Construction Accounting and Financial Management

STEVEN J. PETERSON

FOURTH EDITION

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Steven J. Peterson, MBA, PE
Weber State University

Pearson

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Preface

Several years ago I was asked to teach a course on construction accounting and finance. The course was to cover the fundamental principles needed by construction managers to successfully manage the finances of construction companies. In preparing to teach this course I found that these principles were scattered among many disciplines, including business management, engineering economics, accounting, estimating, project management, and scheduling. After I reviewed the available textbooks, two things were apparent. First, the material was often presented in a generic fashion and failed to address how the principles applied to the construction industry. For example, in most accounting textbooks only a few pages were devoted to the accounting procedures for long-term contracts, which comprise a bulk of the projects for general construction companies. Second, with the topics scattered among many disciplines and textbooks, the topic of how the different components of construction financial management were interrelated and interacted was being ignored.

Financial management may be defined as the use of a company's financial resources and encompasses all decisions that affect a company's financial health. Many everyday decisions affect a company's financial health. The difference between a marginally profitable and a very profitable company is good financial management. Business schools teach the fundamental principles of financial management; however, because of the many unique characteristics of the construction industry, the usefulness of these financial principles as taught by business schools is limited. To be useful, these principles must be adapted specifically to the construction industry. For example, in the construction industry equipment is mobile and may be needed for multiple jobs during a single month. Traditional accounting methods and financial statements do not allow a company to properly manage and account for its equipment.

This book was written to help construction professionals—both those who are working in the construction industry and those seeking a degree in construction management—learn how the principles of financial management can be adapted to and used in the management of construction companies. This book will be most useful for general managers and owners of companies who are responsible for managing the finances of the entire company; however, many of these principles are useful to project managers and superintendents. For the project manager or superintendent who desires to stand out in a company, there is no better way than to improve the profitability of projects through the principles of sound financial management. The book also discusses how owners and general managers can manage construction projects by sound management of their project managers, superintendents, and crew forepersons.

This book explains common financial principles, demonstrating how these principles may be applied to a construction situation and how these principles affect the financial performance of a company. Many of the examples included in this book are based on actual situations encountered by the author.

This book is organized in five parts: introduction to construction financial management, accounting for financial resources, managing costs and profits, managing cash flows, and making financial decisions.

The first part—comprising Chapter 1—introduces the reader to construction financial management, explains why construction financial management is different from financial management in other industries, and defines the role of a construction financial manager.

The second part—comprising Chapters 2 through 6—describes how to account for a company's financial resources. Accounting for these resources is built around a company's accounting system.

The third part—comprising Chapters 7 through 11—examines how to manage the costs and profits of a construction company. This must be done at the project level as well as at the company level.

The fourth part—comprising Chapters 12 through 16—looks at how to manage a company's cash flows and how to evaluate different sources of funding cash needs.

The fifth part—comprising Chapters 17 and 18—explores ways to quantitatively analyze financial decisions.

After reading this book, you should have a better understanding of the following:

- The basic financial principles that are widely used in the business world and how to modify them so that they work for the construction industry. Application of these principles will help you better manage your business.
- Construction accounting systems, which will help you manage the accounting systems and use accounting information to manage a company. The accounting system is the heart and soul of financial management.
- Financial and accounting principles, so that you may interact with accountants and bankers at a professional level.

What's new in this edition:

- The business failure rate for construction companies in Chapter 1 has been updated.
- Sections on cost segregation and bonus depreciation have been added to Chapter 5.
- The discussion of typical median ratios in Chapter 6 has been updated.
- A section on the monitoring and controlling process has been added to Chapter 7.
- A section on managing design-build costs has been added to Chapter 7.
- The wages, social security, and Medicare costs have been updated in Chapters 8, 9, and 14.

- A weekly cash flow problem has been added to Chapter 12.
- The income tax regulations in Chapter 13 have been updated to incorporate provisions of The Tax Cuts and Jobs Act passed in December 2017.
- The project cash flows used to develop an annual cash flow for a construction company have been expanded to cover the entire project (including work done in the prior year) and the calculation of the underbillings/overbillings has been included in Chapter 14.
- The effects of taxes on decision has been updated in Chapter 18 to incorporate the Tax Cuts and Jobs Act.

To access supplementary materials online, instructors need to request an instructor access code. Go to www.pearsonhighered.com/irc to register for an instructor access code. Within 48 hours of registering, you will receive a confirming e-mail including an instructor access code. Once you have received your code, locate your text in the online catalog and click on the Instructor Resources button on the left side of the catalog product page. Select a supplement, and a login page will appear. Once you have logged in, you can access instructor material for all Pearson textbooks. If you have any difficulties accessing the site or downloading a supplement, please contact Customer Service at http://support.pearson.com/getsupport. The materials available to instructors include: Instructor's Manual, PowerPoint slides, Excel spreadsheet solutions to the Excel-based homework problems, electronic copies of the figures and tables, and an equation list.

This textbook brings all of the key financial management principles needed by construction managers under one cover, addressing how they are applied in the construction industry and how they interact. Many of the examples in this book are based on my fourteen years of experience in construction financial management. Join me on a journey of discovery as we discuss the fundamental principles of financial management that are needed to make a construction company a financial success.

Feedback on this book can be submitted at stevenjpeterson9@gmail.com.

Best wishes,
Steven J. Peterson, MBA, PE

Contents

PART **ONE**

INTRODUCTION TO CONSTRUCTION FINANCIAL MANAGEMENT

In this section we introduce you to construction financial management, discuss how it is different from financial management in other industries, and why strong financial management is needed in the construction industry. This section includes:

- **CHAPTER 1:** Construction Financial Management

CHAPTER ONE

CONSTRUCTION FINANCIAL MANAGEMENT

In this chapter you will learn what financial management is and why the financial management of construction companies is different from the financial management of most other companies.

The construction business is riskier than any other average business. In 32 of the 37 years between 1977 and 2013, the business failure rate (percent of firms that had a positive employment during the first quarter of the previous year and zero employment in the first quarter of the subsequent year) for the construction industry was higher than the combined average failure rate for all business sectors in the United States (see Figure 1-1). In the remaining five years, the failure rate for the construction industry was slightly below average. These failures are divided among companies of all ages. Figure 1-2 shows the breakdown of these failures by age of the business for 2013. The percent of business failures by size of firm for 2013 is shown in Figure 1-3.[1] In 2012, the establishment failure rate for the construction industry was 12.5% compared to a combined average failure rate 9.9% for all business sectors in the United States. The United States Census Bureau defines an establishment as "a single physical location where business is conducted" and does not include the individual construction jobsites. The residential sector had the highest establishment failure rate at 13.5%, followed by specialty contractors at 12.4%, non-residential building at 11.8%, and heavy and civil construction at 10.7%.[2]

What are the sources of failure for construction companies?

