Module Two

Managing Farm Financial Risk

MODULE 2

MANAGING FARM FINANCIAL RISK

Learning Objectives:

Given a discussion of the basic financial documents — cashflow budget, balance sheet and income statement/profit and loss statement, — participants will:

a) be able to state what the different documents contain
b) be able to locate their own information sources for each document

Given a discussion and example of Adjusted Gross Revenue insurance as a financial risk tool, participants will:

be able to make a decision on whether or not such a tool would benefit them.

Given a list of cost sharing programs from the USDA, participants will:

be able to name where to go to get additional information on these programs

Given a Risk Assessment and Strategy Form, participants will:

be able to assess farm financial risk and select strategies and tools to manage them

Worksheets

Information for you

Resources

UNDERSTANDING FINANCIAL RISK

from Introduction to Risk Management
1997 USDA Risk Management Agency

Financial risk has three basic components:

1) the cost and availability of debt capital,
2) the ability to meet cash flow needs in a timely manner, and
3) the ability to maintain and grow equity.

Cash flows are especially important because of the variety of ongoing farm obligations, such as cash input costs, cash lease payments, tax payments, debt repayment, and family living expenses.

Your objective should be to manage this risk through sound planning and financial control. To do that, you should continually monitor your ability to bear financial risk.

Farm Records and Financial Analysis

A set of well-maintained financial records is an absolute necessity to maintaining financial control of a farm or ranch. The flow of information is critical in evaluating past performance and in planning for future accomplishments.

Financial risk management is not achieved directly by maintaining comprehensive records. However, records do provide much of the information needed to understand critical financial risks.

Essential financial statements include the balance sheet and statement of owner's equity, income statement, and projected and actual cash flows. These records provide a history of your business and the data you need to calculate financial performance measures. Even small farms need a basic level of record keeping.

As the size and complexity of an operation grow, so does the need for financial records. Ratios such as debt-to-asset, debt-to-equity, and asset turnover are important in monitoring overall financial performance. Other measures can be used to monitor the financial status of the business and provide guidelines for future decisions. These examine liquidity, solvency, profitability, financial efficiency, and repayment capacity of the business.

Interest Rate Risk

Investment decisions are based on assumptions about future borrowing costs or the opportunity cost of invested funds. Borrowed capital can be a reasonable expense, especially if you are prudent in the financial leveraging of your business. After all, few operations are in a position to use only equity capital for new investments. Borrowing is a vital part of most farming businesses.

Interest rate risk is mostly out of your control. However, you can sometimes influence your interest rate by lowering your debt-to-asset ratio and through the use of crop insurance coupled with a sound marketing plan.. These actions by you reduce a lender's risk exposure.

Liquidity and Meeting Cash Flow Requirements

Ensuring liquidity and adequate cash flow is the same as ensuring the farm's ability to survive shortfalls in net income relative to various cash obligations.

Assets classified as current on the balance sheet are assets that can be converted into cash within one operating cycle of the farm business, usually 12 months. Liquid assets include instruments that yield cash directly or that can be converted quickly to cash. Liquid assets include cash on hand, supplies, and crops and livestock to be sold within the year.

Adequate liquidity is essential to ensure a sufficient cash flow. Also, adequate liquid reserves can facilitate contingency plans for production disasters or poor market conditions. However, excess liquidity typically generates lower rates of return than fixed assets.

Timing is critical for ensuring adequate cash flows. With proper planning of expenses, cash flow needs can be known with reasonable certainty.. This allows you to plan marketing decisions in advance and to take advantage of attractive pricing opportunities. Improving liquidity to ensure adequate cash flows can include reducing family living expenditures, using resources efficiently, leasing assets, and utilizing appropriate insurance programs.

Here are some questions to ask yourself

- What is the most effective way to monitor general financial conditions and expected changes in interest rates?
- What are alternative sources of financing and their terms and conditions?
- What can I do to reduce a lender's risk exposure and thereby ensure that I pay the lowest possible interest rate?
- Do I completely understand the terms and conditions of my borrowing arrangements, including the calculation of interest?

Some Questions for Your Risk Management Check-up:

- What alternative sources of income are available to me?
- What are my cash flow requirements for operating inputs, machinery, personnel, land costs, debt payments and farm overhead?
- What are some ways of reducing cash expenses?
- What are my tax obligations?
- What types of personal and property insurance do I need?
- What are the cash flow implications of a crop failure or low market prices?
- What is an effective contingency plan for meeting cash flow needs after a crop failure or a period of low prices.

FINANCIAL STRENGTH QUIZ

___ **Q 1.** What letter grade (A, B, C, D, or F) would you give to judge the financial strength of your farm?

Put the number of points indicated below, "A" being the best.

A = 5 **B** = 4 **C** = 3 **D** = 2 **F** = 1

___**Q 2**. How likely is it that your farm could survive a year of bad yields or bad prices—

A. "very likely," **B.** "somewhat likely," **C.** "very unlikely?"

Put -1 point if you answered "very unlikely." Otherwise put zero.

___**Q 3.** How much would the following affect your farm?— "a lot," "some," or "not much."

Put -1 point for each time you answer "a lot," otherwise put zero.

___ a 3-percentage point rise in interest rates

___ a 5% drop in revenues

___ a 5% increase in expenses

___**Q 4.** Do you worry about whether you'll be able to pay back the debt you own?

If yes, put -1 point, otherwise put zero.

___**Q 5.** Do you always pay off the balance on your credit cards on time to avoid paying a finance charge on the outstanding balance?

If no, put minus –1, otherwise put zero.

___**Q 6.** Compared to other farms, is your farm successful?

If no, put minus -1 point, otherwise put zero.

___**Q 7.** Over the next five years, do you expect your earnings to increase?

If no, put minus -1 point, otherwise put zero.

___**Q 8.** What were your farm's total profits after expenses last year? Put in the number of points below.

1 = Lost money	3 = $10,000 to $24,999	5 = $50,000 to $99,999
2 = Less than $10,000	4 = $25,000 to $49,999	6 = $100,000 or more

___**Q 9.** What is your farm's debt-to-asset ratio? That is, your total debt / your total assets? ____%

Subtract the number of points indicated below.

1 = Zero (no debt) 2 = 1 to 10% 3 = 11 to 40% 4 = 40 to 60% 5 = > 60%

______ **TOTAL POINTS**

SCORING SYSTEM

Zero or less = *

One to three = **

Four to six = ***

Seven or more = ****

How To Choose & Use A CPA

You look to your CPA at tax and audit time, of course. But your CPA can promote personal and professional financial security year round.

Do you need personal financial planning advice? A business consultant? Software guidance? Are you getting married? Coming into sudden wealth? Your CPA can assist you.

How do you know if you need a CPA?

