FARM FINANCIAL ANALYSIS

The objective of this lab exercise is to analyze the financial health of your Farmsim farm business. Use figures from your Year 7 Farmsim report unless otherwise indicated.

A. Liquidity

Cash Income and Cash Expenses

Did your farm generate enough cash income to pay all your cash expenses in year 7? Look at your Cash Flow Summary for year 7.

| Total cash income | $ __________ |
| Total cash expenses | $ __________ |

Did your cash sales exceed your cash expenses? __________

You may have been increasing your inventories instead. Building up inventories decreases cash flow in the short run, and reducing inventories increases cash flow in the short run. How did your inventories change from the beginning of year 7 to the end? Look at your Hog Production Summary and Crop Production Summary.

<table>
<thead>
<tr>
<th>Beginning Inventory</th>
<th>Ending Inventory</th>
<th>Change (+ or -)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pigs (number)</td>
<td>_______</td>
<td>_______</td>
</tr>
<tr>
<td>Corn (bushels)</td>
<td>_______</td>
<td>_______</td>
</tr>
<tr>
<td>Soybeans (bushels)</td>
<td>_______</td>
<td>_______</td>
</tr>
<tr>
<td>Silage (tons)</td>
<td>_______</td>
<td>_______</td>
</tr>
</tbody>
</table>

Did you increase or decrease hog inventories? __________

Did you increase or decrease crop inventories __________

What effect did your changes in inventories have on your cash flow?

Now let’s look at your borrowing and principal repaid, from your Cash Flow Summary.

| Total borrowing | $ __________ |
| Total principal paid | $ __________ |

Did you borrow more money than you repaid? __________

If so, liquidity was improved in the short run, but those loans will have to be paid back some day.
**Current Assets and Current Liabilities**

Cash flow needs that occur before the next crop harvest will have to be met from cash on hand and sales of current assets.

1. What was your **current debt / asset ratio** at the end of year 7? _________________ (see *Net Worth Statement*)

2. How much was your **working capital**? $ _________________
   (current assets minus current liabilities)

   - Family living expenses in year 8 $ 35,000
   - Income tax to pay in year 8 (see year 7 *Income Tax Summary*)
   - Total needed for living and taxes

   Do you have enough working capital to pay expected family living expenses plus income tax due in year 8? _________________

**B. Profitability**

There are several areas where cash flow problems can arise, causing cash needed to be greater than cash available, such as **low profitability** and/or **high interest rates**.

One indicator of profitability is **Net Farm Income** (see *Profit and Loss Statement*).

   - What was your year 7 net farm income? $ _________________

A quick indicator of financial condition is the ratio of **return on assets** divided by your **average interest rate on loans**. This indicates the maximum debt-to-asset ratio that you can service. Compare this to your actual total **debt-to-asset ratio**. All are found in the *Farm Business Analysis* page.

   1. **Return on assets** (profitability) ___________%
   2. **Average interest rate** on debt (cost of loans) ___________%
   3. **Estimated maximum Total debt-to-asset ratio** that will cash flow ___________
      (line 1 divided by line 2) (enter zero if return on assets is negative)
      This is the $ of debt you can service for each $ of assets.
   4. **Actual Year 7 Total debt / asset ratio** ___________

Does this comparison indicate that your farm is profitable enough to service this much debt? _______

**C. Debt Structure**

List your subtotals for current, intermediate and long-term assets and liabilities at the end of year 7 from your *Net Worth Statement*. Show what percent of total assets or liabilities each one is.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>$ __________ 100%</td>
</tr>
<tr>
<td>Intermediate</td>
<td>________ _______%</td>
</tr>
<tr>
<td>Long-term</td>
<td>________ _______%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$ __________ 100%</td>
</tr>
</tbody>
</table>
Trying to pay off debt too quickly can create cash flow problems. Is the percent of your **liabilities** in the current category **higher** or **lower** than the percent of your **assets** in the current category?

How will this affect your cash flow?

Problems can also be caused by **paying off debt for machinery and buildings** faster than they depreciate. Look under **Current Liabilities** in your year 7 **Net Worth Statement**.

Next principal payments on debt for: Machinery

- **Combine**
- **Swine facilities**
- **Total**

Total **depreciation** expense in year 7 (look in your **Profit and Loss Statement**): $____

Are debts for depreciable assets being paid off more quickly than the assets are depreciating?

How does this affect cash flow?

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**D. Family Living Expenses**

1. **Value of operator labor utilized:**

   - total labor hours used
   - minus hours hired
   - = operator hours used
   - $12.00 per hour = $____

2. **Family living expense**

   - $ 35,000

Were living expenses greater than the value of operator labor utilized?

If so, this could mean that:

- labor is underutilized
- less hired labor is needed
- living expenses are too high
E. Land Cash Flow Requirements

High land costs and debt payments can also make a positive cash flow difficult to achieve.

1. Land cost per acre, year 7 (Farm Business Analysis) __________

2. Average cash rent, year 7 $180

Were your land costs (this includes cash rent paid, interest on land debt, and real estate taxes) higher or lower than the average cash rent? __________

The average cash rent is used for comparisons, as a rough "breakeven" figure. If your cash land cost is higher, it is most likely due to excessive land debt. How much land debt do you have per acre of land owned? Include both current and long-term debt owed on land, from your Net Worth Statement.

Current liability for land debt $___________ plus long-term liability for land debt $___________

= $___________ total land debt, divided by ________ acres owned = $___________ per acre land debt.

Your land debt at the beginning was $1,000 /acre. Has it increased or decreased? __________

How did this affect your liquidity in the year when you borrowed against your land?

How will this affect your liquidity in the remaining years of FARMSIM?

G. Do you expect to have problems generating enough cash in year 8? If so, what could you do to improve your cash flow situation?

Remember, low profits contribute to cash flow problems in the farm business. But factors such as those discussed above can cause even profitable farms to have cash flow problems. The goal of a good farm manager is to maximize profits while maintaining sufficient cash flow to meet all obligations on time.