The Surety & Fidelity Association of America—an office that collects data on surety bonds—has identified five broad warning signs that a construction company is in trouble. They are "ineffective financial management systems… bank lines of credit constantly borrowed to the limits… poor estimating and/or job cost reporting… poor project management… [and] no comprehensive business plan"[3] Four of these five sources of failure are directly related to the financial management of the company. The primary source of failure for a construction company is poor financial management, including improper accounting procedures and systems, failure to manage the company's cash flow, failure to accurately track and manage job and equipment costs, excessive overhead, failure to plan for and achieve an acceptable profit margin, excessive debt, and failure to make business decision based on sound financial data. Without sound financial management, construction companies are setting themselves up for failure.

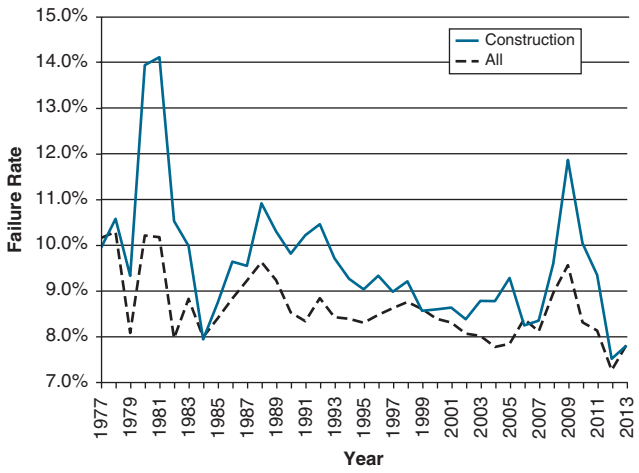

FIGURE 1-1 Business Failure Rates by Year

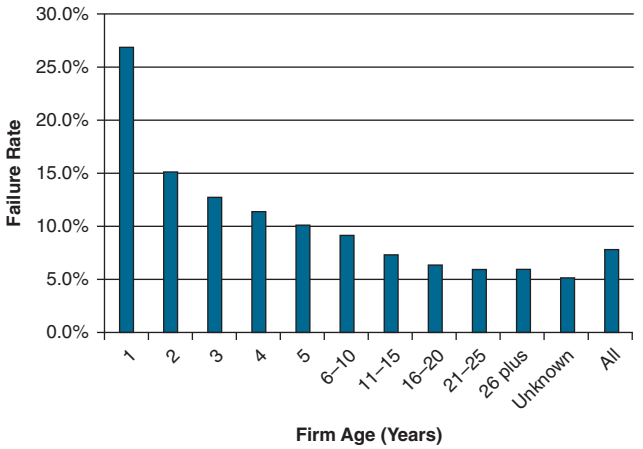

FIGURE 1-2 Business Failure Rate by Age of Firm for 2013

[1]United States Census Bureau (2015). *Business Dynamics Statistics*. http://www.census.gov/ces/dataproducts/bds/data_firm.html. Accessed on August 9, 2016.

[2]United States Census Bureau (2016). *2011-2012 SUSB Employment Change Data Tables*. https://www.census.gov/data/tables/2012/econ/susb/2012-susb-employment.html. Accessed on August 9, 2016.

[3]The Surety & Fidelity Association of America, *Why Do Contractors Fail?*—downloaded May 8, 2018.

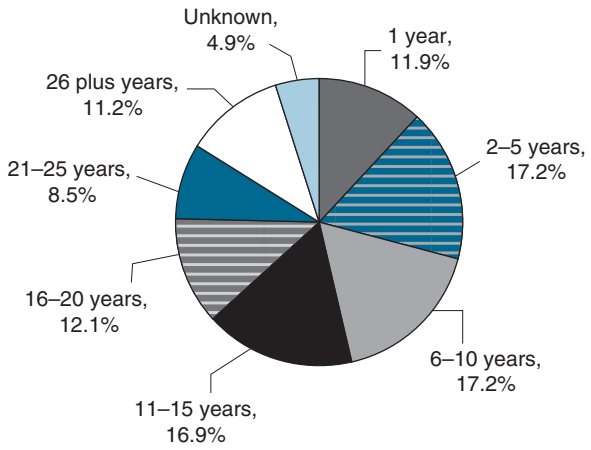

FIGURE 1-3 Percent of Business Failures by Age of Firm for 2013

WHAT IS FINANCIAL MANAGEMENT?

Financial management is the use of a company's financial resources. This includes the use of cash and other assets—such as equipment. Many everyday decisions affect a company's financial future. For example, the decision to bid on a large project can have a great impact on the finances of a company. When deciding whether to bid on a project, a manager may need to address the following questions: Does the company have enough cash resources to perform this work or will the company need outside financing? Can the company get bonded for this work? If not, what changes need to be made in the company's financial structure so that the company can get a bond for the project? Should the company hire employees to perform the work or should the company subcontract out this labor? Should the company lease or purchase the additional equipment needed for this project? If the company purchases the equipment, how should it be financed? Will this project require the company to increase its main office overhead? And, finally, what profit and overhead markup should be added to the bid? The answers to all of these questions will affect the company's finances. The answer to one of the questions may change the available options to other questions. For example, if the manager decides to hire employees to perform the work on the project, the project will require more financial resources than if the company had hired subcontractors to perform the labor and may leave the company with insufficient resources to purchase the additional equipment, and leave leasing the equipment as the only option.

WHY IS CONSTRUCTION FINANCIAL MANAGEMENT DIFFERENT?

Construction companies are different from most other companies and are faced with many unique challenges and problems not faced by companies in other industries. Although the construction industry is producing a product—as do manufacturing plants—the construction of buildings, roads, and other structures is different from the manufacturing of most other products. Because of these unique characteristics, the financial management principles applied to other product-producing industries often need to be modified before they are applied to the construction industry, otherwise they are useless.

To understand the unique characteristics and challenges faced by the managers of construction companies let's compare the management of a construction company to the management of a manufacturing plant. For this example, we look at the manufacturing of fiberglass insulation. The manufacturing of fiberglass batt insulation can be summarized in the following steps:

1. Sand and other ingredients necessary to make glass are delivered to the plant and stored in silos.
2. The glass-making ingredients, delivered to the mixing bin by conveyor belts or other means, are mixed in the specified proportions.
3. After mixing, the ingredients are fed into a furnace, where they are heated to make molten glass.
4. The molten glass is passed through a machine that spins the glass into fibers, cools the fibers, and adds liquid binders that cause the glass fibers to stick together.
5. The spun glass is placed on a conveyor belt, where the speed of the conveyor belt controls the thickness of the insulation.
6. As the insulation proceeds along the conveyor belt, it is cut to width, and, if required, paper backing is added.
7. Finally, the insulation is cut to length, packaged, and stored for shipment.

Now that you have a basic understanding of the process used to manufacture fiberglass insulation, let's compare the management of this process to the management of a construction company.