You should consider seeking the advice of a CPA if you:

- have lost property in a flood, earthquake, or other natural disaster.
- The California Society of CPAs has a free brochure entitled, "Picking up the Pieces" that offers tax and financial information for disaster victims. To order, call (800) 9CALCPA (922-5272).
- marry, separate, divorce, or your spouse dies. experience sudden wealth. have sold or are planning to sell inherited real estate or securities.
- are self-employed and want to take all the deductions to which you're entitled.
- need advice on handling stock options.
- move into or out of California and you owe taxes in two states.
- aren't sure whether or not to itemize deductions or take the standard deduction.
- pay foreign taxes or hold an investment that is subject to foreign tax.
- support a child, grandchild, or parent who may qualify as a dependent.
- and/or your spouse are nonresident aliens.
- have work that takes you out of the United States.
- have a "SEP" IRA or Keogh account.
- need to choose from your employer's "cafeteria" plan.
- are or are about to become a trustee, executor, legal guardian or conservator.
- are nearing retirement and own property or other asset that generates low income relative to its worth.
- wish to sell or transfer an asset in a way that minimizes your exposure to capital gains tax and leaves you more proceeds for reinvestment and higher
- retirement income production.
- hold an IRA with significant value.
- are nearing age 70 and approaching the time when you must begin taking distributions from your IRA.
- wish to consider estate taxes and other variables in determining the size of your IRA distributions.
- win a large prize in a lottery or sweepstakes and receive a Form 1099.

Services CPAs provide

Business Financial Services

- conducting special studies on financing, inventory management, cost control, credit, and collection for business, government and nonprofit organizations
- consulting on accounting aspects of business problems
- developing budgets and forecasts
- auditing financial statements and reporting on them for the client's use with investors, creditors, and management
- setting up accounting systems
- performing compilation and review services
- assisting clients in obtaining financing

Management Consulting

- reviewing and setting up management information systems that meet a company's needs

- valuating the results of operations and forecasting the effects of alternative plans to facilitate management decisions
- analyzing operations and suggesting changes in structure and individual responsibilities
- helping clients institute a corporate planning process to control current operations, manage risk, translate long-range plans into attainable goals, and
- increase profits and market share
- ·helping businesses improve the use of their resources, increase their efficiency, and achieve their objectives

Personal Financial Services

- devising savings and investment strategies
- providing personal financial planning advice regarding such things as saving for a child's education, buying a new home, planning for retirement, estate
- planning
- ·assisting clients in securing loans and credit by gathering information required by a lending agency
- ·projecting future income and expenses

Tax Advisory Services

- suggesting short-term and long-term strategies for lowering tax liabilities
- helping clients comply with tax laws
- providing retirement and estate planning to reduce the impact of estate and inheritance taxes
- preparing tax returns
- assisting clients with federal, state and local tax problems and representing individuals before government agencies

Human Resources Consulting

- providing recommendations for compensation policies and practices
- designing compensation, fringe benefit and retirement plans for businesses
- assisting in the development of job descriptions, personnel policies, systems and manuals

Litigation Consulting

- assisting attorneys in litigation situations by analyzing financial data, developing damage studies or business valuations and serving as expert witnesses
- in court
- dealing with attorneys and bankers in business mergers or expansions

Auditing and Accounting Services

- preparing, compiling, reviewing, and auditing financial statements
- examining a company's financial records, transactions and reporting procedures to ensure a company's financial position is reported fairly to its
- stockholders

Factors to consider when choosing a CPA

Trust

It's important to establish a practitioner's credentials before you retain his/her services. You need to feel that this person has integrity and honesty before you will trust him or her with your financial information. Ask friends and colleagues for references and interview the practitioner. Be aware that fee structures
vary and that different types of practitioners have different levels of training and experience. CPAs are the most highly educated and trained tax professionals and are distinguished by their state certification, which allows only CPAs to be called "accountants" in California.

Chemistry

Keep in mind that you are looking to establish a long-term relationship. You want someone who will learn your business inside and out, who will become a trusted advisor on major business and financial decisions and transactions. Look not only for technical competence but also for interpersonal and communication skills.

The Future
Defining your objectives and expectations will help you ask the kind of specific questions necessary for finding the CPA best suited to your needs.

Think about the services you will need not just today but farther down the road. Will you need someone familiar with compensation issues? Government compliance? International business?

Experience
CPAs act as advisors to individuals, businesses, financial institutions, nonprofit organizations, and government agencies on a wide range of financial matters. CPAs can provide help with tax preparation, building college funds, planning for retirement, and creating estate plans.

Versatility
CPAs wear many hats: auditor, personal financial planner, tax advisor, management consultant, corporate financial advisor.

Affiliation
One of the best methods for finding a CPA is to get a referral from friends, family, or business associates. You can also use the California Society of CPAs' Find a CPA Service, which allows you to search for a CPA by location, specific services, languages spoken and experience.

Questions to ask before choosing a CPA

1. Does the individual hold an active CPA license?

To earn the CPA designation, accountants must pass a rigorous two-day professional examination and meet stringent licensing requirements. To assure that they stay current on developments in the field, the California Board of Accountancy requires all licensed CPAs to meet certain education requirements.

2. Are you comfortable with the CPA's personality and communication style?

Keep in mind that a long-term working relationship between you and your CPA can help you take an informed, consistent approach to personal financial and business problems and may help you meet your financial goals.

3. Does the CPA have the expertise you need?

During your interview, let the CPA know clearly the kinds of assistance you need. Then ask about his or her qualifications, profiles of typical clients, and availability to work with you.

4. How much should you expect to pay for the CPA's services?

Be sure to talk openly about how the CPA will be compensated for his or her services.

Normally, CPAs base their fees on the amount of time they spend performing services on your behalf. The services you need, the complexity of your financial situation, the experience level of the CPA, and where you live will all impact the level of fees your CPA charges.

5. To what professional organizations does the CPA belong and how active is he or she in those organizations and in your community?

CPAs who are members of the California Society of CPAs and the American Institute of CPAs (AICPA) must meet additional continuing education requirements and are obliged to adhere to stringent ethical guidelines.

How to get the most value from a CPA's services

- Be prepared to discuss your plans and objectives. CPAs are in the best position to advise you and serve your interests when they understand your goals.
- Gather information about business or personal financial decisions under consideration so you can ask the CPA specific questions.
- Clearly explain what you expect from the CPA's services.
- Save yourself unnecessary fees by keeping good records and not using professional time for routine work.
- Let your CPA know about your attitudes toward spending and saving, your tolerance for risk, and whether you prefer to take an aggressive or

- conservative approach to tax-saving strategies.
- Keep your CPA informed of changes in your personal and professional life (such as marriage, divorce, the birth of a child, a new home, death of a spouse, or a career change) that may impact your tax liability and personal financial goals.

ABOUT THE SPREADSHEETS

The following interactive spreadsheets were developed by FACTS in the Spring of 2001 as an exercise for an agriculture business management course. The budget assumptions were based on data from the University of California cost and returns studies for peaches and cherries in the foothill region of northern California published in the Fall of 2000 plus the comments from the orchardists in the course.

When you start a farm, cost and returns studies from the University are a good place to get assumptions about income and costs. The family in the example are the Jett's. Here is their story -

The Jetts, Jerry and Joan, have two teenage sons Jeffrey and Jason.

In 1997, the Jett's bought 25 acres with older fixer-upper home, a large barn/shop midsize tractor, loader, brush hog, ladders, some field lugs and a cart with small spray rig. The property has access to the local irrigation district NID for $350,000 - $75,000 down with a 30-year mortgage at 6.8% apr.

The previous owner planted 5 acres cherries that are now in production and there are 5 acres of older peaches that Jerry has been rehabilitating. Additionally, there are 10 acres in irrigated pasture. The remaining 5 acres is house, barn and equipment yard, NID ditch and access roads.

