Financial and Credit Analysis of Farm Businesses

A Self-Study Course for Finance Professionals

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Preface

Sound analysis of the current and future financial performance of a farm business requires an understanding of the business climate faced by the firm and the industry, within the context of the operating and financial characteristics (risks and returns) of the business. From a lender's perspective this assessment of the business climate and financial characteristics must be combined with the underwriting policies and procedures of the financial institution to properly evaluate the creditworthiness of an individual agricultural credit and the risk exposure in the portfolio.

Farm financial performance assessment is the focus of this educational program, which is divided into four sections.

- Section I provides an overview of the agricultural production sector and the financial institutions and financing arrangements used by the sector.
- Section II focuses on financial analysis and documentation of the financial performance of farm businesses by emphasizing the unique problems of assessing risk, returns, and repayment of farm businesses with standard documents and information sources used in the industry.
- Section III emphasizes the critical considerations in capital investment and business organization decisions, including the different leasing arrangements used by farmers.
- Section IV offers the perspective of the lender as he or she attempts to structure a loan arrangement to match the customer's needs and the financial institutions policies and procedures, to assess the risk of specific credits, and to price a loan.

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Chapter 1

Overview of Agriculture

INTRODUCTION

This chapter provides a basic description of production agriculture. The first section provides an overview of the trends in production agriculture. The second section discusses some key farm enterprises and includes a profile of cash crop operations, livestock production, and dairy operations. The section also discusses the resources, trends, seasonality, key risks, and production statistics of each key enterprise. (Not all enterprises are included in this summary.)

The chapter provides readers with basic information regarding the agriculture industry and acts as an informational piece for those with limited knowledge of the industry. For those familiar with the agriculture industry, this chapter should be an optional review.

OBJECTIVES

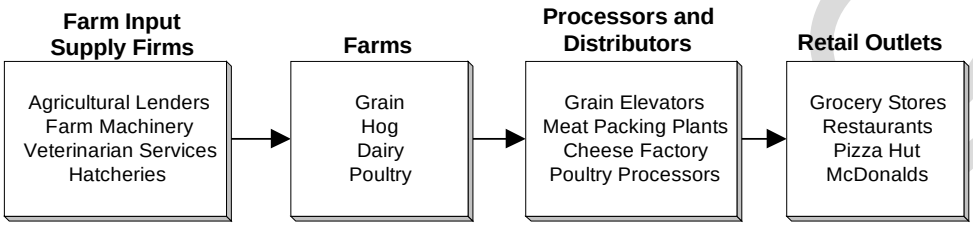
The objectives of this chapter are to:

1. Describe long-term trends in agriculture.
2. Identify and describe the characteristics of firms based on USDA farm typology data.
3. Identify and describe some of the major agricultural enterprises—cash crop operations, livestock production, and dairy operations.

LONG-TERM TRENDS IN AGRICULTURE

Agriculture is a diverse industry that includes many different enterprises devoted to the production of food and fiber. It may be useful to think of agriculture as a continuum that runs from farm input supply firms to retail food outlets—a value chain. Farm input supply firms provide many of the inputs used in the farm production process. The output from the farm is transferred to processors and distributors who in turn supply a variety of retail outlets. Examples of the agricultural value chains are illustrated in Figure 1.

Figure 1—The Agribusiness Complex



While lenders finance many different aspects of the agribusiness complex, our focus is on farms. The purpose of this chapter is to review some of the key characteristics of production agriculture, identify long-term trends affecting the structure of agriculture, and examine implications of these changes for the lenders who serve production agriculture.

Chapter 2

The New Agriculture

INTRODUCTION

The U.S. food production and distribution industry is in the midst of major structural changes—changes in product characteristics, in worldwide production and consumption, in technology, in size of operation, in geographic location. And the pace of change seems to be increasing. Production is changing from an industry dominated by family-based, small-scale, relatively independent firms to one of larger firms that are more tightly aligned across the production and distribution value chain. Food retailing is increasingly more customer responsive, more service focused and more global in ownership. And the input supply and product processing sectors are becoming more consolidated, more concentrated, more integrated. These structural changes must be understood to participate in and lend to the agriculture of the future.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the major structural changes that farm businesses will face in the future.
2. Describe the characteristics of the agriculture of the future.
3. Identify unanticipated events that may dramatically alter the trends to an increasingly industrialized agriculture.

DRIVERS OF CHANGE

There are a number of drivers of and contributors to these changes, including pressures from consumers and end-use markets; increasing competition from global market participants; economies of size and scope in production and distribution; risk mitigation and management strategies of buyers and suppliers; changes in government policy and regulation of the agricultural industries; strategic positioning and market power/control strategies of individual businesses; and public and private sector R&D, information and technology transfer policies. These changes have significant implications for both the successful management of the farm and the financing of farm businesses. These changes and resulting complications are the focal point of the following discussion.

