. This can be done by:
 - a. Using some percentage of the total livestock sales.
 - b. Note the total number in cell E23 on the statements tab.
 - c. Enter that number as a negative in cell E25 to show the loss of cash inflows/income. For example purposes, say -\$200,000.
 - d. Add the number you use, \$200,000 in this example, to the ending entry for Market Livestock on the balance sheet. It would be positive when entered

- here. If this cell already contained an entry, add the number used in step c. above to the existing number.
- 8) What value is displayed for net income and change in equity? These numbers should be the same as the initial state for this spreadsheet.
 - 9) The accrual adjustment made on the income statement gives the operation credit for producing the value of the livestock, even though they were not sold. This type of financial analysis provides a true measure of business performance. Cash income will be generated the following year.
 - a. Question for participants to consider; What happens on the financials the next year?
 - 10) On the negative side, what about selling down grain inventories to manage cash flow needs.
 - a. To demonstrate the effects of this activity, reduce the “typical ending inventory” of Crops Held for Sale, say by \$30000. If the inventory was sold, cash was generated.
 - b. Enter \$30,000 on the inflows side of the cash flow statement under “Other Cash business income.”
 - c. What happens to net income, equity and the SOE discrepancy figure?
 - d. Why is the net income unchanged and the change in equity the same dollar amount? We traded assets, grain for cash. Remember, taxes are turned off.
 - e. A non-cash income adjustment was made on the Income statement to reflect the sale from inventory. Remember, we are trying to get an accurate measure of business performance for the analysis year.
 - f. If the grain was in inventory at the beginning of the year, it was not produced in this analysis year and the sale is subtracted off the income statement for this analysis year.
 - 11) What are the cumulative effects of selling down inventory as a way to manage short term cash flow needs?
 - 12) Emphasize that the primary objective is to measure business performance and the accrual adjusted income statements shows that the type of accrual adjustments made above do not affect the measure of business performance.

Non-Cash Expense (Not Depreciation)

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Concept: **Accrual adjustments are necessary to reflect business performance.**

Discussion:

- 1) Inventories of assets that are typically used in the production process during the year (Feed Inventory and Cash Invested in Growing Crops) are adjusted on the Income statement as expenses. These items are noted by an (Exp) at the end of label in the current asset section.
- 2) Current liabilities, that are adjusted, are always adjusted as expenses on the income statement. Noted by and (Exp) at the end of each row adjusted.

- 3) Assume the values for Current Assets and Current Liabilities are “typical,” for this example operation.
- 4) Change the ending balance of Crops Held for Feed to Zero.
 - a. Results: Cash flow does not change. This assumes that the feed inventories were not sold but fed to existing livestock.
 - b. Net income changes, is reduced, by the amount that was in the ending balance column, \$18,000.
 - c. If the change in equity was positive previous to this example, it will be a smaller positive change or may even become negative.
 - i. Change in equity is reduced by the amount that was in the ending balance column. Why? If you had a poor production year and were forced to feed hay/grain, etc. to livestock that you would normally be able to carry over to the next year, this has the effect of increasing your expenses for the current year. An increase in expense shows up on the income statement and reduces net income.
- 5) To illustrate the adjustments made from the current liability side of the balance sheet, increase the ending Accounts Payable balance by \$20,000. This may result from short term cash management strategies due to restricted credit lines from lending institution(s).
 - a. **Possibility number 1:** All of the cash expenses shown were incurred and this \$20,000 is additional expense incurred that were financed with credit.
 - i. Cash flow does not change, we used credit to finance the added expenses.
 - ii. The change in accounts payable shows up as additional expense on the income statement under “Other Non-cash Non-Interest Expenses” and reduces net income. A reduction in net income reduces any positive change in equity or increases a negative change in equity.
 - iii. Reasoning: If you purchased operating inputs for use on the operation via credit and they are not in inventory, then they must have been used already. If used, then they should show as a business expense for the financial analysis period even though no cash was paid.
 - iv. **Reminder:** We are measuring business performance for the financial analysis period, not tax liabilities.
 - b. **Possibility number 2:** The increase in accounts payable was offset by a reduction in cash outflows listed as Operating Expenses on the cash flow statement.
 - i. Show an increase in Accounts payable on the ending balance sheet of \$20,000.
 - ii. Enter a negative \$20,000 on the cash outflow side under the heading of Other Cash Business Expense, i.e. -\$20,000.
 - iii. The net affect of these two transactions is no change in Net Income on the income statement and an accurate measure of business