Joan commutes to Sacramento where she works as CFO for midsize manufacturing company. She has a salary of $85,000 including benefits and stock options.

Reason for this exercise was to put a face on set of numbers and to show how numbers tell the story of profitability or the challenge of trying to get there.

The cashflow budget was originally done without a management wage. Were we doing it today, we would include one. Management pay is a cost of production and should be reflected in the cashflow and income statements. The wage is shown on the Alternative Income Statement on page 84..

These spreadsheets are interactive and done as a Microsoft Excel^{tm} workbook.

It is also possible to set up either Intuit products, Quicken^{tm} or QuickBooks^{tm} to produce these statements. Excellent resources for doing this on your own are

Dr. Damona Doye's website at Okalhoma State University http://agecon.okstate.edu/quicken/

The Center for Agriculture Business at California State University Fresno has a PowerPoint and self-tutorial for QuickBooks at

http://retriever.csufresno.edu/classes/agec160/Qbooks.htm

The usefulness of these spreadshets becomes more clear when ratio analysis is applied. Ratios are what lenders look at to determine the financial health of your farm or ranch as the make lending decisions. You can do this on your own using the worksheet on page 86.

Cashflow for Jett's Juicy Jewels

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	CY 2000						JJJJett's Juicy Jewels							Totals
2	**Revenue Cherries**						**13500**							**13500**
3	**Revenue Peaches**								**22500**	**52500**				**75000**
4	Total orchard rev.						13500		22500	52500				**88500**
5		**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Totals**
6	**CULTURAL COSTS**													
7	Pruning	*3235*	*3030*											**6265**
8	Shredding brush	125	25											**150**
9	Pollination				450									**450**
10	Thinning					*3030*								**3030**
11	Fertilizer							85		40				**125**
12	Pest control													
13	Dormant spray 1											485		**485**
14	Dormant spray 2		285											**285**
15	Dormant spray 3													
16	fungicide		215	265	270	40			215					**1005**
17	Omniverous LR													
18	Peach Twig Borer		215						215					**430**
19	Leaf Hopper						145							**145**
20	Weed control			200	50	20		50	20					**340**
21	Veg mow				60	60	60		60	60				**300**
22	Irrigation				65	250	330	410	410	360	170			**1995**
23	Truck costs	50	50	50	50	50	50	50	50	50	25	50	25	**550**
24	TOTAL CULT COST	3410	3820	515	945	3450	585	595	970	510	195	535	25	**15555**
25	**HARVEST COSTS**													
26	Pick						*5375*		*1515*	*4020*				**10910**
27	Load & Haul						*980*		*195*	*385*				**1560**
28	Pack & sell						*1550*		*1390*	*2780*				**5720**
29														
30	TOTAL HARVEST						8005		3100	7185				**18290**
31	Interest on capital	55	65	70	80	180	65	70	100	170				**855**
32	T OPS COST/AC	3465	3885	585	1025	3630	8655	665	4170	7865	195	535	25	**34700**
33	**OVERHEAD COSTS**													
34	Office expense	260	260	260	260	260	260	260	260	260	125	260	260	**2985**
35	Farm Insurance		180											**180**
36	Property taxes				1035								1035	**2070**
37	Porta Potties	32	160				32		160	160				**544**
38	Maintenance	200	200	200	200	200	200	200	200	200	200	200	200	**2400**
39	T CASH OVERHEAD	1237	800	460	1495	460	492	1205	620	620	325	460	1495	**9669**
40														
41	**T CASH COSTS**	4702	4685	1045	2520	4090	9147	1870	4790	8485	520	995	1520	**44369**
42	**Orchard enterprise**													
43	**cashflow**	-4702	-4685	-1045	-2520	-4090	4353	-1870	17710	44015	-520	-995	-1520	**44131**

Income Statement

PROJECTED INCOME STATEMENT

Period from

INCOME (From Sales)	**BUDGET**		-->	**RECEIVABLE**	+	**CASH**
Peaches	75,000					75,000
Cherries	13,500					13,500
Crop 3	0					0
Crop 4	0					0
Crop 5	0					0
Crop 6	0					0
Crop 7	0					0
Crop 8	0					0
Other Farm Income (Subsidies)						0
TOTAL INCOME		88,500				

EXPENSES		**BUDGET**		-->	**PAYABLE**	+	**CASH**
Plants and Seeds		0					0
Plant Nutrients		66					66
Pesticides		2,557					2,557
Machinery Operation		4,131					4,131
Hired Labour		20,809					20,809
Marketing		5,550					5,550
Contracts & Custom Work		450					450
Equipment Rentals		800					800
Other Supplies & Services		1,462					1,462
_______________		0					0
Building Repairs & Maintenance		2,400					2,400
Land Rent (mortgage)		708					708
Land & Water Taxes		2,070					2,070
Legal & Accounting							0
Insurance		180					180
_______________							0
Other							0
Office include. Legal& acct		2,985					2,985
							0
Miscellaneous							0
Operating Interest	10.71%	168					168
Term Loan Interest		0					0
TOTAL EXPENSES			44,336				
EXCESS INCOME OVER CASH EXPENSES			44,164				

ADJUSTMENTS		
Less Depreciation		18,747
+Ending Inventory	0	
-Beginning Inventory	0	
=Inventory Change (+ or -)		0
NET FARM INCOME		25,417

Notes:
1. Inventory adjustments include crops and crop supplies.
2. For Income Tax purposes, replaced rootstock is expensed while new rootstock is added to the cost base of the land.

Income Statement with Management Wage

PROJECTED INCOME STATEMENT

Period from

INCOME (From Sales)		BUDGET		-->	RECEIVABLE	+	CASH
Peaches		75,000					75,000
Cherries		13,500					13,500
Crop 3		0					0
Crop 4		0					0
Crop 5		0					0
Crop 6		0					0
Crop 7		0					0
Crop 8		0					0
Other Farm Income (Subsidies)							0
TOTAL INCOME			88,500				
EXPENSES		**BUDGET**		-->	**PAYABLE**	+	**CASH**
Plants and Seeds		0					0
Plant Nutrients		66					66
Pesticides		2,557					2,557
Machinery Operation		4,131					4,131
Hired Labour		20,809					20,809
Marketing		5,550					5,550
Contracts & Custom Work		450					450
Equipment Rentals		800					800
Other Supplies & Services		1,462					1,462
_______________		0					0
Building Repairs & Maintenance		2,400					2,400
Land Rent (mortgage)		708					708
Land & Water Taxes		2,070					414
Legal & Accounting							0
Insurance		180					180
							0
Other							0
Office include. Legal& acct		2,985					2,985
Management wages		**27,470**			27,470		**168**
Miscellaneous							0
Operating Interest	10.71%	168					168
Term Loan Interest		0					0
TOTAL EXPENSES			71,806				
EXCESS INCOME OVER CASH EXPENSES			16,694				
ADJUSTMENTS							
Less Depreciation			18,747				
+Ending Inventory		0					
-Beginning Inventory		0					
=Inventory Change (+ or -)			0				
NET FARM INCOME			-2,053				

Notes:
1. Inventory adjustments include crops and crop supplies.
2. For Income Tax purposes, replaced rootstock is expensed while new rootstock is added to the cost base of the land.

