

A PRIMER ON RECORDKEEPING, ACCOUNTING, AND FINANCIAL STATEMENTS IN SMALL-SCALE FARMING

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INTRODUCTION

Small farms dominate U.S. farming operations. According to the U.S. Department of Agriculture Economic Research Service (USDA ERS), in 2018, about 90 percent of U.S. farms were classified as small (USDA ERS 2019). Individually, these firms generated annual gross cash farm income (GCFI) totaling less than \$350,000. (The USDA ERS classifies family farms with annual GCFI between \$350,000 and \$999,000 as midsize and those with \$1 million GCFI or more as large-scale farms.) Collectively, small farms operated about 48 percent of the farmland in the U.S. and generated about 21 percent of the total value of farming-related products. Thus, nine out of 10 U.S. farms are small and play a relevant economic role in the production of crops and livestock products. Furthermore, almost half of the small farms have a relatively low profit margin (less than 10 percent), which puts them in a “high-risk red zone” prone to financial distress (USDA ERS 2019, 7-8).



Adopting more efficient production practices, new technologies and sound financial management practices are a few ways to cope with financial distress or avoid it in the first place. This article discusses the basics of accounting and financial statements as the first step small farms should consider when establishing a comprehensive financial management system. This article complements a series of UTIA publications on recordkeeping, the basics of financial statements, financial benchmarks and financial analysis in small farming enterprises.¹

The article first discusses the importance of recordkeeping (bookkeeping) and accounting systems for generating financial statements that comply with generally accepted accounting standards. Next, the income statement and balance sheet structures are discussed, focusing on a template that the author proposes as enough – yet simple – to conduct an informative financial analysis. (Financial analysis is not covered in this article.) Particularities of financial statements for farms, as distinctive from other agribusiness enterprises, are also discussed. This material is an outcome of a USDA-NIFA grant aimed at developing Tennessee secondary teachers’ agribusiness content and pedagogical content knowledge. Specifically, the content of this article closely follows the recordkeeping and accounting standards set by the Tennessee Department of Education for the Agricultural Business and Finance course.²

1 For more information, refer to publications W388, W884, W983 and W1036, available at: extension.tennessee.edu/publications/Pages/default.aspx.

2 Available at: tn.gov/content/dam/tn/stateboardofeducation/documents/2020-sbe-meetings/july-24%2C-2020-sbe-meeting/7-24-20%20III%20D%20CTE%20Standards%20-%20Attachment%205%20Clean%20Agricultural%20Business%20Finance.pdf

RECORDKEEPING AND ACCOUNTING

A comprehensive financial management system helps farmers make better-informed decisions that improve farm profitability and reduce risk. This requires, at minimum, maintaining a systematic and organized bookkeeping or recordkeeping system. It is also desirable for small farms to implement an accounting system. The terms bookkeeping and accounting



are sometimes used interchangeably. However, they imply different activities. Bookkeeping involves systematically recording and categorizing all business transactions, such as sales, purchases and payroll. Professional bookkeeping categorizes transactions according to principles of accounting. Therefore, the bookkeeping activity is the basis of accounting. However, bookkeeping is more administrative, transactional and limited than accounting. Professional bookkeepers typically record and categorize payments and expenses, generate consumer invoices, perform bank reconciliation, process the payroll and prepare the books for the accountant.

Accounting is a higher-level activity compared to bookkeeping. Accounting is a discipline that follows standards or rules – Generally Accepted Accounting Principles (U.S. GAAP) – to ensure the appropriate recording and classification of business transactions, and it provides tools for data summary, analysis and interpretation. For example, accounting ensures that a firm/farm generates standardized financial statements that can be analyzed and compared to similar enterprises, thus providing reliable financial information. In farming, the Farm Financial Standards Council (FFSC) aims to create and promote uniformity and integrity in financial reporting and analysis for agricultural producers. The FFSC recognizes that financial statements prepared in accordance with U.S. GAAP may be the ultimate goal of farmers. However, the FFSC acknowledges that many farmers do not maintain their financial records according to U.S. GAAP. It is for these farmers, and the lenders, educators and advisers who work with them, that the FFSC reporting is prepared.³

The accounting function is critical for farms – regardless of their size – because it can provide key insights to managers and owners. For example, with the help of accountants and accurate records, farms can obtain an accurate estimate of the cost of producing a particular product unit, thus helping them price their products and profit appropriately. Also, by analyzing historical accounting data, farmers can estimate how much financing they may need if they foresee a growth opportunity.

In addition, accounting data and reports are helpful outside the farm entity. For example, lenders, suppliers and regulators can use farm financial statements to assess the enterprise's financial performance. Unlike bookkeepers, accountants typically conduct the following activities: verify and audit records to comply with U.S. GAAP, generate and review financial statements such as the income statement and the balance sheet, analyze the cost of operations, assess the firm's financial health, advise managers or farm owners during economic decision-making, file taxes and conduct tax planning, and conduct financial analysis and budgeting.