performance, regardless of management decisions to ease current year cash flow constraints.

Retained Ownership of calves

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Concept: **Included to illustrate the data entry manipulation in the spreadsheet.**

Discussion:

- 1) Data entry in this spreadsheet is minimal but does require some familiarity. The spreadsheet is flexible and can handle most combinations of enterprise mixes that you can imagine.
- 2) To illustrate an enterprise combination that starts with a cow-calf operation with the owner retaining all or part of the weaned calves for a feeder enterprise,
- 3) Leave the cow calf cost of production enterprise information in tack on the Expense tab of the worksheet.
- 4) Enter cost of production information for the feeder enterprise, row 15 on the Expense tab.
- 5) Enter a zero for the Price per unit under breeding livestock on the Income tab, row 31. Note that this does not eliminate cull breeding livestock revenue on the Cash Flow and Income Statements.
- 6) Enter the average weight, number of animals and price per unit for the market livestock on rows 29 – 31 on the Income tab.
- 7) Zero out rows 16 and 17 under Non-Breeding Livestock Enterprise on the Expense tab.
- 8) You must also enter the ending inventory value under Market Livestock on the Ending Balance Sheet, Statements tab.
- 9) Note this example is similar to an earlier example showing the affects of retained ownership and the earlier example may be easier to demonstrate.

Affects of changing the base value of breeding livestock,

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- 1) While the concept of Base Value has been around for decades, it was formalized with the introduction of the Farm Financial Standards Guidelines (FFSG). Four separate methods were recommended for arriving at a “Base Value” for raised breeding livestock.
 - a. The shortest and traditional method is used most often. This is simply using an estimate of conservative market value for the breeding livestock in question.
- 2) The Base value of raised breeding livestock is used for two calculations.
 - a. Valuing breeding livestock on the Balance Sheet and,
 - b. Calculating the capital gain or loss on the raised breeding livestock which is displayed on the Income Statement.
 - c. In order to reconcile the financial statements, raised cull revenue must be stated as a capital gain/loss with respect to the base value.

- d. Why is it necessary to make this calculation? Example using one raised cow with no depreciation expense taken on the cow. Raised animals have a zero basis for tax purposes.
 - i. Cow is listed on the balance sheet @ \$700, it's base value.
 - ii. Base value = conservative market value
 - iii. Sell the cow during the year at cull price of \$500
 - iv. Remove cow from year end balance sheet
 - v. Ending equity decreases by the value the animal was listed at = \$700
 - vi. Income is shown as \$500
 - vii. Capital loss of \$200 reconciles the balance sheet
- e. These calculations are made on the Income tab in cells J22 through M30
- 3) Base value is entered on the Income tab on row 32 for all raised breeding livestock.
- 4) Asset valuation affects on the Balance Sheet are straight forward.
- 5) Changing Base Value for raised breeding livestock changes several numbers on the financial statements but has no net affect on the "bottom lines" of these statements. A change in base value changes asset values on the Balance Sheet and Capital Gain/Loss on the Income Statement.
 - a. However, Net Income, Equity Change and the SOE are unaffected.
 - b. This is because the base value is used for both the beginning and ending values on the balance sheet.
- 6) The Cash Flow Statement is not affected.
- 7) Death Loss is not allowed/handled in this spreadsheet so the affects of removing animals from inventory through death loss and showing a capital loss of the entire Base Value is not possible.