Balance Sheet

STATEMENT OF ASSETS, LIABILITIES, AND OWNER'S EQUITY

Ending Year 1

As of

ASSETS

		Cost	Market Value
CURRENT ASSETS			
Cash on Hand		21,194	21,194
Stocks, Bonds, Savings			0
Accounts Receivable		0	0
Crops Inventory			0
Crop Supplies			0
Prepaid Expenses			
Non Farm & Personal			0
Other			0
Total Current Assets		21,194	21,194
INTERMEDIATE ASSETS			
Machinery & Equipment			
Cost	16,405		
Less Accum	4326	12,079	10,871
Non Farm & Personal			0
Other			0
Total Intermediate		12,079	10,871
FIXED ASSETS			
Buildings			
Cost	95,875		
Less Accum	4,794	91,081	81,973
Land		175,000	157,500
Non Farm & Personal		79,215	71,294
Other		0	0
Total Fixed		345,296	310,767
TOTAL ASSETS		378,569	342,831

LIABILITIES

	Cost	Market Value
CURRENT LIABILITIES		
Operating Loan	0	0
Accounts Payable	7,470	6,723
Taxes Payable		0
Rent Payable	0	0
Loan Principal due within		0
year - Intermediate Loans		0
- Long Term Loans	15,654	14,089
Other insurance	656	590
Total Current Liabilities	23,780	21,402
INTERMEDIATE(1-10 yrs)		
Notes Payable (new loans)	0	0
Machinery & Equipment	0	0
Vehicles		0
Contingent Tax Liability	XXXXXX	0
Other		0
Total Intermediate	0	0
LONG TERM (> 10 yrs)		
Building and New Loans	0	0
Land Mortgages	256,300	230,670
Contingent Tax Liability	XXXXXX	0
Other		0
		0
		0
Total Long Term	256,300	230,670
TOTAL LIABILITIES	280,080	252,072
OWNER'S EQUITY		
+Beginning Equity	72,795	72,795
+Net Farm Income	27,302	27,302
+Owner's Contributions	4,500	-31,238
-Owner's Withdrawals	0	0
=Ending Equity	104,597	68,859
TOTAL LIABILITIES AND OWNER'S EQUITY	384,677	320,931

	Cost		Market
Assets	378,569	**Assets**	342,831
Liabilities	280,080	**Liabilities**	252,072
Equity	98,489	**Net Worth**	90,759

Farm Finance Scorecard

Fiscal Year______

Liquidity

		Vulnerable			Strong
1. Current Ratio	___ . ___		1.0	2.0	
2. Working Capital	$_________				

Solvency (Market)

3. Debt-to-Asset Ratio	___ %		60%	30%	
4. Equity-to-Asset Ratio	___%		40%	70%	
5. Debt-to-Equity Ratio	___%		150%	43%	

Profitability

6. Net Farm Income	$_________				
7. Rate of Return on Assets	___ %		1%	5%	
8. Rate of Return on Equity	___%		5%	10%	
9. Operating Profit Margin	___%		20%	35%	

Repayment Capacity

10. Rate of Return on Assets	___ %		110%	136%	
11. Capital-replacement Margin	$___________				

Financial Efficiency

12. Asset turnover rate (Market)	___%		20%	40%	
13. Operating Expense ratio	___%		80%	60%	
14. Depreciation/Expense ratio	___%		20%	10%	
15. Interest/expense ratio	___%		20%	10%	
16. Net farm income ratio	___%		10%	20%	

FARM FINANCIAL RATIOS AND GUIDELINES[1]

FROM THE BALANCE SHEET

Liquidity- is the ability of your farm business to meet financial obligations as they come due – to generate enough cash to pay your family living expenses and taxes, and make debt payments on time.

1 **Current ratio** - measures the extent to which current farm assets, if sold tomorrow, would pay off current farm liabilities.

$$\text{Current ratio} = \frac{\text{Total current farm assets}}{\text{Total current farm liabilities}}$$

2. **Working capital** - tells us the operating capital available in the short term from within the business.

Total current farm assets

<u>- Total current farm liabilities</u>
Working capital (end of year)

Solvency - is the ability of your business to pay all its debts if it were sold tomorrow. Solvency is important in evaluating the financial risk and borrowing capacity of the business.

3. **Farm debt-to-asset ratio** - is the bank's share of the business. It compares total farm debt to total farm assets. A higher ratio is an indicator of greater financial risk and lower borrowing capacity.

$$\text{Farm debt-to-asset ratio} = \frac{\text{Total farm liabilities}}{\text{Total farm assets}}$$

4. **Farm equity-to-asset ratio** - is your share of the business. It compares farm equity to total farm assets. If you add the debt-to-asset ratio and the equity-to-asset ratio you must get 100%.

Total farm assets
<u>- Total farm liabilities</u>
Farm net worth

$$\text{Farm equity-to-asset ratio} = \frac{\text{Farm net worth}}{\text{Total farm assets}}$$

5. Farm debt-to-equity ratio - compares the bank's ownership to your ownership. It also indicates how much the owners have leveraged (i.e., multiplied) their equity in the business.

$$\text{Farm debt-to-equity ratio} = \frac{\text{Total farm liabilities}}{\text{Farm net worth}}$$

FROM THE INCOME STATEMENT

Profitability - is the difference between the value of goods produced and the cost of the resources used in their production.

6. **Net farm income** - represents return to 3 things,

   - Your labor,
   - Your management and
   - Your equity, that you have invested in the business.

   It is the reward for investing your unpaid family labor, management and money in the business instead of elsewhere. Anything left in the business, i.e., not taken out for family living and taxes, will increase your farm net worth next year.

   Gross cash farm income
   - Total cash farm expense
   + Inventory changes
   <u>+ Depreciation & other capital adjustments</u>
   Net farm income

7. **Rate of return on farm assets** - can be thought of as the average interest rate being earned on all (yours and creditors') investments in the farm. Unpaid labor and management are assigned a return before return on farm assets is calculated.

   Net farm income
   + Farm interest
   <u>- Value of operator's labor & management</u>
   Return on farm assets

   Rate of return on farm assets = $\dfrac{\text{Return on farm assets}}{\text{Average farm assets}}$

8. **Rate of return on farm equity** - represents the interest rate being earned by your investment in the farm. This return can be compared to returns available if your equity were invested somewhere else, such as a certificate of deposit.

   Net farm income
   <u>- Value of operator's labor & management</u>
   Return on farm equity

   Rate of return on farm equity = $\dfrac{\text{Return on farm equity}}{\text{Average farm net worth}}$

9. **Operating profit margin** - shows the operating efficiency of the business. For instance, if expenses are low relative to the value of farm production, the business will have a healthy operating profit margin. A low profit margin can be caused by low product prices, high operating expenses, or inefficient production.

   Gross cash farm income
   + Inventory changes in Crops & feed, Market livestock & Breeding livestock
   <u>+ Change in Receivables & other income items</u>
   Gross farm income

FROM THE CASHFLOW STATEMENT

Repayment capacity - shows the borrower's (i.e., your) ability to repay term debts (both farm and non-farm) on time. It includes non-farm income and so is not a measure of business performance alone.

10. **Term-debt coverage ratio** - tells whether your business produced enough cash to cover all (both farm and non-farm) intermediate and long-term debt payments.