Changes in the structure of an industry or sector are typically dimensioned in terms of size, financial characteristics, resource ownership, technology and similar attributes. But the most dramatic changes occurring in agriculture might best be described in terms of changes in the business climate and in the ways of doing business. We identify here some of the most significant changes in business climate and ways of doing business for the production sector not to endorse or promote them, but simply to catalog our best assessment of how farming and production agriculture may evolve in the near future.

Chapter 3

Types of Credit

INTRODUCTION

The successful operation of a farm or ranch requires the acquisition and effective use of land, labor, machinery, operating inputs, and other tangible resources. Credit is an additional resource that may be used by farmers and ranchers. Credit is a financial resource that can be used to acquire control of physical resources for use in agricultural production.

Credit can be classified in several ways. Only credit that is related to the business entity is discussed in this chapter, personal credit is not discussed. Personal credit is, however, an integral part of assessing the creditworthiness of an agricultural business entity.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the types of credit that agricultural businesses may use.
2. Describe issues that may arise when certain types of debt are used inappropriately.
3. Identify various credit enhancement techniques.

TYPES OF AGRICULTURAL CREDIT

Agricultural credit can be classified in a number of ways. The most common classifications are either the: 1) intended use of the borrowed funds (operating loans, inventory loans, equipment loans, real estate loans, etc.), 2) timing of repayment—short, intermediate, and long term, or 3) primary repayment source (either from the sale of assets financed or from earnings of the operation).

In reality, none of these classification methods are sufficiently inclusive to correctly capture all the variations that can and do occur in loans extended to agricultural producers. For purposes of the discussion in the remainder of this section, we will describe several common types of agricultural loans grouped first by primary repayment source and then by intended use (Table 1).

Table 1—Types of Agricultural Loans

Loan Type	Repayment Repaid with Sale of Assets	Repayment Repaid with Earnings
Operating	Yes	
Inventory	Yes	
Working Capital		Yes
Breeding Livestock		Yes
Equipment		Yes
Facilities		Yes
Real Estate		Yes

For each of the loan types, we will provide a brief description of commonly found characteristics relating to maturity, payment frequency, disbursement timing, amortization methods, and other factors.

Chapter 4

Financial Institutions Serving Agriculture

INTRODUCTION

Agricultural producers borrow from a wide variety of lending sources. Often a borrower will obtain loans from more than one source. For example, a producer may have an operating loan with a commercial bank and a real estate loan with the Farm Credit System. Understanding the goals, motivations, and regulatory environment under which lenders operate is advantageous for borrowers as well as personnel in competing lending institutions.

The financial institutions that serve agriculture are in a constant state of change, since the nation's regulatory environment has a tremendous impact on their actions. Recent trends in the regulatory environment have altered the nature of these financial institutions. Input suppliers and other nontraditional sources are now more likely than in the past to provide financial services to agricultural entities. Recognizing these changes and trends can help both borrowers and lenders better understand the environment in which they operate.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the different financial institutions serving agriculture.
2. Detail the specific characteristics unique to each financial institution.

THE FARM CREDIT SYSTEM

The Farm Credit System (FCS) is a network of borrower-owned cooperative lending institutions and related service organizations. These institutions specialize in providing credit and related services to farmers, ranchers, commercial fisherman, rural homeowners, and agricultural cooperatives. The FCS provides real estate loans, operating loans, leasing services, home mortgage loans, crop insurance, export financing, and other financial services. As of 2013, FCS provided $201.06 billion in loans to almost 500,000 borrowers. Approximately 69.4% of all funds lent by the FCS were borrowed by agricultural producers.

History

The FCS was established in 1916 to provide agriculture with a dependable source of credit. The adoption of the cooperative credit structure created 12 Federal Land Banks (FLBs). The Agricultural Credit Act of 1923 added 12 Federal Intermediate Credit Banks (FICBs) to help relieve the severe shortage of short-term credit available to farmers. The adoption of three major agricultural laws between 1929 and 1933—Agricultural Marketing Act of 1929, Emergency Farm Mortgage Act, and Farm Credit Act—led to the reorganization of the FCS. These laws helped finance the development of agricultural cooperatives, recapitalize the land banks and cut interest rates, and reform the FICBs and establish a new production credit system by creating local Production Credit Associations (PCAs) and 13 Banks for

Chapter 5

Financial Statements as a System

INTRODUCTION

Just as a puzzle has many pieces, there are many facets to a borrower's financial position and performance. Financial statements are the tools needed to organize and interpret financial data assembled by borrowers. The goal of this chapter is to show how financial statements, as a system, reveal the financial position and operational performance of the farm, on both a historical and a projected basis. It provides finance professionals with a framework for analysis and evaluation of financial statements and related data provided by borrowers. This chapter, therefore, lays the groundwork for the remaining chapters in this section, which will provide a detailed understanding of each of the financial statements introduced in this chapter.

