Linking the Financial Statements

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Background

This publication is one in a series outlining the four basic financial statements used in business today. These statements are the balance sheet, the income statement, the statement of change in financial position, and the cash flow. This publication shows how all these statements link together. A sixth publication in the series uses the information provided by the statements for a simple business analysis.

The series assumes no prior experience with financial statements. It is based on a popular system developed by Frey and Klinefelter called "Coordinated Financial Statements for Agriculture" [1]. Farmers, ranchers, nursery and grove operators, extension agents, agricultural lenders, and students should find the series of interest.

The reader should have a good grasp of the information presented in the publications dealing with the individual statements before tackling this one. Much of the detail, particularly concerning the schedules, were discussed in these publications. The publications in the series are listed in the reference section [2, 3, 4, 5, 6].

Linking the Four Statements

The four financial statements fit together as shown in Figure 1. The key to understanding their fit is to look at the dates.

Realize first that there are two sorts of financial statements, namely, stock and flow statements. The balance sheet is a stock statement in that it shows a picture of the business on one day only. The other three are flow statements. They cover a period of time, in this case a year. Note that the appropriate balance sheets for 1985 and 1986 end on the same date as the cash flow and the income statement.

We are looking at three different time periods in Figure 1. Assume that we are now in the *present*, i.e., early January 1986. We use the *past* December 31, 1984 balance sheet and the *past* 1985 income statement to produce the *present* or December 31, 1985 balance sheet. But good management is more concerned with what will happen in the *future*, rather than what has happened in the past. So this past and present information is used in the following manner.

First, we produce a cash flow showing the timing and amounts of expected monthly cash revenue and expenses for the whole of 1986. Second, this cash flow and the 1985 balance sheet is used to construct a *pro forma* or future balance sheet. This *pro forma* balance sheet predicts where we expect to end the 1986 year in terms of assets, liabilities, and net worth. Third, the cash flow and the 1985 and 1986 balance sheets are used to complete the *pro forma* or future income statement for 1986.

Figure 1: Linking the financial statements

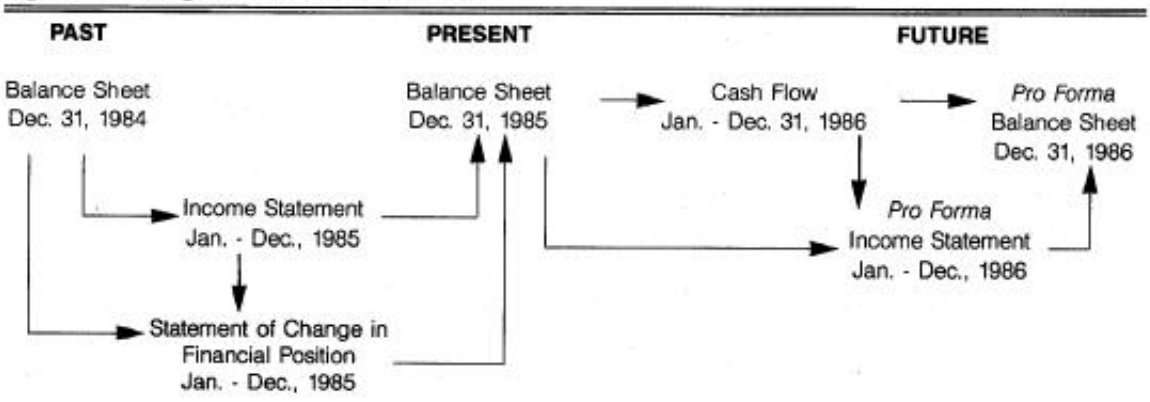

Figure 2: Example of linking balance sheets with the income statement ($,000)

Balance Sheet December 31, 1984

ASSETS		LIABILITIES AND NET WORTH	
		Liabilities	700
Assets	1,000	Net Worth	300
Total	1,000	Total	1,000

Balance Sheet December 31, 1985

ASSETS		LIABILITIES AND NET WORTH	
		Liabilities	800
Assets	1,200	Net Worth	400
Total	1,200	Total	1,200

Income Statement
January 1 to December 31, 1985
Net Income $150
Minus payments of $50, gives residual earnings of $100

Good management attempts to predict and deal with what the future might bring. Things probably will not turn out as expected, so we need to modify these predictions as we go through the year, using the monitoring work sheet in the cash flow. This worksheet has six columns for each month. These columns show the predicted cash inflows and outflows, the actual results, and the differences between these two, both monthly and year-to-date.

Linking the Balance Sheets with the Income Statements

Let's use three examples to illustrate the linkage between balance sheets and income statements.

Example 1

Assume in Figure 2 that we produced the December 31, 1985 balance sheet from the December 31, 1984 balance sheet and the January 1 to December 31, 1985 income statement. The linkage is simple. The 1984 modified cost net worth plus the 1985 residual earnings must equal the 1985 modified cost net worth. For example, take the 1984 net worth of $300, add residual earnings for 1985, or $100, and this gives us the net worth on December 31, 1985, of $400.

Residual earnings are what remain after net income has been used. Net income is what is left to pay principal on debts, to invest in the farm or off farm, and to meet family living expenses. Any remainder from these items is called residual earnings.

What happened in this farm business during the year? The assets increased from $1,000 to $1,200, or $200. But residual earnings were only $100. So how could we increase assets by $200? Where did the other $100 come from? We borrowed it. This is shown by the increase in liabilities from $700 to $800.