    A ratio of less than 100% indicates that a business had to run up open accounts, borrow money, or sell assets to make scheduled payments to the bank.

    Net farm operating income
    + Net non-farm income
    + Scheduled interest on term debt
    <u>- Family living & taxes paid</u>
    Net Farm Income

    Term-debt coverage ratio = <u>Net Farm Income</u> / Scheduled principal & interest payments on term debt

11. **Capital-replacement margin** - is the amount of money remaining after all operating expenses, taxes, family living costs, and scheduled debt payments have been made. It's really the money left, after paying all bills, that is available for purchasing or financing new machinery, equipment, land or livestock.

    Net farm operating income
    + Net non-farm income
    - Family living & taxes paid
    <u>- Scheduled principal payments on term debt</u>
    Capital-replacement margin

FROM ALL THE FINANCIAL STATEMENTS

Financial efficiency - shows how effectively your business uses assets to generate income. Past performance of the business could well indicate potential future accomplishments.

It also answers the questions:

Are you using every available asset to its fullest potential?

What are the effects of production, purchasing, pricing, financing and marketing decisions on gross income?

12. Asset-turnover rate - measures efficiency in using capital. You could think of it as capital productivity.

    Generating a high level of production with a low level of capital investment will give a high asset-turnover rate. If, on the other hand, the turnover is low you will want to explore methods to use the capital invested much more efficiently or sell some low-return investments. (it could mean getting rid of that swamp and ledge on the back 40 and getting something that produces income).

    Asset-turnover ratio = <u>Value of farm production</u> / Average farm assets

The last four ratios show how Gross Farm Income gets spent. The sum of the four equals 100% (of Gross Farm Income).

13. Operation -expense ratio - shows the proportion of farm income that is used to pay operating expenses, not including principle or interest.

$$\text{Operating-expense ratio} = \frac{\text{(Total farm operating expense - Farm interest)}}{\text{Gross farm income}}$$

14. Depreciation-expense ratio - indicates how fast the business wears out capital. It tells what proportion of farm income is needed to maintain the capital used by the business. It is important to remember that this ratio should be looked at over time. This measure is likely to be misleading during major expansions and contractions, or if you use depreciation on your 1040F to adjust your tax liability.

$$\text{Depreciation-expense ratio} = \frac{\text{Depreciation \& other capital adjustments}}{\text{Gross farm income}}$$

15. Interest-expense ratio - shows how much of gross farm income is used to pay for borrowed capital.

$$\text{Interest-expense ratio} = \frac{\text{Farm interest}}{\text{Gross farm income}}$$

16. Net farm income ratio - compares profit to gross farm income. It shows how much is left after all farm expenses, except for unpaid labor and management, are paid.

$$\text{Net farm income ratio} = \frac{\text{Net farm income}}{\text{Gross farm income}}$$

[1] Adapted 2001 by FACTS from worksheet developed by Developed by: Rick Wackernagel, Dennis Kauppila, and Glenn Rogers, University of Vermont Extension

RISK ASSESSMENT AND STRATEGY WORKSHEET

Risk Category	Specific Risk within Category	Tolerance for this Risk	
Strategies Available to Manage Risk based on Tolerance	Tool(s)	Resource Contact	Annual Cost
Avoid			
Shift/Transfer			
Reduce			
Retain/Assume			

RISK ASSESSMENT AND STRATEGY WORKSHEET

Risk Category	Specific Risk within Category	Tolerance for this Risk	
Strategies Available to Manage Risk based on Tolerance	Tool(s)	Resource Contact	Annual Cost
Avoid			
Shift/Transfer			
Reduce			
Retain/Assume			

RESOURCES

Web resources

Enterprise budgets

Government of Canada does a wonderful job on this esp. the province of British Columbia to our North.

http://www.fbminet.ca/bc Enterprise budgets and a fully integrated Excel spreadsheet. Lots of links. Poor documentation for all assumptions made on the spreadsheet, however.

UC Davis Ag Econ Cost & Returns Study Index
http://www.agecon.ucdavis.edu/outreach/crop/cost.htm
These are not interactive but come in PDF format.

Also great for easily understood Ag Business resources is Missouri's AgEBB – the Ag Electronic Bulletin Board AgEBB - http://agebb.missouri.edu/index.htm Enterprise budgets, downloadable spreadsheet templates.

Financial Statements

Iowa State's Ag Econ department has an easily understood tutorial on financial statements at http://www.econ.iastate.edu/ADM/C/c3-55.html

Pacific Northwest Risk Management Education Program has interactive Cost and Returns budgets for some Oregon crops as well as interactive Whole Farm Expense and Profit Cashflow Analysis spreadsheets at http://pnw-ag.wsu.edu/risk/

While these are set up for grain and cattle producers in the Northwest, the can be redone to specialty crops.

Evaluating Financial Statements

Small Business Calculators: Financial ratios can be found at http://stage.bankrate.com/sam/news/biz/bizcalcs/ratiocalcs.asp

Accounting/bookkeeping/recordkeeping

Flagship Technologies does some value-added ag products for Quicken and QuickBooks. They have on-line forums for ag users. http://www.goflagship.com/articles/

For Technical Assistance and information on NRCS cost-sharing programs

Central Coast RC&D Council
545 Main Street, Suite B1
Morro Bay, CA 93442
805 772-5623

Central Sierra RC&D
235 New York Ranch Road, Suite C
Jackson, CA 95642
209 257-1851

High Sierra RC&D Council
251 Auburn Ravine Rd, Suite 201
Auburn, CA 95603
530 823-5687 ext 5

North Cal-Neva RC&D Council
806 W 12th Street
Alturas, CA 96101-3132
530 233-4314

Ore-Cal RC&D Council
308 Main Street
PO Box 785
Dorris, CA 96023
530 397-7463

South Coast RC&D
4500 Glenwood Drive
Riverside, CA 92507
909 682-3956

Trinity RC&D Council
No. 3 Horseshoe Lane
PO Box 1450
Weaverville, CA 96093
530 623-2009

SMALL FARM-FRIENDLY BANKS

Each year, the Small Business Administration, through their Office of Advocacy, surveys banks and holding companies to determine lending practices to small business segments. One such survey is the “small farm-friendly” lending survey. Here are the California commercial banking institutions recognized by the SBA’s Office of Advocacy as being “Small Farm Friendly”

Institution	**Location**	**HQ**	
Score	**Asset Size**	**$ lent**	
#loans			
Kings River St Bk	Reedley	CA	95.0
<$100m	8,905	296	
Heritage Oaks Bk	Paso Robles	CA	92.5
$100m-500m	4,334	75	
Lake Cmnty Bk	Lakeport	CA	92.5
<$100m	7,840	97	
Gold Country Nb	Marysville	CA	92.5
<$100m	7,331	99	
Butte Cmnty Bk	Paradise	CA	92.5
$100m-500m	9,659	99	
San Benito Bk	Hollister	CA	90.0
$100m-500m	3,838	66	
Metropolitan Bk	Oakland	CA	90.0
<$100m	1,647	24	
North St Nb	Chico	CA	90.0
$100m-500m	4,969	63	
Bank Of Lodi Na	Lodi	CA	90.0
$100m-500m	5,077	76	
First Northern Bk	Dixon	CA	90.0
$100m-500m	9,006	231	
Farmers & Mrch			
Bk Central Ca	Lodi	CA	90.0
$500m-$1b	25,089	765	
Kerman St Bk	Kerman	CA	90.0
<$100m	15,855	308	
Pacific St Bk	Stockton	CA	90.0
<$100m	3,845	64	
Stockman’s Bk	Elk Grove	CA	90.0
$100m-500m	7,532	92	

FARM CREDIT SYSTEM

Outside of commercial banks, the Farm Credit System is the next stop for most farmers/ ranchers. The Farm Credit System (System) is a network of borrower-owned lending institutions and related service organizations serving all 50 states and the Commonwealth of Puerto Rico. These institutions specialize in providing credit and related services to farmers, ranchers, and producers or harvesters of aquatic products. Loans may also be made to finance the processing and marketing activities of these borrowers. In addition, loans may be made to rural homeowners, certain farm-related businesses, and agricultural, aquatic, and public utility cooperatives.