OBJECTIVES

The general objective of this chapter is to define a farm business as a system of funds flow and introduce financial statements as a method for understanding financial performance. Specific objectives are to:

1. Define a farm business as a system of funds flow.
2. Introduce the four basic financial statements:
   - Balance sheet
   - Income statement
   - Statement of cash flows
   - Statement of owner equity
3. Show how the statements can fit together as a system for summarizing a borrower's financial position and performance—on a historical and a projected basis.

MODELING A BUSINESS AS A SYSTEM OF FUNDS FLOW

There are many ways to conceptualize a business operation. A useful approach is to view a business as a series of funds flow for profit, based on management decisions. Financial statements can be used to evaluate management decisions and performance in three broad areas: 1) the investment of resources, 2) the operations of the business with these resources, and 3) the proper mix of financing.

Investment Flows

A farmer faces two broad areas of investment decisions:

1. The categories of assets in which to invest and the specific assets to be held. For example, what mix of land, equipment, livestock, and other inventory is most desirable?

Chapter 6

The Balance Sheet

INTRODUCTION

The balance sheet is the cornerstone of the financial statements necessary to accurately analyze a business's or individual's financial position and performance. The balance sheet provides a picture of the financial position of a business or individual at a given point in time. Since this financial position results from the cumulative effect of past investments, operations, and financing decisions, the data provided by the balance sheet is an integral part of the process of financial analysis.

Historically, the balance sheet has been used as the primary financial statement by the majority of agricultural lenders. Many lenders are more familiar with the balance sheet than with any of the other financial statements. However, this familiarity comes primarily from using the balance sheet as an indicator of net worth and/or collateral value, rather than as a component of the system of financial statements.

OBJECTIVES

The goal of this chapter is to define the balance sheet and to provide an understanding of how a balance sheet is constructed. Specific objectives are to:

1. Describe the structure and components of a balance sheet.
2. Explain the two major methods of balance sheet presentation.
3. Present guidelines for preparing a balance sheet.

OVERVIEW OF THE BALANCE SHEET

A balance sheet describes the financial position of an entity (business or individual) at a specific point in time. It is, therefore, a status report, rather than a funds flow statement like the income statement and statement of cash flows.

As a starting point in evaluating a balance sheet, it is important to identify several important features including:

1. The entity for which the balance sheet is constructed.
2. The date of the balance sheet.
3. The method used to value assets and liabilities.
4. Cash versus accrual balance sheets.

The entity for which the balance sheet is constructed influences the kinds of assets and liabilities included in the balance sheet. Three different entities might be considered: (1) a business, (2) individual or family, and (3) a combined that includes both business and individual or family assets and liabilities. If the balance sheet is constructed for a business, then only business assets and liabilities should be included. If the balance sheet is a combined balance sheet then both business and personal assets should be included. Understanding which entity is reflected by the balance sheet is essential for proper financial analysis.

Chapter 7
The Income Statement

INTRODUCTION

Chapter 6 described the balance sheet, a financial statement that indicates the financial position and solvency of the farm business at a particular moment in time. This chapter describes the income statement, a financial statement that summarizes the results of operations for a period of time. It is, therefore, a flow report as contrasted to the balance sheet which is a status report.

As mentioned in Chapter 6, lenders historically relied on the balance sheet as the primary financial statement to determine creditworthiness. However, lender emphasis in recent years has shifted away from equity to the amount of earning (and repayment) capacity exhibited by the borrower. This analysis is virtually impossible to conduct without an income statement. Therefore, the income statement has become a major component of credit analysis. Knowledge of the format and composition of the statement is critical to a loan officer's mastery of the analysis process.

OBJECTIVES

The goal of this chapter is to define and illustrate the income statement as a component of the system of financial statements. Specific objectives are to:

1. Describe the structure and components of an income statement.
2. Explain the concept of accrual accounting.
3. Present recommended procedures for preparing an income statement.

OVERVIEW OF THE INCOME STATEMENT

The income statement focuses on the "earning activities" of the farm business and reports the nature and magnitude of those activities for a specified period of time. Essentially, this report consists of two sections. One section reports the inflows resulting from the sale of products and services; these amounts are called revenues. The other section reports the outflows that were made to generate these revenues; these amounts are called expenses. Income is the amount by which revenues exceed expenses. Since the word "income" is often used with various qualifying adjectives (income before taxes, net farm income, gross income, etc.), the term net income is used to refer to the excess of total revenues over total expenses. If total expenses exceed total revenues, the difference is a net loss.