Project Oriented

The insulation manufacturer is process oriented, whereas the construction company is project oriented. Although the insulation manufacturer produces different types of insulation, the range of products that they produce is limited. In the above example, the insulation produced may be of different thickness or *R* values, different widths, with or without paper backing, and packaged in rolls or bundles of 8-foot batts. All of these products are similar with slight variations. For many construction companies, each product is unique but often the products are very different. It is not uncommon for a construction company to be working on a tenant finish in a high-rise tower, a fire station, and an apartment complex at the same time. Even when a construction company is working on similar products—such as a homebuilder or a company building a number of convenience stores—the projects are often different due to site

conditions and locations, which affects the availability of labor and materials.

Because insulation manufacturers have a limited number of products they produce repeatedly, it is easier for them to determine their production costs. When a manager has produced a million square feet of R-11 insulation with paper backing packaged in a 15-inch-wide by 40-foot-long roll, it is easier to project the cost to produce the next 10,000 square feet than it is if the product has never been produced before. Construction companies often give clients fixed prices for a product that the company has never built or for a product that the company has never built using the local group of suppliers and subcontractors available at the project location.

The insulation manufacturer sells the same product to a wide variety of buyers at locations other than the place the insulation is manufactured. In the construction industry, projects are often custom-built for a specific owner on a specific location. The insulation manufacturer can deal with fluctuation in demand by producing and storing extra products when demand is slower for use when the demand is higher. It is relatively easy to store 50,000 square feet of insulation for immediate shipment to meet some future demand. With most of a construction company's work occurring at the individual project's location, the construction company cannot store unused production during slow times for use on future projects. How can you store 500 cubic yards of excavation for immediate use on some future project? To deal with this, the construction company must constantly bid new work to keep the company's workforce fully utilized or build speculative projects—projects without owners or buyers. Speculative building is a risky venture for the company because the product cannot be moved and often must be modified before it can be sold to another buyer.

Almost everything a construction company does is a project. Because of this, a construction company must keep accurate construction costs for each and every project that it constructs. Not only must the cost be kept for each project, but also the cost must be kept for each group of components on a project. This data is necessary to control the costs of the current project and for use in the bidding of future projects. With each project requiring a different mix of labor, materials, and equipment, knowing the cost of the components for a project is necessary to bid future projects.

Decentralized Production

The insulation manufacturers perform all of their work at a centralized location, whereas the construction company performs its work at a number of decentralized locations. Insulation manufacturing plants are set up at a fixed location with the equipment being dedicated to a specific manufacturing process for years. Employees come to the same plant year after year. In the construction industry, the equipment and employees are seldom dedicated to a single project year after year. Equipment and employees may move from job to job on a regular basis. As a result, the location of each employee and piece of equipment must be tracked to ensure that their costs are charged to the correct job. Additionally, each crew and piece of equipment must be managed as a profit center.

Payment Terms

The insulation manufacturer bills the buyer at the time the insulation is shipped or ordered, with the expectation that the buyer will pay the full bill within a specified number of days. For many construction companies, their work consists of long-term contracts for individual projects, with monthly progress payments being made by the owner as the project is being built. Additionally, the owners often withhold retention—funds used to ensure the contractor completes the construction project—thus deferring payment of a portion of the progress payment.

The insulation manufacturer is constantly shipping materials and billing for them, which creates a relatively uniform cash flow cycle throughout the month. For many construction companies, all of their projects are on a similar billing cycle, which creates huge spikes in the cash needed for the projects. As a result, construction companies have unusual cash flows and require modification to accounting and other financial procedures to handle retention and the timing of cash flows.

Heavy Use of Subcontractors

The insulation manufacturer would never subcontract out a step in its manufacturing process, yet many construction companies rely heavily on subcontractors' work. The use of subcontractors allows a construction company to tap into a subcontractor's financial assets during the construction process. The use of subcontractors has a great impact on the finances of a construction company.

Because of these unique characteristics, it is important for the manager of a construction company to have a sound understanding not only of financial management but also of how financial management principles are applied to the construction industry. The tools that financial managers are taught in business schools must be modified to take into account the unique characteristics of the construction industry, if they are to be useful to construction managers.

WHO IS RESPONSIBLE FOR CONSTRUCTION MANAGEMENT?

The person ultimately responsible for the financial management of a construction company is often the owner or general manager. Many of the tasks related to financial management are delegated to estimators, superintendents, or project managers—particularly those tasks that are project specific. For this reason, and because many project managers, superintendents, and estimators aspire to move up

within the company or start their own construction business, it is important for all construction management students to understand the principles of financial success for a construction company. Nothing will put an employee on the fast track to success within a company faster than increasing the company's profitability through sound construction financial management. In this book the term *financial manager* is used to designate superintendents, project managers, estimators, general managers, or owners who are responsible for all or part of the financial management of a construction company or a construction project.

WHAT DOES A FINANCIAL MANAGER DO?

The financial manager is responsible for seeing that the company uses its financial resources wisely. A financial manager's responsibilities may be broken down into four broad areas that include accounting for financial resources, managing costs and profits, managing cash flows, and making financial decisions.

Accounting for Financial Resources

Financial managers are responsible for accounting or tracking how the company's financial resources are used, including the following:

- Making sure that project and general overhead costs are accurately tracked through the accounting system.
- Ensuring that a proper construction accounting system has been set up and is functioning properly.
- Projecting the costs at completion for the individual projects and ensuring that unbilled committed costs—costs that the company has committed to pay but has not received a bill for—are included in these projections.
- Determining whether the individual projects are over- or underbilled.
- Making sure that the needed financial statements have been prepared.
- Reviewing the financial statements to ensure that the company's financial structure is in line with the rest of the industry and trying to identify potential financial problems before they become a crisis.

Chapters 2 through 6 will help prepare you to fulfill these functions.

In Chapter 2 you will be introduced to the structure of construction financial statements, including the different ledgers used by construction accounting systems. You will also learn the difference between accounting systems that are used for cost reporting and systems that are used for controlling costs, as well as the different accounting methods available to construction companies. Because of the unique characteristics of construction companies, there are some key differences between accounting systems and financial statements for the construction industry and other industries. Before you can understand how to read a construction company's financial statements or how construction costs are tracked and managed, you must understand how construction accounting systems operate.

In Chapter 3 you will gain a better understanding of how different accounting transactions are processed in the accounting system. There are a number of unique transactions that take place in construction accounting that do not occur in other industries. Most of these transactions are a result of the construction industry's focus on job costing, equipment tracking, and accounting for long-term contracts. Understanding these transactions is important for three reasons: First, some project costs—such as labor burden and equipment costs—are often generated by the accounting system rather than an invoice or time card. Understanding how these costs are obtained will help you gain a better understanding of how to estimate these costs and incorporate them in the financial analysis of the project. Second, financial managers must review the accounting reports for errors—improperly billed costs and omitted costs—and ensure that the necessary corrections are made. Understanding how the costs are generated will help you better understand how to interpret the accounting reports. Finally, for the general manager and owner, understanding construction accounting is necessary to ensure that the accounting system is set up to meet the needs of the company. Some construction companies are using substandard accounting systems because the management does not understand how accounting systems should be structured to meet the needs of the construction industry.