All System banks and associations are governed by boards of directors elected by the stockholders who are farmer-borrowers of each institution. Additionally, Federal law requires that at least one member of the board be elected from outside the System by the other directors. System institutions, unlike commercial banks or thrifts, do not take deposits.

Recently, the Farm Credit System has started pilot programs for beginning farmers, young farmers and part-time farm operations.

AMERICAN AGCREDIT, ACA

Ron D. Carli, President and CEO
200 Concourse Blvd
Santa Rosa, CA 95402-1120
(707) 545-1200
(800)
CarliRD@agloan.com
www.agloan.com

Eureka Branch
5560 S. Broadway
Eureka, CA 95503
707-445-8871
Fax 707-442-1258

King City Branch
104 S. Vanderhurst, Ste. B.
King City, CA 93930
831-385-5926
Fax 831-385-0389

Petaluma Branch
331 Lakeville St.
Petaluma, CA 94952
707-763-9821
Fax 707-776-1318

Salinas Branch
P. O. Box 80021
Salinas, CA 93912
800-819-3276
Fax 831-422-6599

St. Helena Branch
1101 Vintage Ave.
St. Helena, CA 94574
707-963-9437
Fax 707-963-2819

Ukiah Branch
455 E. Gobbi St.
Ukiah, CA 95482
707-462-6531
Fax 707-463-2466

Watsonville Branch
595 Autocenter Dr.
Watsonville, CA 95076
831-728-2249
Fax 831-761-8695

FCS OF SOUTHERN CALIFORNIA
San Bernardino Main Office
4130 Hallmark Pkwy
San Bernardino, CA 92407
909-884-7018
Fax 909-887-8904

Escondido Branch
144 W. Woodward Ave.
Escondido, CA 92025
760-746-5055
Fax 760-746-5814

Indio Branch
83-057 Requa Ave.
Indio, CA 92201
760-342-4726
Fax 760-342-5064

Ontario Branch
1910 S. Archibald, Ste. U-101
Ontario, CA 91761
909-947-2371
Fax 909-233-0242

Riverside Branch
5055 Canyon Crest Dr.
Riverside, CA 92507
909-781-8100
Fax 909-781-0315

CENTRAL COAST FARM CREDIT –
ADMIN OFFICE
Ken Graff, CEO
111 S. Mason St
PO Box 1340
Arroyo Grande, CA 93421-1340
805-481-5900
Toll free: 800.391.7390
Fax: 805.473.2607
arroyogrande@CentralCoastFarmCredit.com
http://www.farmcreditusa.com/centralcoast
San Luis Obispo Santa Barbara, Ventura

Central Coast Farm Credit - Paso Robles
Mark Pierce, Vice-President
1948 Spring St
Paso Robles, CA 93446
Tel: 805.238.6166
Fax: 805.238.4163.
pasorobles@CentralCoastFarmCredit.com
San Luis Obispo

Central Coast Farm Credit - Santa Maria
Tom Gulliver, Vice-President
1178 Tarna Ln
Santa Maria, CA 93455
Tel: 805.922.7991
Fax: 805.922.5121.
santamaria@CentralCoastFarmCredit.com
Santa Barbara

Central Coast Farm Credit - Carpinteria
Jay Taber, Vice-President
1135 Eugenia Pl. Ste. A,
Carpinteria, CA   93013
Tel: 805.684.8771
Fax: 805.684.0159
carpinteria@CentralCoastFarmCredit.com
Santa Barbara

Central Coast Farm Credit - Ventura
Bob Borrell, Senior Vice-President
2031 Knoll Dr
Ventura, CA   93003
Tel: 805.656.8722
Fax: 805.650.0622
ventura@CentralCoastFarmCredit.com
Ventura

Central Coast Farm Credit - Santa Paula
Pat Kelly, Vice-President
120 N. 10th St
Santa Paula, CA   93060
Tel: 805.525.6619
Fax: 805.525.2610
santapaula@CentralCoastFarmCredit.com
Ventura

FEDERAL LAND BANK ASSOCIATION

OF YOSEMITE (FLBA)
Turlock Main Office
800 W. Monte Vista Ave.
Turlock, CA 95381
209-667-2366
Fax 209-634-9612
Mariposa, Merced, Stanislaus, and Tuolumne, and a portion of Fresno County

Merced Branch (FLBA)
723 W. 19th St.
Merced, CA 95340
209-383-1116
Fax 209-364-7061

Modesto Branch (FLBA)
1115 14th St.
Modesto, CA 95353
209-526-3910
Fax 209-526-6194

Oakdale Contact Point
700 N. Yosemite
Oakdale, CA 95361
209-847-7021
Fax 209-847-0139

Patterson Branch (FLBA)
345 W. Las Palmas
Patterson, CA 95363
209-892-6136
Fax 209-892-5492

FARM CREDIT SERVICES SOUTHWEST
El Centro Branch
Richard Cook, Branch Manager
1415 State Street
El Centro, CA 92243
760-352-5112
Fax 760-352-5235
richard.cook@fcssw.com
www.fcssw.com

FRESNO-MADERA FARM CREDIT, ACA
Thomas E. Brown, President and CEO
PO Box 13069
4201 W. Shaw Ave., Ste. 105
Fresno, CA 93794-3069
559-277-7000
Fresno and Madera

FEDERAL LAND BANK ASSOCIATION OF COLUSA, FLCA AND

COLUSA-GLENN PRODUCTION CREDIT ASSOCIATION
Mr. James M. Vierra, President and CEO
P.O. Box 449
605 Jay Street
Colusa, CA 95932
530-458-4978
jvierra@cgfc.net
http://www.californiafarmcredit.com
Colusa and Glenn

Colusa Glenn Farm Credit
310 6th St.,
Colusa, CA
(530)458-2163
e-mail jheidrick@cgfc.net

Willows Office
201 B North Tehama St.
Willows, CA.
(530) 934-7086 Willows
e-mail colgln@cgfc.net

FARM CREDIT OF SOUTHERN CALIFORNIA - ADMIN
Terry Gutschenritter, President / CEO
4130 Hallmark Pkwy
San Bernardino, CA 92407
San Bernardino, Riverside, San Diego

Farm Credit of Southern California - Riverside
Dan Elder, V.P./Branch Manager
5005 Canyon Crest Dr
Riverside, CA 92507
Riverside

Farm Credit of Southern California - Ontario
Donald Daily, A.V.P./Asst. Branch Manager
1910 S. Archibald Ave
Ontario, CA 91761
San Bernardino

Farm Credit of Southern California - Escondido
Gregg Warren, V.P./Branch Manager
144 West Woodward Ave
Escondido, CA 92025
San Diego

Farm Credit of Southern California - Indio
Blair A. Merrihew, V.P./Branch Manager
83-057 Requa Ave
Indio, CA 92210
Riverside

USDA FARM SERVICE AGENCY

If Farm Credit turns you down, your next stop should be your USDA Consolidated Office. It houses the Farm Service Agency (FSA,) Natural Resources Conservation Services (NRCS) in the form of your Rural Conservation District (RCD,) and Rural Development (RD.) Most counties have an office.