The income statement reports net income for a given period of time, usually one year. The income statement shows in detail the items that cause a change in one balance sheet item—retained earnings.

Chapter 8
The Statement of Cash Flows and Cash Flow Budget

INTRODUCTION

This chapter analyzes the most recent addition to the set of financial statements required by the accounting profession. Even though statements of funds flows have been used by business managers for many years, changes in reporting requirements have continued over time. In 1963, public companies listed on major stock exchanges were first required to provide such information. In 1971, the accounting profession determined that statements of funds flows must appear in accordance with Generally Accepted Accounting Principles (GAAP). It was in the pronouncement of this decision that the funds statement was formally named Statement of Changes in Financial Position (SCFP).

There was ongoing debate, however, about whether the SCFP should be modified to more directly relate to the change in cash position of an entity. After seven years of research, study, and debate about improving this statement, the accounting profession made a historic change in July 1988. With the issuance of FAS Statement 95, the Financial Accounting Standards required that a Statement of Cash Flows (instead of a Statement of Changes in Financial Position) be included in the required set of financial statements.

The Statement of Cash Flows (SCF) format is also endorsed by FFSC. The SCF will become more commonly used and reported by agricultural borrowers. With a basic understanding of the SCF, the lender can utilize this tool to obtain substantial insight into the financial position of the borrower.

OBJECTIVES

This chapter will demonstrate how the SCF can aid the loan officer in making credit decisions. The (projected) cash flow budget will also be illustrated. The specific objectives are to:

1. Discuss the basic format and components of the SCF.
2. Describe the concepts underlying the preparation and presentation of the SCF.
3. Analyze the two major SCF formats and describe the strengths and weaknesses of each.
4. Describe and analyze a cash flow budget.

OVERVIEW OF THE SCF

The role of the SCF in the system of financial statements is similar to that of the income statement—both are flow statements. While the balance sheet provides a "snapshot" view of a borrower's funds at a point in time, a flow statement identifies the changes that have occurred in a balance sheet account or group of accounts during the period of time between two balance sheet dates. The income statement explains changes that occurred in the retained earnings (owner equity) account due to operations by summarizing the increases (revenues) and decreases (expenses) during the accounting period.

Chapter 9

The Statement of Owner Equity and Repayment Capacity

INTRODUCTION

Chapter 6 described the balance sheet while Chapter 7 described the accrual-based income statement. It was shown in Chapter 7 that income can be used to support withdrawals as unpaid labor, pay debts and acquire capital assets for the business. This chapter begins by describing the Statement of Owner Equity (SOE), a statement that reconciles the change in owner equity from the beginning and ending balance sheets to the intervening income statement. If the statements do not reconcile, it indicates an error in one or more of the financial statements.

This chapter also describes the calculation of capital replacement and term debt repayment. This calculation allows one to examine the ability of the borrower to support the level of debt in the business. It is an accrual-based measure of repayment capacity that differs from the cash-based measures described in Chapter 8. Repayment capacity is one of the most important measures in effective loan analysis.

OBJECTIVES

The objectives of this chapter are to:

1. Describe the statement of owner equity and explain how it can be used to reconcile two balance sheets and the intervening income statement.
2. Demonstrate the calculation of repayment capacity and show how it can be used to evaluate the ability of borrowers to repay loans.
3. Show the linkages between the repayment capacity and other measures of financial performance.

A NOTE ON TERMINOLOGY

As discussed in Chapter 6, a balance sheet is divided into three major sections—assets, liabilities, and net worth. The final section, which represents the amount by which the value of assets exceeds the value of liabilities, represents the net ownership capital attributable to the owner(s) of the business. This section (and the resulting value) is referred to as net worth, owner equity, partner capital, or member capital. All of these terms are used interchangeably, which can cause confusion. Technically, the accounting profession differentiates the terms based on the type of entity represented by the financial statements.

Net Worth	Used primarily for personal financial statements as well as occasionally for financial statements of a sole proprietorship.
Owner Capital	Used for sole proprietorship financial statements.
Owner Equity	Used for corporate financial statements.
Partner Capital	Used for partnership financial statements.
Member Capital	Used for LLC financial statements.

Chapter 10

Financial Statement Analysis

INTRODUCTION

Previous chapters introduced the important financial statements used in agricultural lending. The lender needs to analyze the data contained in those statements to reach an appropriate credit decision. That analytical process is described in this chapter.

Several financial statements are used in analyzing the borrower's financial position. To facilitate the lender's task, the data on these statements is typically summarized into standard measures of financial performance. This chapter will define these measures, as well as illustrate the actual analysis procedure.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the various dimensions of financial analysis.
2. Define the key measures used to analyze financial performance.
3. Illustrate how financial performance measures vary by selected producer characteristics.