In Chapter 4 you will increase your understanding of construction accounting systems. You will learn to track committed costs outside the accounting system if your company's accounting system does not track committed costs, which will also help you understand how accounting systems track committed costs. You will learn to use committed costs to project the estimated cost and profit at completion for projects. You will also learn to calculate over- and underbillings. Finally, you will learn about the internal controls needed to protect your financial resources and what to look for in computerized construction accounting systems.

In Chapter 5 you will learn the differences among the methods available for depreciating construction assets, including the methods used for tax purposes. Understanding the difference in depreciation methods is necessary for a manager to interpret the financial statement and financial ratios, which is covered in the next chapter. Simply put, changing the method of depreciation can have a significant impact on the company's financial statements. An understanding of depreciation is also necessary when preparing income tax projections, which is discussed in Chapter 13.

In Chapter 6 you will learn to use financial ratios to analyze the company's financial statements, including comparing the company's ratios to industrial averages. This will include adapting commonly used ratios to the unique characteristics of the construction industry. Analysis of the

financial statements will help the financial manager identify problems before they become a crisis. These problems may be life threatening to the company (such as realizing that the company will not be able to pay its bills in the upcoming months) or simple planning issues (such as identifying that the company's equipment is aging and that funds need to be set aside to replace this equipment in the next few years).

Managing Costs and Profits

Financial managers are responsible for managing the company's costs and earning a profit for the company's owners. Financial managers rely heavily on the reports from the accounting system in their management of costs. Managing the company's costs and profits includes the following duties:

- Monitoring and controlling project costs
- Monitoring project and company profitability
- Setting labor burden markups
- Developing and tracking general overhead budgets
- Setting the minimum profit margin for use in bidding
- Analyzing the profitability of different parts of the company and making the necessary changes to improve profitability
- Monitoring the profitability of different customers and making the necessary marketing changes to improve profitability

Chapters 7 through 11 will help to prepare you to fulfill these functions.

In Chapter 7 you will learn to monitor and control construction costs for materials, labor, subcontractors, equipment, other costs, and general overhead. You will also learn to measure the success of the project by monitoring profitability, using the schedule performance index, the cost performance index, and project closeouts. These skills help financial managers determine the success of projects and identify problem areas on projects, regardless of whether you are a project manager or superintendent who wants to know how your project is doing, or a general manager or owner who wants to know how well your project managers and superintendents are running their projects.

In Chapter 8 you will learn to determine the labor burden markup. This helps you better understand how to project these costs, whether they are to be used to bid a new job, price a change order, or project the cost to complete the project. This helps the general manager and owner determine the labor costs needed to prepare a general overhead budget.

In Chapter 9 you will learn how to prepare a general overhead budget that may be used to track overhead costs. It is easy for a company to squander its profits by failing to control general overhead costs. Construction managers often spend enormous amounts of time and effort budgeting, tracking, and controlling construction costs while ignoring general overhead costs. Just as a project manager or superintendent tracks and manages construction costs on a project, the general manager or owner needs to track and manage the general overhead costs. The key to doing this is to set and follow a general overhead budget. A general overhead budget is also needed to prepare the company's annual cash flow projection, which is discussed in Chapter 14.

In Chapter 10 you will learn to set profit margins for use in bidding and how the profit changes as the volume of work changes. You will also learn to determine the volume of construction work and profit and overhead markup necessary to cover the costs associated with the general overhead. Profits are used to pay for general overhead costs and provide the owners with a profit. If the profits are insufficient to cover the general overhead costs, the company will consume its available cash and fail. If the profits fail to provide the owner with a reasonable profit, the owner may decide that there are better places to invest his or her money and the company will lose financing.

In Chapter 11 you will learn to analyze the profitability of different parts of the company and identify where the company needs to make changes to improve profitability. You will learn to choose between hiring a subcontractor and self-performing work. You will also learn to monitor the profitability of different customers and identify which customers should be developed and which customers your company would be better off without.

Managing Cash Flows

Financial managers are responsible for managing the cash flows for the company. Many profitable companies fail because they simply run out of cash and are unable to pay their bills. The duties of a financial manager include the following:

- Matching the use of in-house labor and subcontractors to the cash available for use on a project
- Ensuring that the company has sufficient cash to take on an additional project
- Preparing an income tax projection for the company
- Preparing and updating annual cash flow projections for the company
- Arranging for financing to cover the needs of the construction company

Chapters 12 through 16 will help prepare you to perform these functions.

In Chapter 12 you will learn to develop a cash flow projection for a construction project from both the perspective of a construction company that is receiving progress payments (draws) from the project's owner and from the perspective of a construction company that receives a single payment when the project is sold—such as is the case with many homebuilders. For companies in either of these situations, the company must pay for some or all of the construction costs—especially labor—from the company's funds

before being reimbursed for these costs. To cover these costs the company needs cash. Because inadequate funding of the construction company can spell doom for a construction project as well as for all of the companies involved, it is important that managers accurately project both the amount and timing of the cash required by a construction project. Understanding the cash flow for a construction project is a prerequisite to preparing a cash flow for an entire construction company, which is discussed in Chapter 14.

In Chapter 13 you will learn the fundamentals of income taxes and how to prepare an income tax projection. Income taxes are a significant expense to the company and need to be included in the company's annual cash flow projection. Having an unexpected income tax bill can reduce the funds available for use on construction projects to a dangerously low level.

In Chapter 14 you will learn how to prepare an annual cash flow projection for a construction company. This is necessary to ensure that the company has sufficient cash for the upcoming year. Should a financial manager find that there are insufficient funds, he or she will have time to arrange financing to provide the necessary funds. Annual cash flow projections for a company are prepared by projecting the annual revenues and construction costs for the construction company by combining the cash flows from the individual jobs or are based on historical data. The financial manager must then combine the projected revenues, construction costs, the general overhead budget, and the projected income taxes with the company's available cash to determine the cash needs of the company.

In Chapter 15 you will learn to convert cash flows occurring in one time period to an equivalent cash flow occurring at another time period or into a uniform series of cash flows occurring over successive periods. Understanding the time value of money is a prerequisite to understanding debt financing and how to compare two or more financial options, which are the topics of Chapters 16, 17, and 18. Additionally, you will learn how to adjust interest rates for inflation.

In Chapter 16 you will learn about financial instruments that can be used to provide the necessary cash for a construction company's operation. You will also learn to compare debt instruments with different conditions and learn how loan provisions and closing costs can increase the effective interest rate on a loan or line of credit. An understanding of these principles helps you reduce borrowing costs and determine the best way to provide the cash needed to operate a construction company. Success in obtaining financing for a company can allow the company to take on additional projects, whereas failure to obtain financing can spell doom for a company.

Choosing among Financial Alternatives

Financial managers are responsible for selecting among financial alternatives. These decisions include the following:

- Selecting which equipment to purchase
- Deciding in which areas of the business to invest the company's limited resources

There are many financial tools that are available to quantitatively analyze the alternatives. In Chapters 17 and 18 you will learn to use these tools.