USDA's Farm Service Agency makes and guarantees loans and provides credit counseling and advice to farmers and ranchers who are temporarily unable to obtain private, commercial credit. These may be beginning farmers who can't qualify for conventional loans because of insufficient net worth, or established farmers who have suffered financial setbacks from natural disasters. These loans are tailored to a producer's needs and may be used to buy farmland and finance agricultural production. Perhaps FSA can help you with loan programs and services to meet your farming needs and help you to qualify for commercial credit.

FSA Financial Assistance Programs

FSA lends money and provides credit counseling and advice to eligible applicants who operate family-size farms. We offer several types of loan programs. Under the Guaranteed Loan program, FSA guarantees loans made by conventional agricultural lenders for up to 95 percent of principal. The lender may sell the guaranteed portion of the loan to a third party; however, that will not change your relationship with your lender. All loans must meet certain qualifying criteria to be eligible for guarantees, and FSA will monitor the lender's servicing of your loan. Farmers interested in Guaranteed Loans apply directly with a conventional lender, who then arranges for the guarantee. For those unable to qualify for a Guaranteed Loan, FSA offers Direct Loans, which are made and serviced by FSA officials. Funding for Direct Loans is more limited, and applicants must wait sometimes until funds are available. To qualify for a Direct Farm Ownership or Operating Loan, the applicant must have sufficient repayment ability and loan collateral. We will work with you to analyze your situation, provide technical assistance, and tailor loans to meet your needs.

Types of Loans

Direct Loan Programs Farm Ownership Loans
Regular Limited Resource Beginning
Farmer Down payment Program Farm

Operating Loans Regular Limited Resource Emergency Loans Youth Loans Guaranteed Loan Programs Farm Ownership Loans Regular Farm Operating Loans Regular Interest Assistance

Farm Ownership Loans-Used to buy, develop, or expand a farm Down payment Farm Ownership Loans-Assists beginning farmers and ranchers to purchase a farm or ranch Farm Operating Loans-Used for operating expenses, family living, machinery, livestock, and refinancing of debt

Beginning Farmer Loans-Helps farmers start their business

Emergency Loss Loans-Used for disaster relief

Rural Youth Loans-Helps youth sponsored by a project advisor, such as 4-H

FARM BUSINESS FINANCIAL TERMS[1]

Cash and Cash Flow Terms

Cash refers to cash and funds in checking accounts, savings accounts, and certificates of deposit; it is generated by business sales and other receipts minus cash operating expenses, debt payments, capital purchases, and family living expenses. Cash Flow Budget is similar to a statement of cash flows (defined below), but it is comprised of budgeted dollar amounts rather than the actual dollars flowing in and out of the business. A cash flow budget can be compared to the statement of cash flows periodically to determine if, when, and where the actual cash flows vary significantly from the budgeted amounts.

Cash Flow Statement is a financial statement that shows the dollars flowing in and out of the business. The cash flow statement is usually divided into operating, investing, and financing activities. Cash flows are usually presented by the week, month, quarter or year for each income and expense category. This statement is particularly valuable for analyzing the management of cash in the business.

Liquidity is the ability of the business to generate sufficient cash to meet total cash demands without disturbing the on-going operation of the business. **Net** Cash Flow from Operations is the amount of cash that is available after cash operating expenses are subtracted from cash operating income. Repayment Capacity measures the ability of the business to generate sufficient income to meet its debt obligations. Repayment capacity reflects the ability of the business to make scheduled principal payments on term debt and unaccounted carryover operating debt, as well as interest on debts.

Income and Income Statement Terms

Accrual Basis of Accounting is a method of accounting under which revenues are recognized in the accounting period when earned regardless of when cash is received, and expenses are recognized in the accounting period when incurred regardless of when cash is paid.

Cash Basis of Accounting is a method of accounting under which revenues are recorded when cash is received and expenses are recognized when cash is paid.

Income Statement (or profit and loss statement) is a summary of accrual adjusted revenues and expenses for a specific time period such as an operating or accounting year. The income statement is useful in analyzing the financial performance or profitability of the business. An income statement can also be developed for a specific enterprise.

Profitability is the ability of the business to generate income in excess of expenses. **Profit**ability can be analyzed using the income statement and balance sheet.

Gross Income Values There are different measures of gross income or receipts from the business. Three important measures are:

Gross Farm Income (GFI) is the income from sales plus other receipts, minus the cost of items purchased for resale (such as feeder livestock), plus or minus changes in operating inventories. This accrual-based income reflects the value of production whether sold or not. Gross Revenue (GR) is the income of the business from sales plus other receipts, plus or minus changes in operating inventories. This accrual basis income reflects the value of production whether sold or not.

Value of Farm Production (VFP) is the income from sales plus other receipts, minus the cost of items purchased for resale (such as feeder livestock), minus the cost of purchased feed, plus or minus changes in operating inventories. This accrual basis income reflects the value of production whether sold or not.

Expense or Cost Values Various expense or cost values are used in economics and accounting. The definition, and thus derivation, will depend on the financial statement being developed and in what context the business is being analyzed. Some important expense or cost values are:

Variable Costs represent expenses that vary with output for the production period under consideration. Seed, fuel, feed and fertilizer are examples of variable costs.

Fixed Costs represent expenses of an "overhead" nature that do not vary with changes in output for the production period under consideration. Real estate taxes, depreciation, and interest on land are examples of fixed costs.

Cash Costs are those costs that result in an actual payment of cash. Example of cash costs include seed, fertilizer, labor and fuel.

Non-cash Costs are those costs that do not result in an actual payment of cash. Examples include depreciation, the change in prepaid expenses, changes in inventory, and accrued taxes.

Direct Expenses are expenses such as fertilizer and seed that are directly related to a production activity.

Indirect Expenses are expenses such as real estate taxes that are not directly related to a production activity.

Accrual Farm Expense is the amount of expense, even if not paid, that is associated with production for the operating or calendar year. Depreciation is the allocation of the original cost of a capital asset over the useful life of the asset.

Financial Costs include all expenses in the accrual adjusted income statements. **Expenses** include cash costs, depreciation, and non-cash adjustments, such as accounts payable and accrued interest.

Prepaid Expenses are expenditures made in the current operating or accounting period that will be used in a future period to realize revenue. **Total Costs** is the sum of fixed and variable costs.

The method of calculating total operating expenses or total expenses depends on what you are trying to analyze and which gross income valuation method you use (**GFI, GR or VFP)**.