Bookkeeping and accounting platforms

Accounting complements bookkeeping by turning data into information. Ultimately, measuring performance allows for adjustments and corrections that could improve farm performance. The infamous statement in management: “if you can't measure it, you can't improve it,” illustrates the importance of bookkeeping and accounting.

Small farms can benefit from good bookkeeping and accounting practices. However, some farms may not be able to afford to hire an accountant. Fortunately, plenty of bookkeeping and accounting online platforms provide specialized services at reasonable prices. Recently (November 2022), *Business News Daily*⁴ evaluated several popular accounting services for small businesses, finding that QuickBooks is the best cost-effective accounting software available. Depending on the specific farm needs, farmers, and small businesses in general, can receive various services from QuickBooks for a price ranging from \$25 to \$100 per month. (Since prices are subject to change, consult a firm's website for updated prices and products.) More complex agribusinesses and large farms may even contract the services of accounting platforms that specialize in agriculture.

³ For more information on the FFSC, refer to: ffsc.org/about-us.

⁴ Available at: businessnewsdaily.com/7544-best-accounting-software-small-business.html

BUSINESS RECORDS AND FINANCIAL STATEMENTS

Bookkeeping and accounting platforms can generate various customized and standard reports. Among the standard reports generated are the financial statements. Financial statements “report the financial condition of a business at a point in time and changes in the financial condition over a period of time” (Warren 2015, 10). Government agencies or accountants may audit financial statements to ensure accuracy for tax, financing, or investing purposes. Given their importance, financial statements are prepared following standardized rules that comply with US GAAP. This standardization, while allowing for little differences across firms and industries, facilitates the interpretation of financial statements, making accounting the ‘common language of business.’

The most known and used financial statements are the income statement (also known as the profit and loss statement) and the balance sheet. Accounting and finance-related classes at the college level likely emphasize these two financial statements. This may explain why these two financial statements are the most commonly used in practice. Therefore, these are the two financial statements covered in this document. Other financial statements are the statement of cash flows and the equity statement (also known as the statement of retained earnings). We next present typical templates of the income statement and balance sheet. Given that financial statements follow general rules that apply to any firm, the discussion below is kept in general terms for firms, pointing to some examples of farm operations.

The income statement

The income statement can be defined simply as the accounting document showing revenues (or income related to sales or services) and all costs and expenses incurred by a company, in general, or a farm operation during a specific period. The income statement subtracts cost and expenses from revenue to obtain the net profit or loss (also referred to as net income): $revenue - cost \& expenses = net\ profit$ (Hawkins and Cohen 2014). The income statement, and all financial statements, can be generated every month, quarter or year. In farming, **net profit** is known as net **farm income**. (This document presents financial statement items in **bold type**.)

An income statement, in practice, looks more complex than the equation above because expenses are categorized into different groups according to accounting principles. An example of a simplified income statement that can be used in practice can look like Table 1. The first item listed in an income statement is total **revenue**, which is the income received by firms from the sales of products or services. In farming, income statements usually list revenue related to crops and livestock. **Cost of sales** (also known in accounting as the **cost of goods sold**), which has all the costs that a firm incurs when producing a product, follows revenue. In farming, the cost of sales may include the cost of labor and inputs like seeds or fertilizers, among others. When the cost of sales is subtracted from total revenue, we obtain what is called **gross profit**.

TABLE 1. A SIMPLIFIED INCOME STATEMENT FOR FIRM “A” FROM JANUARY TO DECEMBER 2022 (\$ THOUSANDS)	
Revenue	\$ 110.0
Cost of sales	\$ 60.5
Gross Profit	\$ 49.5
Operating expenses	
Selling, general and administrative expenses	\$ 16.5
Depreciation expenses	\$ 8.8
Total operating expenses	\$ 25.3
Operating income	\$ 24.2
Interest expense	\$ 4.4
Income before income taxes	\$ 19.8
Income taxes	\$ 5.9
Net income (net farm income)	\$ 13.9

Operating expenses are those payments that are not directly related to the product sold or service rendered but are needed to operate the business. Some income statements aggregate operating expenses into **selling, general and administrative (SG&A)** expenses. Some financial statements disaggregate operating expenses into specific expenses such as utilities, advertising or depreciation expenses. It is recommended to show the value of **depreciation** (instead of aggregating it into SG&A) because depreciation usually represents an important amount relative to other expenses and is a valuable item for financial analysis. For instance, total depreciation can be added to net income to approximate **cash flow from operations**.