DIMENSIONS OF FINANCIAL ANALYSIS

Analysis of a borrower's financial situation is performed in relation to a time dimension and standards for comparison. Each data item must relate to the borrower's financial performance or position during one of three possible time periods: past, present or future. Comparisons are needed to evaluate whether a particular value on a financial statement suggests a problem or indicates financial success. In a year of adversity, for example, a 2% rate of return might indicate a financially efficient operation. Conversely, that same 2% rate of return would be a sign of poor management in years when similar farm operations were generating returns of 5 or 6%.

Four standards of comparison may be used to evaluate financial data:

1. Business performance relative to an industry norm.
2. Current performance relative to past performance for the same firm.
3. Current performance relative to projected performance.
4. Current performance relative to goals.

Chapter 11

Working with Incomplete Information

INTRODUCTION

The standard for financial information necessary for a credit officer to reach complete and accurate conclusions on the financial position, progress, and repayment capacity of a borrower is encompassed in the published recommendations of the Farm Financial Standards Council (FFSC). However, the vast majority of agricultural credit decisions are made with less than the complete financial information recommended by the FFSC and identified in Chapter 5.

Do those credit decisions represent high-risk loans or ill-advised additions to a portfolio? Not necessarily. Assessing financial position and progress is only a part of the process to analyze the creditworthiness of a particular request for borrowed funds—others include history of dealing with a customer, overall collateral and equity position, purpose of requested loan, term and conditions of repayment, etc. In many cases, especially for smaller loans, institutional policy will deem it unnecessary to require complete, articulated financial statements as a basis for the loan decision.

OBJECTIVES

The objectives of this chapter are to:

1. Define a range of alternative data sources that can be utilized when complete financial statements are unavailable.
2. Identify the types of financial analysis that can be performed when using incomplete information.
3. Highlight the weaknesses of using incomplete information as the basis for financial analysis.

DEFINING COMPLETE AND INCOMPLETE INFORMATION

The definition of complete information would be:

1. A complete set of financial statements (prepared in accordance with GAAP if accountant prepared or in compliance with the recommendations of the FFSC if borrower prepared) for the last three years that would include:
   - Balance sheets as of the beginning and end of the year, with capital asset information provided on a cost and market value basis and with footnote disclosure as appropriate.
   - Accrual (or accrual adjusted) income statement for the period defined by the balance sheets.
   - Statement of cash flows and statement of owner equity for the period defined by the balance sheets.

Chapter 12

Integrated Production Units

INTRODUCTION

The structure of agricultural production is rapidly changing from a system that contained mostly independent producers to one in which coordination and integration among input supply firms, producers, and processors are more common. Some segments of the agricultural sector have moved toward an integrated system of production much more rapidly than others. For example, contract production of hogs has expanded sharply, while contract production of milk has moved more slowly.

Integration often entails a move to larger sized units and increases the industrialization of agricultural production. An industrialized agriculture creates different types of risks and financing needs than the traditional independent production system. This chapter focuses on the changing nature of agricultural production and how lenders can evaluate and respond to the risks and financing needs of producers involved in this evolving structural change.

OBJECTIVES

The objectives of this chapter are to:

1. Identify various forms and methods of integration occurring in agricultural production.
2. Examine how financial performance measures can be used for evaluating integrated producers.
3. Explain the non-financial measures associated with integrated production.

FORMS OF INTEGRATION

In order to understand the types of integration occurring in agricultural production it is useful to first define some terms. An economic stage of production is defined as an activity capable of producing a saleable product or service. For example, producing feeder pigs would be considered a stage of production since the piglets can be sold. Likewise the production of market hogs is considered a stage of production since it results in a saleable product. Vertical integration is defined as combining two or more economic stages of production under the administration or control of one firm. In contrast, horizontal integration is the integration and coordination of two or more firms that operate within the same economic stage of production. Examples are given on the following page.

This chapter draws heavily on material in two articles by Michael Boehlje and David Lins: "Lending to Integrated Agricultural Production Firms: Part I and Part II." Journal of Agricultural Lending, Vol. 9, Issue #2 and Vol. 9 Issue #3.

Chapter 13

Capital Budgeting and Time Value of Money

INTRODUCTION

Decisions regarding the investment of capital are critical to the financial success or failure of any business. These decisions are especially important in agriculture since farms are often described as "capital intensive" businesses. Capital used in the agricultural production process includes farm and ranch land, machinery and equipment, buildings, fences, operating inputs (such as seed, fertilizer, pesticides, herbicides etc.), inventories, livestock and the cash needed for the ongoing operations of the business. The objective of capital budgeting is to allocate capital to those assets that generate the highest returns above costs, taking into account the risks associated with making those investments.