The following are three common methods of expense determination:

> **Total Operating Expenses (GFI)** is the sum of cash and non-cash expenses plus or minus the associated accrual and expense inventory adjustments. It includes the cost of purchased feed, but does not include the purchase of items for resale or interest expense.
>
> **Total Operating Expenses (GR)** is the sum of cash and non-cash expenses plus or minus the associated accrual and expense inventory adjustments. It includes the cost of purchased feed and purchases of items for resale, but does not include interest expense.
>
> **Total Operating Expenses (VFP)** is the sum of cash and non-cash expenses plus or minus the associated accrual and expense inventory adjustments. It does not include the cost of purchased feed, purchases of items for resale, or interest expense.

Total Expenses (GFI) is equal to total operating expenses (GFI) plus interest expense. **Total Expenses** (GR) is equal to total operating expenses (GR) plus interest expense. **Total Expenses** (VFP) is equal to total operating expenses (VFP) plus interest expense. **Net Income** and **Return Value**s The income statement, which provides a summary of accrual adjusted gross revenue and expenses, in conjunction with the balance sheet, allows one to derive various net income and return values, such as:

Net Farm Income From Operations is equal to gross farm income (GFI) minus total expenses (GFI), or gross revenue (GR) minus total expenses (GR), or value of farm production (VFP) minus total expenses (VFP). **Net Farm Income** is equal to net farm income from operations plus the gain (or loss) from the sale of capital assets and the change in base values of breeding livestock. **Net Farm Income** is accrual adjusted and represents a return to operator's labor, management and equity capital.

Net Profit Margin shows the portion of gross revenue that the business receives as profit.

Return to Capital is a measure of the operator's capital earnings from the business and is equal to net farm income, plus interest expense, minus a charge for the operator's labor and management.

Return to Management is a measure of the operator's management earnings from the business and is equal to net farm income, minus a charge for the operator's labor and equity capital. **Return** to Labor and **Management** is a measure of the earnings to labor and management from the business. It is equal to net farm income, plus hired labor expense, minus a charge for the operator's equity capital.

Return to **Capital**, **Labor and Management** is a measure of the earnings to capital, labor and management from the business. It is equal to net farm income, plus hired labor expense, plus interest expense.

Assets, **Liabilities and Balance Sheet** Terms Accumulated Depreciation is the amount of depreciation expense taken on machinery, equipment, and building assets from their acquisition date to the date of the balance sheet.

Average Owner Equity is the average of the beginning and ending owner equity for an operating or calendar year.

Balance Sheet is a financial statement that shows the financial condition of the business at a particular point in time. The statement lists all assets and liabilities, and the resultant owner equity. Equity (net worth) should be analyzed by valuing assets at both the book value (cost minus accumulated depreciation) and the fair market value.

Book Value is equal to the original cost or basis of an asset minus any accumulated depreciation. This information is usually obtained from the depreciation schedule.

Cost Basis is another term for book value.

Leverage is the relationship between debt and equity. Earnings on debt must be greater than the cost of debt to have a positive impact on business growth.

Market Value is the value that would be received for the business's assets if the business was liquidated on the same date the balance sheet was prepared.

Statement of Owner Equity is a financial statement that reconciles the change in owner equity between the beginning and ending balance sheets.

Solvency is the measure of the dollar value that would remain if all assets were converted into cash and all debts paid. A business is solvent if total assets are greater than total liabilities, and insolvent if liabilities exceed assets.

Balance Sheet Assets The asset side of the balance sheet will include the following types of values: **Assets** are resources owned by or owed to the business such as livestock, equipment, real estate, and notes receivable.

Current Assets are cash and items that can be converted to cash with little loss in value. Current assets include cash, savings and time deposits, marketable securities, short-term notes receivable, and inventories expected to be turned over in the operating year such as feeder livestock, grain, supplies, prepaid expenses, and cash invested in growing crops.

Non-Current Assets represent the breeding livestock, equipment, machinery, buildings and real estate of the business. Non-current assets may be grouped according to their economic life, such as intermediate (2 to 10 years) and long-term (more than 10 years).

Total Assets equals the sum of the business and non-business assets listed on the balance sheet.

Balance Sheet Liabilities

The liability side of the balance sheet will include the following type of values: **Liabilities** refers to debts owed by the business.

Current Liabilities are those liabilities that will come due within 1 year. Included are principal payments on current loans, the portion of principal payments on non-current liabilities due within the current year, accounts payable, accrued interest, taxes, rents and leases.

Non-Current Liabilities are liabilities that will come due more than 1 year in the future. They include the principal balance of real estate and non-real estate loans and the non-current portion of deferred taxes.

Deferred Taxes are contingent income tax liabilities that would be realized if all the farm assets were liquidated. Deferred taxes are separated into current and non-current portions.

Total Liabilities equals the sum of all liabilities (debt) listed on the balance sheet. Retained Earnings is a measure of the real growth in the business and is equal to the change in net worth adjusted for inflation, or deflation, in asset values.

Owner Equity, or **Net** Worth, is the difference between total assets and total liabilities. This value indicates the dollar amount actually owned by the owner, and thus, represents the capital base available to handle adversity.

Economic and Other Terms

Economic Analysis considers the opportunity cost of equity capital and owned land in the calculation of costs. The analysis is a guide to finding the optimal use of resources for generating the highest net income possible for the business.

Economic Cost includes the opportunity costs charged for owned land (e.g., what it could be leased for) and owner equity capital (e.g., a 3-month treasury bill rate) in addition to financial costs. Opportunity cost represents the return that could be received for a resource in its next best use.

Family Living Withdrawals are cash withdrawals paid by the business to cover family living expenses. In the context of the farming operation, family living withdrawals can be viewed as compensation for the owner/operator's management and labor. Actual withdrawals in excess of the amount needed to cover family living expense must be considered capital distributions in order to reconcile the retained earnings and statement of cash flows. Family living withdrawals, as compensation for the owner/operator's labor and management, are used to calculate the cost of production, return on assets, return on equity, and repayment capacity.

Financial Efficiency is a measure of how efficiently farm assets are being used to generate revenue. The operational ratios are also used to measure efficiency.

Financial Statements provide accounting information regarding the financial position, net farm income, and net cash flow of the business. The balance sheet, income statement, statement of owner equity, and statement of cash flows comprise the basic set of financial statements.

Opportunity Cost is the income that could have been received if a resource had been used in its most profitable alternative use. The opportunity costs for long-term resources such as land, buildings and equipment are often difficult to estimate. One common method of estimating the opportunity cost for long-term assets is to apply to the value of the asset an interest rate that represents the cost of borrowed capital or the return on savings accounts. For owned land, another common method is to use a rental rate.

Savings and Consumption Margin is the after-tax income available for savings and consumption withdrawals or distributions. If withdrawals for family expenses and distributions exceed the savings and consumption margin, then equity will decline if not offset by a change in valuation of assets.

References James M. McGrann, John Parker, Nicole Michalke, Shannon Neibergs, and Jeffrey A. Stone. *Glossary of Financial, Marketing, and Tillage Terms*; Crop SPA-10. December, 1996. Larry N. Langemeier, Rodney Jones, Fred D. DeLano, Terry L. Kastens, G.A. (Art) Barnaby, Jr. *Important Farm Business Terms Defined*; October, 1997