In Chapter 17 you will learn 10 quantitative methods that may be used to analyze financial alternatives and choose the alternative that is best for the company. Without some quantitative method, it is hard for managers to determine which option is best. Understanding these skills is necessary for any manager who must decide where to invest limited capital.

In Chapter 18 you will learn how income taxes can influence the choice of financial decisions and how to incorporate income taxes into the decision-making tools from Chapter 17. If income taxes affected all alternatives in the same way, income taxes would not be an issue; however, income taxes can make some financial alternatives preferable. With income tax rates of up to 37%, financial managers must take income taxes into account by weighing financial alternatives.

Conclusion

A construction company is a risky venture. Each year, many construction companies go out of business. Operating a successful construction company requires a specialized set of financial management skills, because of the unique nature of the construction industry. Unlike other industries, the construction industry faces a number of challenges including: (1) constantly building unique, one-of-a-kind projects, (2) building a project at a different location each time, (3) dealing with retention and progress payments, and (4) relying heavily on the use of subcontractors to complete the projects. This book is designed to help the reader develop the financial management skills required to become a successful construction manager.

Discussion Questions

1. According to the The Surety & Fidelity Association of America, what are the warning signs that a construction company is in financial trouble?
2. Who is responsible for financial management in a construction company?
3. Why is construction financial management different from the financial management of other companies?
4. What activities are involved in accounting for the company's financial resources?
5. What activities are involved in managing the company's costs and profits?

6. What activities are involved in managing the company's cash flows?
7. List some examples of financial decisions that construction managers must make.
8. Using the journal articles, newspapers, and the Internet, find one article that discusses the reasons why construction companies fail or outlines the failure of a specific construction company. Answer the following questions about the article you selected:
   - **a.** Who wrote the article and what makes the writer(s) a creditable source?
   - **b.** What sources of failure does the writer(s) identify?
   - **c.** Which of these sources of failure could be grouped under accounting and financial management?
   - **d.** How does this article underscore the need for a great accounting system and strong financial management?

   Come to class prepared to discuss your findings.

PART **TWO**

ACCOUNTING FOR FINANCIAL RESOURCES

In this section we look at how to account for the company's financial resources. Accounting for these resources is built around a company's accounting system. This section includes the following chapters:

- **CHAPTER 2:** Construction Accounting Systems
- **CHAPTER 3:** Accounting Transactions
- **CHAPTER 4:** More Construction Accounting
- **CHAPTER 5:** Depreciation
- **CHAPTER 6:** Analysis of Financial Statements

CHAPTER TWO

CONSTRUCTION ACCOUNTING SYSTEMS

In this chapter you will be introduced to the structure of construction financial statements, including the different ledgers used by construction accounting systems. You will also learn the difference between accounting systems that are used for cost reporting and systems that are used for controlling costs, as well as the different accounting methods available to construction companies. Because of the unique characteristics of construction companies, there are some key differences between accounting systems and financial statements for the construction industry and other industries. Before you can understand how to read a construction company's financial statements or understand how construction costs are tracked and managed, you must understand how construction accounting systems operate.

Construction accounting systems include the software, hardware, and personnel necessary to operate a construction accounting system. Construction accounting systems serve four purposes.

First, the accounting system processes the cash receipts (collecting payments) and disbursements (paying bills) for the company. The accounting system should ensure that revenues are billed and collected in a timely fashion and that timely payments are made only for bona fide expenses incurred by the company. Failure to collect revenues or careless payment of bills can quickly deplete the cash reserves of a company and, if left unchecked, can bankrupt a company.

Second, the accounting system collects and reports the data needed to prepare a company's financial statements that are used to report the financial status of the company to shareholders and lending institutions. These reports are needed to assure shareholders and lending institutions that the company is solvent and is wisely managing its financial assets.

Third, the accounting system collects and reports the data needed to prepare income taxes, employment taxes, and other documents required by the government. Failure to pay taxes and file other required documents—such as W-2s and 1099s—on time results in the assessment of penalties.

And, finally, the accounting system collects and provides the data needed to manage the finances of the company, including data for the company as a whole, each project, and each piece of heavy equipment. To successfully manage the company's financial resources, the accounting system must provide this data in time for management to analyze the data and make corrections in a timely manner. Accounting systems that fail to do this are simply reporting costs.

COST REPORTING VERSUS COST CONTROL

Cost reporting is where the accounting system provides management with the accounting data after the opportunity has passed for management to respond to and correct the problems indicated by the data. When companies wait to enter the cost of their purchases until the bills are received, management does not know if they are under or over budget until the bills are entered, at which time the materials purchased have been delivered to the project and may have been consumed. The extreme case of cost reporting is where companies only look at the costs and profit for each project after the project is finished. Cost reporting is characterized by accounting reports that show where a company has been financially without giving management an opportunity to proactively respond to the data.

Cost control is where the accounting system provides management with the accounting data in time for management to analyze the data and make corrections in a timely manner. Companies that enter material purchase orders and subcontracts, along with their associated costs, into their accounting system as committed costs before issuing the purchase order or subcontract allow management time to address cost overruns before ordering the materials or work. Committed costs are those costs that the company has committed to pay and can be identified before a bill is received for the costs. For example, when a contractor signs a fixed-price subcontract, he or she has committed to pay the subcontractor a fixed price once the work has been completed and, short of any change orders, knows what the work is going to cost. Accounting systems that track committed costs give management time to identify the cause of the overrun early on, identify possible solutions, and take corrective action. Cost control is characterized by identifying problems early and

giving management a chance to proactively address the problem. A lot of money can be saved by addressing pervasive problems—such as excessive waste—early in the project.

If a company's accounting system is going to allow management to control costs rather than just report costs, the accounting system must have the following key components:

First, the accounting system must have a strong job cost and equipment tracking system. The accounting system should update and report costs, including committed costs and estimated cost at completion on a weekly basis. Having timely, up-to-date costs for the project and the equipment is a must if management is going to manage costs and identify problems early on.

Second, the accounting system must utilize the principle of management by exception. It can be easy for managers to get lost in the volumes of data generated by the accounting system. The accounting system should provide reports that allow management to quickly identify problem areas and address the problems. For example, as soon as bills are entered into the accounting system, management should get a report detailing all bills that exceed the amount of their purchase order or subcontract. Problems that are buried in volumes of accounting data are often never addressed because management seldom has time to pour through all of the data to find the problems, or if they are found they are often found too late for management to address the problem. Providing reports that flag transactions that fall outside the acceptable limits is necessary if management is going to control costs. By having reports that flag items that fall outside acceptable limits, management can make addressing these items a priority.

Third, accounting procedures need to be established to ensure that things do not fall through the cracks. These procedures should include things such as who can issue purchase orders and what to do when a bill is received for a purchase order that has not been issued. The procedures should also identify the acceptable limits for different types of transactions. Procedures ensure that the accounting is handled in a consistent manner and give management confidence in the data that it is using to manage the company.