In evaluating the costs and returns for an investment, it is important to compare "apples to apples" rather than "apples to oranges." For example, suppose you have the opportunity to invest $10,000 today and this investment will return $4,000 at the end of each of the next three years. Alternatively, you could invest the same $10,000 and earn $6,000 at the end of each of the next two years. Which investment would you prefer? Both investments return $2,000 above the cost of making the investment. So are these two investments equal? Most people immediately recognize that the second investment is better because the returns are received quicker. In other words, there is a "time value to money." A dollar today is worth more than a dollar in the future. Thus to compare dollar denominated investments where cash flows differ across time, we must account for the time value of money. This process is known as computing the net present value of future cash flows.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the mechanics of time value of money calculations.
2. Demonstrate the use of net present value analysis.
3. Illustrate applications of time value of money and net present value analysis to real world problems.

TIME VALUE OF MONEY: THE IDEA

Suppose you are offered $1,000 today, or alternatively $1,000 one year from today. Which alternative would you take? This is a "no-brainer!" Everyone would take the money today. But let's explore the reasons why.

Inflation

Most economies of the world have positive rates of inflation. Thus, a dollar received today can buy more goods and services than a dollar received at a future date. To avoid a loss in purchasing power, most people would take the money today.

Chapter 14
Agricultural Leasing

INTRODUCTION

Leasing assets is an important part of the overall production and financial management process in agriculture. Farmers and ranchers often lease land and buildings and to a lesser extent machinery and livestock as an alternative to buying capital assets. Many different types of leasing arrangements are present and understanding these different types of leasing arrangements is important not only to landlords and tenants, but also to lenders, inputs suppliers and processors and distributors.

A lease involves two parties—the owner of the asset (called the lessor) and the user of the asset (called the lessee). The lessor can be landowners, financial institutions, leasing companies, or machinery manufactures. We begin this chapter by identifying the various types of leasing arrangements in agriculture. We then shift to the advantages and disadvantages of leasing, discuss the tax and accounting rules surrounding financial leasing, and end with some examples of how to use net present value analysis to determine the financial advantages of leasing versus purchasing of capital assets.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the types of leases important in agriculture and to explain the key characteristics of these leases.
2. Explain the advantages and disadvantages of leasing.
3. Illustrate the tax and accounting rules for financial leases.
4. Compare lease versus purchase options using net present value analysis.

TYPES OF LEASES

There are two major categories of leases—operating leases and financial leases. Operating leases are short-term contracts, normally for 1 year or less. Common examples in agriculture are the leasing of cropland, pastureland, and farm machinery and equipment. Under the terms of the operating lease, the lessor is normally responsible for payment of property taxes if any, plus any repair expenses on the equipment. In contrast, a financial lease (also sometimes called a capital lease or a full-payout lease) is a longer-term contract that often extends for a significant portion of the expected useful life of the asset. Signing a financial lease is very similar, but not identical, to borrowing money for the purchase of a capital asset. While the primary focus of this chapter is on financial leases, the following section describes the primary types of operating leases associated with the control of land and other agricultural assets.

Chapter 15

Business and Asset Valuation

INTRODUCTION

Valuation of assets is important to lenders for several reasons. First, if a potential borrower pays too much to acquire an asset, then the potential for loan default increases. Lenders may reject a loan if the asset being acquired with borrowed funds is mispriced. Second, collateral is often considered a secondary source of repayment if the borrower defaults on the loan. Knowing the appropriate value of collateral can help assure that this source of repayment exists even in adverse circumstances. Third, borrowers may ask their lender for opinions about the value of assets. Demonstrating knowledge in these matters may help solidify borrower relations. For all of these reasons, lenders need to understand the appropriate methods of valuing either an entire business or selected assets used in that business.

Techniques for valuing assets vary widely. For agricultural assets that are traded on a daily basis, market prices provide clear signals of the value of assets. For example, the current prices of corn, wheat, cotton and other agricultural commodities can be readily observed in the marketplace. However, some assets like agricultural land, specialized hog facilities, cold storage sheds, and other forms of specialized agricultural assets are traded in the marketplace less frequently. Readily observed market prices may not be available in these cases. And when an entire business is sold, the value of that business may entail much more than the physical assets of the business.

OBJECTIVES

The objectives of this chapter are to:

1. Identify the techniques for valuation of specialized business assets.
2. Document the approaches to valuing entire businesses.
3. Illustrate the importance of valuation in lending situations.