Total operating expenses are subtracted from gross profit to obtain the **operating income**. As shown in Table 1, in 2022, this firm generated \$49,500 **gross profit** and spent \$25,300, thus generating \$24,200 in **operating income**. This \$24,200 is the profit left to pay interest expenses (those related to loans, if any) and income taxes to the government. In this example, the firm has charged \$4,400 in interest and pays \$5,900 in income taxes, resulting in a \$13,900 **net income**. The net income, listed in the last line of the income statement, is also referred to as the **bottom line**.

The balance sheet

The balance sheet is a financial statement showing a farm/firm's financial position at any given time. This statement presents a firm's financial position in terms of the company's resources and the claims on those resources (or the firm's obligations). In accounting language, resources controlled or owned by the firm are called **assets**. For example, the farm's cash balance in the bank, inventories of inputs like fertilizers or pesticides, and the value of buildings or tractors are all considered **assets**. Regardless of whether the farm has paid the invoices related to the tractor or the fertilizers in their possession, these resources are considered assets because the farm already has control over the resources.

In contrast, **claims** on those assets are divided into a group of accounts called **liabilities** and a second group called **owners' equity** (or just **equity**). **Liabilities** are legal obligations the firm/farm faces to pay, to provide a service or to deliver a product. For instance, if a farm acquired the tractor referred to above through a loan, and the farm still has an outstanding balance on the loan, that amount is considered a **liability**, which will be listed in the farm's balance sheet under a name like "debt-tractor," "debt," "loan-bank Y" or something similar. Another common liability is **accounts payable**, which represents bills to be paid in the short term to suppliers. Accounts payable result from farmers buying seeds, fertilizers, feed or other inputs on trade credit. **Equity** shows the residual balance for owners that remains after **total liabilities** are deducted from **assets**. The accounting equation, $assets = liabilities + owner's equity$, ensures that the balance sheet is balanced.

While a balance sheet can vary across firms and industries, a simplified balance sheet is presented in Table 2. This figure shows what this article considers the essential accounting items many firms may report.

TABLE 2. A SIMPLIFIED BALANCE SHEET (\$ THOUSANDS), DECEMBER 31, 2022			
Current assets	\$ 63.0	Current liabilities	\$ 32.4
Cash	\$ 18.0	Accounts payable	\$ 15.0
Accounts receivable	\$ 20.0	Short term loans	\$ 12.0
Inventory	\$ 25.0	Income taxes payable	\$ 5.4
Other current assets	\$ -	Other current liabilities	\$
Long-term (fixed) assets	\$ 137.0	Long-term liabilities	\$ 70.0
Net property, plant and equipment	\$ 137.0	Long-term debt	\$ 70.0
Other long-term assets	\$ -	Other long-term liabilities	\$ -
		Equity	\$ 97.6
		Common stock	\$ 83.7
		Retained earnings	\$ 13.9
		Other equity	\$ -
Total Assets	\$ 200.0	Total Liabilities and Equity	\$ 200.0

The accounting equation: Table 2 shows asset accounts on the left and liabilities and equity accounts on the right. This is a convenient way to illustrate that the total values on both sides of the balance sheet are equal. That is, total assets (\$200.0) = total liabilities (\$32.4 + \$70.0) + total equity (\$97.6), which preserves the accounting equation and ensures that the balance sheet is correct in terms of equality.

The categories and order of balance sheet accounts: Table 2 also shows that the accounts are grouped into subcategories. Assets are further grouped into current and long-term, also known as **fixed assets** or **non-current assets**. Similarly, **liabilities** are classified into **current** and **long-term liabilities**. The equity group of accounts does not contain subcategories. The criteria for this categorization are the following:

Current or short-term assets contain assets or resources that are typically used or collected within one year. These are also known as liquid assets, resources that are or can be converted into cash relatively quickly. This is why Table 2 shows cash,

account receivables (expected to be collected soon, hence converted into cash), and inventories (expected to be sold within one year and converted into cash).

The **long-term or fixed assets** group has resources expected to be consumed, used or collected in a period longer than one year. This is why Table 2 has listed **property, plant and equipment** as long-term assets. These resources are used for longer than one year on a farm. One example is farm equipment or any vehicle that could be used during several seasons. Another example of a long-term farm asset is farmland.

Likewise, on the liabilities side of the balance sheet, **current or short-term liabilities** are obligations expected to be paid within one year. These obligations typically include **accounts payable**, which are bills related to vendors or suppliers selling on trade credit to farmers or any firm. **Accounts payable** are generally paid within a few months after acquiring the product. Another typical current liability relates to **short-term loans**, which for a farm is equivalent to a credit card for individuals. Still, Table 2 lists **income taxes payable**, which is the amount of estimated taxes related to 2022, usually paid in the first quarter of the following (2023) year.