Finally, the data must be easily and quickly available to management and other employees who are directly responsible for controlling costs. It does little good to collect cost data for use in controlling costs if the data cannot be accessed. Where possible the reports should be automatically prepared by the accounting software. This eliminates the time and effort needed to prepare the reports manually. Additionally, frontline supervisors who are responsible for controlling costs should readily have access to their costs. Holding supervisors responsible for costs at the end of a job while not giving them access to their costs throughout the project denies them the opportunity to proactively control costs.

The accounting system for many construction companies consists of three different ledgers: the general ledger, the job cost ledger, and the equipment ledger. The general ledger tracks financial data for the entire company and is used to prepare the company's financial statements and income taxes. The job cost ledger, a subsidiary ledger to the general ledger, is used to track the financial data for each construction project. The equipment ledger, a subsidiary ledger to the general ledger, is used to track financial data for heavy equipment and vehicles. All construction companies should have a general ledger and a job cost ledger. Companies with lots of heavy equipment or vehicles should have an equipment ledger.

THE GENERAL LEDGER

Like all other companies, construction company accounting systems have a general ledger. The general ledger consists of all of the accounts necessary to track the financial data needed to prepare the balance sheet, income statement, and income taxes. A chart of accounts lists all of the accounts in the general ledger. A sample chart of accounts is shown in Figure 2-1. In the chart of accounts, the accounts for the balance sheet are listed before the accounts for the income statement. In Figure 2-1, accounts 110 through 430 are used for the balance sheet and accounts 500 through 950 are used for the income statement. The accounts on the chart of accounts appear in the order they appear in on the balance sheet and income statement; however, some accounts from the chart of accounts may not appear on the balance sheet or income statement because successive accounts may be rolled up into a summary account that appears on the balance sheet or income statement. Other items—such as profit—that appear on the balance sheet and income statement are not included in the chart of accounts because they are calculated from accounts on the chart of accounts. The way transactions are handled in the general ledger is based on the accounting method used by the construction company.

METHOD OF ACCOUNTING

There are four methods of accounting available to construction companies. They are: cash, accrual, percentage of completion, and completed contract. The cash and accrual methods are two widely used accounting methods and are used in many industries. The percentage-of-completion and completed contract methods are used when companies enter long-term contracts, which are defined by the Internal Revenue Code as "any contract for the manufacture, building, installation, or construction of property if such contract is not completed within the taxable year in which such contract is entered into."[1] The key difference between the accounting methods is how and when they recognize income, expenses, and profits. A construction company may use a different method of accounting when preparing its financial statements than it does when it is preparing its income taxes. Let's look at these accounting methods.

[1] Title 26, Subtitle A, Chapter 1, Subchapter E, Part II, Subpart B, Section 460.

CHART OF ACCOUNTS

110	Cash
120	Accounts Receivable-Trade
121	Accounts Receivable-Retention
130	Inventory
140	Costs and Profits in Excess of Billings
150	Notes Receivable
155	Due From Construction Loans
160	Prepaid Expenses
199	Other Current Assets
210	Building and Land
220	Construction Equipment
230	Trucks and Autos
240	Office Equipment
250	Less Acc. Depreciation
260	Capital Leases
299	Other Assets
310	Accounts Payable-Trade
311	Accounts Payable-Retention
320	Billings in Excess of Costs and Profits
330	Notes Payable
340	Accrued Payroll
341	Accrued Payables
342	Accrued Taxes
343	Accrued Insurance
344	Accrued Vacation
350	Capital Leases Payable
360	Warranty Reserves
379	Other Current Liabilities
380	Long-Term Liabilities
410	Capital Stock
420	Retained Earnings
430	Current Period Net Income
500	Revenue
610	Materials
620	Labor
630	Subcontract
640	Equipment
650	Other
710	Rent and Lease Payments
720	Depreciation
730	Repairs and Maintenance
740	Fuel and Lubrication
750	Taxes, Licenses, and Insurance
798	Equipment Costs Charged to Employees
799	Equipment Costs Charged to Jobs
805	Advertising
806	Promotion
810	Car and Truck Expenses
811	Computer and Office Furniture
812	Repairs and Maintenance
819	Depreciation
820	Employee Wages and Salaries
821	Employee Benefits
822	Employee Retirement
823	Employee Recruiting
824	Employee Training
825	Employee Taxes
827	Entertainment
830	Insurance
835	Taxes and Licenses
840	Office Supplies
841	Office Purchase
842	Office Rent
843	Office Utilities
844	Postage and Delivery
845	Janitorial and Cleaning
846	Telephone
850	Charitable Contributions
855	Dues and Memberships
860	Publications and Subscriptions
865	Legal and Professional Services
870	Meals
875	Travel
880	Bank Fees
881	Interest Expense
885	Bad Debts
891	Unallocated Labor
892	Unallocated Materials
893	Warranty Expense
898	Miscellaneous
899	Overhead Charged to Jobs
910	Other Income
920	Other Expense
950	Income Tax

FIGURE 2-1 Chart of Accounts

Cash

Cash is the easiest of the accounting methods to use. Revenue is recognized when the payments from the owner is received, and expenses are recognized when bills are paid. Profit at any point equals the cash receipts less the cash disbursements. Because it is easy to use, it is often the preferred method for small construction companies. Another advantage of the cash method of accounting is that it can easily be used to defer income tax. For example, to decrease the company's tax liability for the current year, all the company has to do is to have the project's owners who are going

to make payments during the last few weeks of the company's fiscal year hold the checks until the beginning of the next fiscal year. This moves the revenues from the current year into the next year, reduces the profit for the year, and thereby reduces the income tax liability for the year. The company can further reduce the profit by paying any bills that are due during the first few weeks of the next year on the last day of the current year. Regular "C" corporations and partnerships whose average annual receipts for the last three taxable years are more than $5 million may not use the cash method of accounting for income tax purposes.[2]

The big disadvantage of the cash method is that financial statements based on the cash method are of little use for financial management because of the delay in recognizing revenue and expenses. Because of this, many financial institutions will not accept financial statements based on the cash accounting method. Construction companies that use the cash method of accounting for income tax purposes should use another accounting method for financial management.

Accrual

The accrual method tries to provide a more accurate financial picture by recognizing revenues when the company has the right to receive the revenues and by recognizing the expenses when the company is obligated to pay for the expenses, rather than when its cash flows occur. Revenues are usually recognized when the company bills the project's owners. Because the company does not have the right to receive the retention until the project is complete, the revenue associated with the retention is usually not recognized until the project is complete and the company has the right to receive the retention. Expenses are often recognized when the company receives a bill from the supplier or subcontractors. Because the accrual method recognizes revenues and expenses earlier than the cash method, financial statements prepared using the accrual method are more useful for financial management than those prepared by using the cash method. Use of the accrual method may also result in the payment of income taxes on revenues not received. Furthermore, companies that front-end load their contracts—put most or all of the profit at the beginning of the contract—may be paying income taxes on imaginary or unearned profits.