VALUING SPECIALIZED BUSINESS ASSETS

There are many types of specialized business assets used in the farm production sector. Examples include agricultural land, machinery, and buildings. Unlike commodities, there may be no regularly quoted price for these assets. Rather, the potential buyer may be given an offer price—but with the full expectation that there will be some negotiation surrounding the eventual purchase price of the asset. For example, in most cases the buyer of agricultural land does not pay the full asking price for the land. Likewise, it is not uncommon to negotiate the purchase price of machinery and or buildings. In some cases, the buyer may be asked to "make an offer" on the asset to be acquired. In these cases, it is essential that correct procedures for determining an appropriate value are followed.

Since the main specialized asset used in agricultural production is farmland, our focus here is on that asset. The "fair market value" of farmland is determined through an appraisal of that land. Fair market value is defined as the price agreed upon between a willing buyer and a willing seller, with neither being under abnormal pressure to complete the transaction.

Chapter 16

Business Entities

INTRODUCTION

Like many commercial businesses, agricultural borrowers utilize many different types of legal organizations. The charts below illustrate the proportions of each type of business organization by number and by farm product sales in 2012. One can see that the vast majority of farm borrowers are organized as Family and Individual business organizations, which includes sole proprietorships. However, other types of entities, such as general and limited partnerships and corporations, are also encountered in lending to agricultural businesses. While these other types of entities represented just under 14% of organizations in 2012, they tended to be much larger businesses, accounting for roughly half of total sales of farm products. There are two other things to point out regarding these charts. First, limited liability companies (LLCs) give its owners the option to file the organization's taxes as sole proprietorships, partnerships, or corporations, meaning that LLCs are merged into the above categories instead of being reported separately. Secondly, the nonfamily corporations, or corporations where nonrelated persons own a majority of the organization, are included in the other category along with entities such as estates and trusts.

A business's choice of legal organization is a very significant decision because of its tax and liability implications. It is also important to understand that one farm business can be comprised of several entities, all organized differently, which is why a credit provider should have an understanding of the key characteristics of each of type of business organization.

Figure 1—Farms by Business Organization

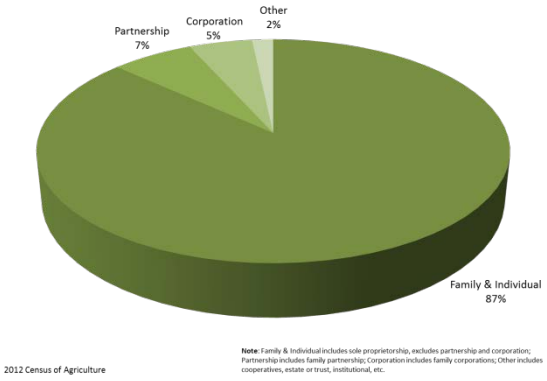
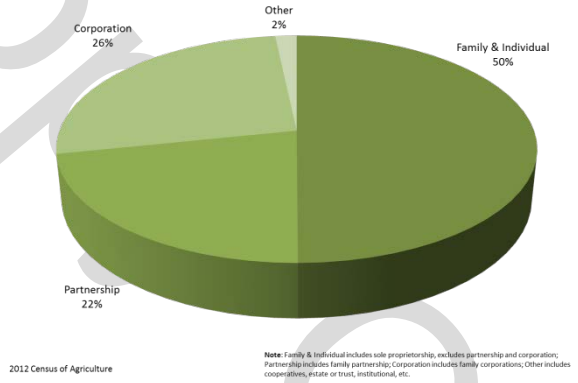


Figure 2—Farms Product Sales by Business Organization



OBJECTIVES

The objectives of this chapter are to:

1. Describe the basic farm business organization alternatives.
2. Emphasize those aspects of each form of business organization particularly important to the lender.
3. For each type of business organization, this chapter will (1) describe their management structure and decision-making processes, (2) discuss limitations on their access to credit, (3) contrast the liability risks inherent in each, (4) note the differing impacts of tax laws, and (5) observe how the business may continue into succeeding generations.

Chapter 17

Loan Structuring Issues

INTRODUCTION

Loan structuring is a process of specifying the terms of the loan (amount, interest rate, schedule of advances and payments, covenants, collateral, etc.) to meet the borrower's needs, and at the same time matching the lender's requirements in terms of expected return, risk and liquidity/maturity.

Structuring either a simple single loan or a complex package of multiple types of loans is both a science and an art. The scientific part is relatively clear—development of factual information and analysis of that information using theoretically sound techniques. The artistic part is less clear. Based on analysis of facts and the credit underwriting standards of the lender, the loan must be structured so that it complies with lender standards and meets the borrower's needs.

OBJECTIVES

The objectives of this chapter are to:

1. Define loan structuring.
2. Discuss the general components that make up the structure of a loan.
3. Outline the fundamental issues to be considered when structuring loans.

DEFINITION

Loan Structuring is the process of combining loan amount, interest rate, schedules for advance and repayment of funds, maturity or expiration dates, loan agreement covenants, collateral, and/or third party enhancements in such a manner as to both satisfy the credit needs of a borrower and conform to the credit underwriting standards of the lender.