Turning on the income tax estimates

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- 1) The RDFinancial spreadsheet is distributed with the Income tax estimator turned off.
- 2) The income tax estimator is a **very quick and dirty** estimate of income taxes. It can be turned on/off in cell W9 on the Statements tab.
- 3) To illustrate the affects of increasing or decreasing income or expenses on the operation, users can use one of the several methods supplied by the spreadsheet to change an income or expense.
 - a. The simplest method is to use rows 1 and 2 of the Statements tab to make percentage adjustments to categories of income and expense.
 - b. Alternatively, you can enter a number, say \$10,000 on the Cash Flow Statement as a cash inflow on the "Other Cash Business Income" row and this is carried to the Income Statement.
 - c. A cash expense (outflow) can be entered on the "Other Cash Business Expense" row of the cash flow statement, and is also carried forward to the income statement as an expense.

- d. If a round number is used for the marginal tax rate in the income tax estimator, then users can immediately relate to the numbers that are calculated and displayed on the financial statements. Example, use a 20% marginal tax rate, not 23.5%.
- e. An increase of \$10,000 in expense run through a marginal tax rate of 20% results in a decrease in net income and change in equity of \$8,000. ALL expenses (not all cash outflows) contribute to decreasing equity and ALL income (not all inflows) contribute to increases in equity.
- f. It may be difficult to keep producers from demanding exact result, but the idea here is to teach the concepts.
- g. Discussion question: What are the implications of spending money to reduce estimated tax liability?

Summary

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Concept: **Measuring Financial Business Performance requires a reconciled set of financial statements**

Discussion:

- 1) We have shown the interaction between financial statements
- 2) This presentation is not intended to teach the details of how to prepare a complete set of financial statements. It is intended to provide motivation to move in that direction.
- 3) Many details were glossed over, but that is exactly what they are, nit picky details. If you get lost in the details, you will never be able to complete a good financial analysis.
- 4) Do not risk the future of your operation with frustration over details. Just Do It. If it takes more than one try, Just Do It.
- 5) Each individual operation will have a different set of circumstances that are important. For some it will be the ability to bring back family members and maintain financial security, others will worry about current debt structure and debt load, or achieving an adequate size for the operation to provide a sufficient level of profits. Example farm/ranch operations can show any set of circumstances as a beginning point for discussion, including positive or negative Cash Flows, Net Incomes, Change in Equity, or any combination of these three measures.
- 6) Profitability alone is not enough. You also have to be a minimum size or have other sources of cash inflows to meet cash needs.

Measuring Business Performance

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Concept: **Financial analysis should measure business performance of the resource base.**

Discussion:

- 1) Business performance measures are results from measuring the financial performance of the resource base, land, labor and capital. The resource base has a limited ability to produce and this limit must be found and a management plan adopted to either live within the limit or change the resource base to meet business/family objectives.
- 2) It is true that an agricultural operation, just as other manufacturing facilities, does not produce any outputs on it's own without a labor supply to get things done. However, it is important to note the resource base does not owe you or some set of family members, partners, etc. a "desired or personally selected" standard of living. The basic resource base has limits on its ability to produce.
- 3) The first step in being able to manage your business (your fixed resource base) is to be able to make consistent accurate measures of its financial position and performance.
- 4) The form of business ownership can significantly affect measures of financial business performance. The classic example of this is the ability of corporations to deduct salaries for family members as hired labor, a business expense. A sole proprietorship is not allowed to deduct withdrawals from the business to pay for family living **expenditures**, but is allowed to deduct hired labor expenses. Withdrawals for family living are not **expenses** for calculating taxable income. Earlier examples help illustrate the affects of this on business financial position and performance.
- 5) This treatment of cash flowing out of the operation as an expenditure, cash withdrawn for family living after taxes or and expense, cash withdrawn for family living before taxes, can significantly confuse discussion of the basic issue. The basic question should always be: is the natural resource base owned/controlled capable of supplying an adequate family living for myself and future family generations, if that is one of the desired objectives.

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