Percentage of Completion

The percentage-of-completion method requires construction companies to recognize revenues, expenses, and estimated profits on a construction project through the course of the project based upon the percent of the project that is complete. Revenues are recognized when the company bills the project's owners. The revenue associated with the retention is recognized, along with the revenues from the bill, unlike the accrual method, which allows the company to defer recognizing retention as revenue until it has the right to receive the retention. Expenses are recognized when the company receives a bill from the supplier or subcontractors. Under the percentage-of-completion method, the estimated profits must be equally distributed over the entire project based on the expected cost of the project. Revenues, expenses, and the estimated profits are calculated based on the percentage of the project that is complete, which is determined by dividing the costs to date by the total expected costs for the project. For example, if the project had incurred 40% of the expected costs, the company would recognize 40% of the expected revenue, 40% of the expected costs, and 40% of the expected profit. At the completion of the project, the construction company must look back over the life of the project and determine whether income taxes were overpaid or underpaid for each tax year. For underpayments of income taxes the construction company must pay interest to the Internal Revenue Service (IRS) on the amount underpaid, in addition to paying the underpaid taxes. For overpayment, the IRS must pay interest to the construction company on the overpayment, in addition to refunding the overpaid taxes. The IRS requires large companies—companies with gross receipts of more than $25 million over the last three years—to use the percentage-of-completion method for all of their general construction contracts. The IRS also requires that all general construction contracts that will take more than two years to complete be tracked using the percentage-of-completion method.[3] Larger construction companies are required to allocate general overhead to the individual projects when using the percentage-of-completion method. The percentage-of-completion method provides the best picture of the company's financial situation.

Completed Contract

The completed contract method recognizes revenues and expenses when the contract for the project is complete or the project is sold. The benefit of recognizing revenues and expenses at the completion of the project is that the revenues and expenses are known. Historically, speculative builders used the completed contract method because the contract amount was not known until the project was sold. The disadvantage of the completed contract method is that it can create large swings in income.

To get the best picture of a company's financial health, a construction company should use the method that best matches its costs to its revenues and profits. For most general contractors this is the percentage-of-completion method. For smaller companies, the added cost and complexity of using the percentage-of-completion method may not be warranted and the company may use the cash method.

For tax purposes, construction companies must use the percentage-of-completion accounting method for long-term contracts, except for (1) contracts entered into by a construction company whose average annual receipts for the last three taxable years is less than $10 million and who estimates that the contract can be completed within a two-year period

[2] IRS publication 538, *Accounting Periods and Methods*, 2012.

[3] IRS, *Accounting for Construction Contracts—Construction Tax Tips*, https://www.irs.gov/businesses/small-businesses-self-employed/accounting-for-construction-contracts-construction-tax-tips. Downloaded August 13, 2016.

beginning at the contract commencement date or (2) home construction contracts, including improvements to dwelling units and the construction of new dwelling units in buildings containing no more than four dwelling units.[4] Because the income tax regulations are very complex and ever changing, it is a good idea for construction companies to employ the services of a certified public accountant (CPA) when determining what method of accounting to use for financial and tax purposes.

THE BALANCE SHEET

The balance sheet is a snapshot of a company's financial assets, liabilities, and the value of the company to its owner—often referred to as net worth or equity—at a specific point in time. Balance sheets are commonly prepared at the end of each month and at the end of the fiscal year. A typical balance sheet for a construction company using the percentage-of-completion accounting method is shown in Figure 2-2.

BIG W CONSTRUCTION
BALANCE SHEET

	Current Year	Last Year
ASSETS		
CURRENT ASSETS		
Cash	200,492	144,254
Accounts Receivable-Trade	402,854	308,253
Accounts Receivable-Retention	25,365	21,885
Costs and Profits in Excess of Billings	32,586	15,234
Notes Receivable	12,548	0
Prepaid Expenses	5,621	4,825
Other Current Assets	11,254	7,225
Total Current Assets	690,720	501,676
FIXED AND OTHER ASSETS		
Land	72,000	72,000
Buildings	103,862	103,862
Construction Equipment	95,284	95,284
Trucks and Autos	51,245	31,556
Office Equipment	56,896	42,546
Total Fixed Assets	379,287	345,248
Less Acc. Depreciation	224,512	182,990
Net Fixed Assets	154,775	162,258
Other Assets	178,544	171,256
Total Assets	1,024,039	835,190
LIABILITIES		
Current Liabilities		
Accounts Payable-Trade	325,458	228,585
Accounts Payable-Retention	22,546	18,254
Billings in Excess of Costs and Profits	5,218	11,562
Notes Payable	15,514	45,250
Accrued Payables	15,648	16,658
Accrued Taxes	10,521	8,254
Accrued Vacation	3,564	3,002
Other Current Liabilities	25,438	35,648
Total Current Liabilities	423,907	367,213
Long-Term Liabilities	153,215	99,073
Total Liabilities	577,122	466,286
OWNERS' EQUITY		
Capital Stock	10,000	10,000
Retained Earnings	436,917	358,904
Current Period Net Income	0	0
Total Equity	446,917	368,904
Total Liabilities and Equity	1,024,039	835,190

FIGURE 2-2 Balance Sheet for Big W Construction

[4] IRS, *Accounting for Construction Contracts—Construction Tax Tips*, https://www.irs.gov/businesses/small-businesses-self-employed/accounting-for-construction-contracts-construction-tax-tips. Downloaded August 13, 2016.

The balance sheet is divided into three sections: assets, liabilities, and owners' equity. The balance sheet reports the values of each of the accounts in the balance sheet portion of the chart of accounts at the time the balance sheet is printed. For example, the amount reported as cash on the balance sheet in Figure 2-2 comes from account number 110 from the chart of accounts shown in Figure 2-1. To prevent the balance sheet from becoming too complicated, multiple accounts may be summarized by combining two or more consecutive accounts into a single line on the balance sheet. Other items on the balance sheet may be calculated from other lines on the balance sheet. For example, the Total Current Assets is the sum of the Cash, Accounts Receivable-Trade, Accounts Receivable-Retention, Inventory, Costs and Profits in Excess of Billings, Notes Receivable, Due from Construction Loans, Prepaid Expenses, and Other Current Assets or accounts 110 through 199 on the chart of accounts shown in Figure 2-1. Not all companies will use all the accounts shown in Figure 2-1. For example, the construction company in Figure 2-2 does not use the inventory account.

On the balance sheet, the relationship between assets, liabilities, and equity is as follows:

$$\text{Assets} = \text{Liabilities} + \text{Equity} \tag{2-1}$$

Assets

Assets are those resources held by the company that will probably lead to some future cash inflows. For example, a piece of property is an asset because it could be sold to produce a cash inflow. A pallet of custom-designed framing brackets left over from a job would not be considered an asset unless there was a reasonable chance that the brackets could be used on a future job for which the company would be paid to build. Assets are divided into three broad categories: current assets, long-term assets, and other assets.