TASKS OF LOAN STRUCTURING

Properly structuring a loan involves seven critical tasks; identifying the borrower, scheduling funds advances, specifying the interest rate, setting the repayment schedule, determining appropriate collateral, specifying guarantee and other third party enhancements, and specifying covenants. Each of these tasks will be discussed in turn.

Identify the Borrower

The first task in loan structuring is to identify the borrower. The party or parties undertaking the primary obligation for repayment of a loan should be the owners and operators of the business assets which generate the repayment capacity and margin. To the extent such capacity and margins are dependent on the business assets and net income from more than one person/entity, it may be appropriate to structure the loan with multiple borrowers.

As discussed in Chapter 16, for most agricultural operations, the legal form of the business will be one or a combination of the following:

Chapter 18

Risk Analysis and Credit Risk Assessment

INTRODUCTION

Commercial lenders face several types of risk, ranging from interest rate to liquidity to credit risk. Credit risk is the probability of loan default resulting from the financial impact of the risk that borrowers face. Acceptance of this credit risk is one of the fundamental functions of lenders and is one of the most significant sources of risk for agricultural lending. To manage and reduce effectively the credit risk that lenders face in their agricultural loan portfolio, they must assess the risk their agricultural borrowers face with respect to individual loans, and the impacts of risk in the agricultural sector on their agricultural loan portfolio.

OBJECTIVES

The objectives of this chapter are to:

1. Introduce the general concepts of assessing credit risk from a financial institution's perspective.
2. Discuss the application of individual borrower credit risk assessment in agriculture.

RISK ANALYSIS OVERVIEW

Commercial lenders provide debt financing to a vast array of entities from large corporations wanting to finance construction of a factory to an individual borrowing money for a car. The source of credit risk and the manner in which it is assessed at the borrower level depends greatly on the type of loan for which funds will be granted. Large corporations requesting commercial and industrial loans are usually publicly traded and have extensive information disclosure. Market analysts often assess the company's risk position, or professional agencies provide risk ratings for these companies. For large commercial and industrial loans, portfolio models are often applied to assessing the credit risk, and credit scoring models are sometimes used. There generally is less information available at the company level for small business lending. Either information is difficult to obtain or not standardized. Small business lending relies heavily on the lender-borrower relationship, monitoring, collateral and covenants, but credit-scoring models are used increasingly in assessing creditworthiness. While commercial real estate loans often use cash flow projections and collateral to approve a loan, residential real estate loans use financial information, collateral, and credit scoring models to a greater extent. Informational problems with consumer loans are not big impediments in credit risk assessment due to the data available from credit bureaus. Assessing consumer creditworthiness relies heavily on demographic variables and credit scoring models.

The evaluation of credit risk at the borrower level includes borrower and market-specific factors. Borrower factors encompass both subjective and objective or quantitative facets of the borrower profile. Subjective factors include borrower character and reputation, and long-range plans (in the case of a business loan). Factors that can be quantitatively measured include collateral, leverage, and financial performance. Market-specific factors can also

Chapter 19

Loan Pricing and Customer Profitability Analysis

INTRODUCTION

Effective loan pricing is an important factor in determining a financial institution's profitability and shareholder value. Pricing objectives and policies should be established to meet the institution's overall strategic and marketing objectives. The pricing policy of a loan or credit facility determines an institution's current and future lending volume and the profit it makes. The price of a loan should be set at a level that adequately compensates the financial institution for the costs and risks of delivering the loan to the customer. However, the price of the loan or credit facility must also be set at a level that gives value to a customer. Furthermore, the pricing policies need to be responsive to the increasing competitive pressures in agricultural financial markets.

In establishing and implementing loan pricing policies and objectives, the financial institution needs to determine the different loan products that will be offered to customers. Similar to nonfinancial firms, the different types of products in a product line will not likely be priced the same. A fundamental issue to address in loan pricing policy relates to differentially pricing borrowers or types of loans. Will each loan be individually priced? How many loan products will the institution offer? Will the institution charge all borrowers of a specific product the same rate? If not, what criteria will be used to price loans? What impact does differentially pricing loans have on customer relationships? These are some of the issues that must be considered in the implementation of the loan pricing program.

OBJECTIVES

The objectives of this chapter are to:

1. Provide a systematic cost-based framework for the loan pricing process and illustrate loan pricing examples.
2. Discuss the methodology and computations of customer profitability analysis.

The pricing of loans is a complex and often subjective process. In pricing a loan, a lender must consider the administrative costs of the institution, costs of funding and processing the loan, risk-bearing costs, competition and customer relationships. An overview of the loan pricing process is provided in Figure 1.