This is how these statements link together. It makes no difference whether assets or liabilities increase or decrease, or whether one increases and the other decreases. The arithmetic stated previously must hold and the net worth for 1985 must be $400.

Example 2

Assume the December 31, 1985 balance sheet ends up as follows and everything else remains the same.

Assets		*Liabilities and Net Worth*	
Assets	600	Liabilities	200
		Net Worth	400
Total	600	Total	600

Here, liabilities were reduced by $500, or $700 – $200. This was done by using the residual earnings of $100 from the income statement and selling off assets of $400, i.e., $1,000 – $600.

Example 3

Let's say now the December 31, 1985 balance sheet is as follows:

Assets		*Liabilities and Net Worth*	
Assets	1000	Liabilities	600
		Net Worth	400
Total	1000	Total	1000

In this case, only the residual earnings were used to reduce liabilities, and net worth must again be $400.

The Statement of Owner Equity

The statement of owner equity, which accompanies the balance sheet, also links the balance sheet and the income statement. We assumed in our three previous examples that family living expenses were known. However, most people do not keep accurate family living records, so this statement shows these expenses as a residual. The layout looks like this:

Net worth as of Dec. 31, 1984	$300
+ Net income Jan. 1 to Dec. 31, 1985	150
+ Gifts and inheritances	0
+ Additions to paid-in capital (partnerships or corp.)	0
TOTAL AVAILABLE	$450
−Gifts for estate transfer	0
−Net worth as of Dec. 31, 1985	400
EQUALS LIVING EXPENSES	50

This methodology is a useful (and often sobering) way of discovering family living expenses for the year.

Linking the Balance Sheet and Income Statement with the Statement of Change

The statement of change in financial position basically converts the two balance sheets into a flow statement. It shows where funds came from, including some income statement items as well, and then illustrates how these funds were used during the year.

Funds come from four main sources. The first source is shown in the income statement, which lists net income, depreciation, and various accounting adjustments. The second source is shown on the statement of owner equity, which lists external capital coming to the business, such as gifts received and additions to paid-in capital during the year. The third and fourth sources of funds come from the two balance sheets, which show, by subtraction, any asset decrease or liability increase.

The funds are used in three main areas. One is general withdrawals, including family living expenses and off-farm investments. It also includes money put aside for estate transfer or general gifts. Withdrawals are shown in one of the income statement schedules, while any estate transfer or gifts come from the statement of owner equity.

The second and third uses of funds are asset purchases and decreases in liabilities. These are shown in the two balance sheets.

Linking the Balance Sheet with the Cash Flow

Let's start with the December 31, 1985 balance sheet and the 1986 cash flow. The current assets portion of the balance sheet shows what inventory should be sold during 1986. The current liabilities section shows the principal portion of the operating, intermediate, and long-term debts that should be paid during 1986.

As the inventory listed under current assets in the 1985 balance sheet will be sold in the following year, i.e., 1986, these expected sales will be entered in the appropriate months of the cash flow. (A good marketing program will obviously help in this procedure.) The crop, feed, and livestock inventories in the current assets section of the 1985 balance sheet are also shown in the cash flow schedules. The ending inventories on December 31, 1986, will also be shown on these schedules, as well as in the December 31, 1986 *pro forma* balance sheet.

Enter the current liabilities to be paid during 1986 in the cash flow at the times when these debt payments are due. The 1986 portions of intermediate and long-term debt are additionally shown in a cash flow schedule. Accounts payable and property and income taxes should be copied from current liabilities to the appropriate cash-flow rows.

The cash on hand and the savings in the current assets portion of the December 31, 1985 balance sheet become the beginning balances for the January 1, 1986 cash-flow column.

These are the main items linking the balance sheet and the cash flow. Now let's try to link the income statement with the cash flow.

Linking the Income Statement with the Cash Flow

The first items are the anticipated receipts from the crops and livestock to be sold during 1986, as shown on the January 1 to December 31, 1986 *pro forma* income statement. These figures include the December 31, 1985 balance sheet inventories that will be sold. These beginning inventories, plus purchases and replacements and minus sales and deaths, will, of course, provide the ending inventories for both the December 31, 1986 *pro forma* balance sheet and the cash-flow schedules. Other receipts which appear on both the *pro forma* income statement and the cash flow include breeding stock and farm asset sales, government payments, off-farm wages, and any interest and dividends received from investments.

The cash expenses shown in the *pro forma* income schedule come from the operating expenses of the cash flow. Any anticipated livestock and feed purchases are noted on both the *pro forma* income statement and the cash flow. This completes the main items found on both statements.

Final Comments

The statements work closely together. *Pro forma* balance sheets and income statements are simply an attempt to summarize the future financial picture of the farm. The *pro formas* come from past information and the cash flow prediction. All this information can be analyzed to see whether the business is moving in the right direction to meet managerial objectives. The statements themselves provide the arsenal of information for management decisions commensurate with these objectives.

References

1. Frey, Thomas L. and Danny A. Klinefelter. *Coordinated Financial Statements for Agriculture,* 2nd edition, *Agri Finance.* Skokie, IL. 1980.

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3. van Blokland, P.J. *Introducing the Income Statement,* Extension Circular No. 645. Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

4. van Blokland, P.J. *Introducing the Cash Flow,* Extension Circular No. 656. Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

5. van Blokland, P.J. *Introducing the Statement of Change in Financial Position,* Extension Circular No. 658. Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.

6. van Blokland, P.J. *Introducing Farm Business Analysis,* Extension Circular No. 655. Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, FL 32611.