Current assets are the most liquid assets. Current assets are those assets that are expected to be converted to cash, exchanged, or consumed within one year. Common current assets include cash, accounts receivable, inventory, cost and profit in excess of billings, notes receivable, due from construction loans, prepaid expenses, and other assets. Let's look at what would be included in each of these categories.

Cash: Cash includes demand deposits (such as savings and checking accounts), time deposits (such as certificates of deposits) with a maturity of one year or less, and petty cash.

Accounts Receivable: Accounts receivable are invoices owed to the company that will likely be paid within one year and have not been formalized by a written promise to pay, such as a note receivable. For construction companies, the monthly bills or draws to the owners of the construction projects constitute an account receivable until the bill is paid. When retention is held, it is common practice to divide the accounts receivable into two categories: accounts receivable-trade and accounts receivable-retention. The retention that is being held by the project's owner for which the company has not met the requirements for its release is recorded in the accounts receivable-retention category. The monthly bills—less retention—and retention for which the company has met the requirements for its release are recorded in the accounts receivable-trade category. This separation lets management quickly see which of the receivables are tied up in the form of retention, whose release is contingent on the completion of construction projects.

Inventory: Inventory includes materials that are available for sale or are available and expected to be incorporated into a construction project within the next year. Many construction companies have little or no inventory. Subcontractors are the most likely group of contractors to carry inventory.

Costs and Profits in Excess of Billings: Costs and profits in excess of billings may also be referred to as costs and estimated earnings in excess of billings or underbillings. Construction companies using the percentage-of-completion accounting method are required to recognize the estimated profits on a construction project as the project is being completed rather than at the completion of the project. In these situations, the estimated profits must be equally distributed over the entire project based on the expected cost of the project. Costs and profits in excess of billings occur when the company bills less than the costs incurred plus the estimated profits or earnings associated with the completed work. If the billings are in excess of the costs and estimated profits, the difference is recorded as a liability under the billings in excess of costs and profits category. Costs and profits in excess of billings can be the result of cost overruns on the completed work or as a result of the profit not being equally spread over the items listed on the schedule of values. For companies using the completed contract accounting method, this category is replaced with a category entitled cost in excess of billings. For companies using the cash or accrual accounting method, this category is not included on the financial statements.

Notes Receivable: Notes receivable includes all invoices due to the company that will likely be paid within one year and have been formalized by a written promise to pay. Invoices, short-term loans, or advances to employees that have been formalized by a written promise to pay and are likely to be paid within a year are considered notes receivable.

Due from Construction Loans: Due from construction loan is money that is available from construction loans and is equal to the difference between the amount of the loan and the amount that has been withdrawn from the loan.

Prepaid Expenses: Prepaid expenses are payments that have been made for future supplies and services. Examples of prepaid expenses include prepaid taxes, insurance premiums, rent, and deposits.

Other Current Assets: Other current assets are all current assets not recorded elsewhere.

Total Current Assets: Total current assets represent the total value of the current assets.

Fixed and other assets include assets with an expected useful life of more than one year at the time of their purchase. Fixed assets are recorded on the balance sheet at their purchase price and, with the exception of land, are depreciated for financial purposes. Fixed and other assets include fixed assets, accumulated depreciation, net fixed assets, and other assets. Let's look at what would be included in each of these categories.

Fixed Assets: On the balance sheet shown in Figure 2-2, the fixed assets have been broken down into the following categories: land, buildings, construction equipment, trucks and autos, and office equipment. Land and buildings include all real property (real estate) owned by the company. Construction equipment includes heavy construction equipment, such as excavators and dump trucks, and other depreciable construction tools, such as compressors. Trucks and autos include pickup trucks and automobiles used by office and field personnel. Office equipment includes all depreciable office equipment and furnishings such as desks and computers. These subcategories are then summed up to get the total fixed assets.

Accumulated Depreciation: The losses in value to date of the fixed assets are recorded as accumulated depreciation. The depreciation method used in financial statements may be different from the depreciation method used for tax purposes. The depreciation taken for a fixed asset may never exceed the purchase price of the asset. The accumulated depreciation account is a contra account because it is subtracted from another account.

Net Fixed Assets: The net fixed assets equals the total fixed assets less the accumulated depreciation. The net fixed assets is also known as the book values for all of the fixed assets or the value of the fixed assets on the accounting books.

Other Assets: Other assets include assets not elsewhere classified. Common other assets include inventory that will not be sold within a year, investment in other companies, and the cash value of life insurance policies.

Total Assets: Total assets represent the total value of the current, fixed, and other assets.

Liabilities

Liabilities are obligations for a company to transfer assets or render services at some future time for which the company is already committed to. Loans and warranty reserves are common liabilities. Liabilities are divided into two broad categories: current liabilities and long-term liabilities.

Current liabilities are those liabilities that are expected to be paid within one year. Current assets are usually used to pay current liabilities. Current liabilities include accounts payable, billings in excess of costs and estimated earnings, notes payable, accrued payables, capital lease payments, warranty reserves, and other current liabilities.

Accounts Payable: Accounts payable are debts that the company owes and expects to pay within one year that are not evidenced by a written promise to pay. For construction companies the monthly bills that they receive from their suppliers and subcontractors constitute accounts payable until the bill has been paid. When retention is withheld from the subcontractor payments, it is common practice to divide accounts payable into two categories: accounts payable-trade and accounts payable-retention. The retention that is being withheld from the suppliers' and subcontractors' payments on projects where the requirements for release of the retention have not been met is recorded in the accounts payable-retention category. The monthly bills from the suppliers and subcontractors, less retention, and retention on projects where the requirements for release of the retention have been met are recorded in the accounts payable-trade category. The separation of these two categories allows management to quickly see how much of its accounts payable are being held until the requirements for the release of retention have been met.

Billings in Excess of Costs and Profits: Billings in excess of costs and profits may also be referred to as billings in excess of costs and estimated earnings or overbillings. Billings in excess of costs and estimated profits is the opposite of costs and profits in excess of billings. Construction companies using the percentage-of-completion accounting method are required to recognize the estimated profits on a construction project as the project is being completed rather than at the completion of the project. In these situations, the estimated profits must be equally distributed over the entire project based on the expected cost of the project. Billings in excess of costs and estimated profits occur when the company bills more than the costs incurred plus the estimated profits or earnings associated with the completed work. If the costs and estimated profits are greater than the billings, the difference is recorded as an asset under the costs and profits in excess of billings category. Billings in excess of costs and profits can be the result of cost savings on the completed work or as a result of the profit not being equally spread over the items listed on the schedule of values. For companies using the completed contract method, this category is replaced with a category entitled billings in excess of costs. For companies using the cash or accrual accounting method, this category is not included on the financial statements.

Notes Payable: Notes payable includes all debts that will likely be paid within one year and have been formalized by a written promise to pay.