As mentioned before, equity accounts are not disaggregated into short-term and long-term. Two components of equity are **common stock** or **contributed capital** and **retained earnings**. **Common stock** represents the amount invested by the enterprise owners, and **retained earnings** is an account that accumulates profits and losses (reported in the income statement) over time. Assuming that 2022 was the first year this company operated, the retained earnings account in Table 2 shows the \$13,900 net profit reported during the same year in Table 1.

Names of accounts: It is important to know that accountants have a certain discretion over the naming of accounts. Therefore, in practice, you will observe slight differences in account names from farm to farm, or, in general, from firm to firm. As an example, one firm may report the total value of “property, plant and equipment” (as in Table 2), while another may name the same account as “depreciable assets.” A third firm may list all specific fixed assets, such as “land and buildings,” “farm equipment,” etc.

The “other” accounts: Firms with complex operations may have more accounts than those listed in Table 2. This article recommends that whenever one finds an account not listed in Table 2, consider it as “other” and list it in its corresponding balance sheet category (e.g., other current assets; refer to Table 2). To facilitate this explanation, the “other” accounts in Table 2 have a \$0 value. Thus, they can be ignored without changing the meaning of the balance sheet, but they are listed there to remind us that, in practice, there are other accounts not listed in Table 2.

The balance sheet of complex, large firms: In the previous section, the typical accounts of a balance sheet were discussed. Learning about these selected accounts should be enough to help one read the abbreviated balance sheets that large, complex agribusinesses generally report.

The balance sheet in farming: Given the characteristics that make farming different from other activities, one may wonder if the balance sheet of farms looks different from the typical balance sheet of firms in other industries. The USDA ERS uses a standard balance sheet template for a typical or representative U.S. farm that helps answer this question. This template is available in the “ARMS Farm Financial and Crop Production Practices” section of the USDA ERS reports website.⁵ While a farm’s balance sheet may initially look different from the balance sheets in agribusinesses or other industries, a closer look shows they are similar. Further, once one understands the accounts of a typical balance sheet (Table 2), it is easy to understand the balance sheet in farming and other industries. Next, *selected* accounts that are distinctive in a farm’s balance sheet are presented.

Regarding **current assets**, the USDA ERS breaks down inventories into the following categories: **livestock inventory**, **crops inventory**, **cash invested in growing crops**, **purchased inputs** and **other current assets**. **Livestock inventory** aggregates the cost of livestock and poultry on hand owned by the farm, excluding animals held for breeding because the latter are expected to last more than one year. **Crops inventory** includes the cost of all crops owned by the operation, whether stored on or off the farm. **Cash invested in growing crops** is an account showing the cost for cover crops or crops not yet harvested. **Purchased inputs** is an item aggregating the cost of unused supplies of purchased inputs such as seed, feed, chemicals, fuels and fertilizers. Finally, **other current assets** may include such items as accounts receivable, prepaid insurance or expenses. While the USDA ERS ARMS balance sheet template does not show **accounts receivable** as a separate item (but rather as part of other current assets), accounts receivable can represent a relevant portion of assets in farms (for instance, sales at the end of the year that are typically paid the following year). Therefore, some farms may show accounts receivable as a separate item if this is relevant to their business.

5 Available at: ers.usda.gov/data-products/arms-farm-financial-and-crop-production-practices

On long-term assets in a farm, the USDA ERS classification includes **land and buildings, farm equipment, breeding animals and investment in cooperatives**. **Land and buildings** will capture the value of all land and buildings owned by the farm operation. Specifically, the value of the farm operator's dwelling is included if it is physically located on the farm operation. **Farm equipment** aggregates the value of trucks, cars, tractors, machinery, tools, equipment and implements owned by the operation. **Breeding animals** contains the value of all livestock animals held for breeding purposes. **Investment in cooperatives** is an account equal to financial investments in other firms and industries. Finally, regarding liabilities and equity accounts, the USDA ERS template uses names similar to those for a typical balance sheet (Table 2), even though equity is not disaggregated into common stock and retained earnings.

CLOSING

Appropriate bookkeeping and accounting practices are critical for firms to follow to generate financial reports complying with generally accepted accounting practices. Those reports contain data that can be used for several analyses – not covered in this technical note – to help farmers manage their operations better. This practice may help small-scale farms improve their profitability and remain competitive and financially viable. Furthermore, it can help small-scale farms with finance-related problems cope with financial distress. While bookkeeping and maintaining an accounting system are costly, and small farms may be tempted not to spend on maintaining good accounting records that comply with accepted accounting practices, this article discusses affordable services available for small firms or farms. The purpose of the discussion is to serve as a primer for a better understanding of the links between bookkeeping, accounting and financial statements and their importance to a comprehensive management system..

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