

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.

In December 2007 the U.S. economy slipped into a recession. The U.S. construction industry was the hardest hit industry, losing 19.8% of its jobs between December 2007 and June 2009.¹ By 2010, unemployment in the construction industry had risen to 20.1%.²

One study found that of 27,536 construction companies, all of which were started in 1998, over 70% of them had gone out of business seven years later. The survival rate of these companies is shown in Figure 1-1.³

In 1997, 10,867⁴ construction companies in the United States failed, bringing the total for the eight-year period

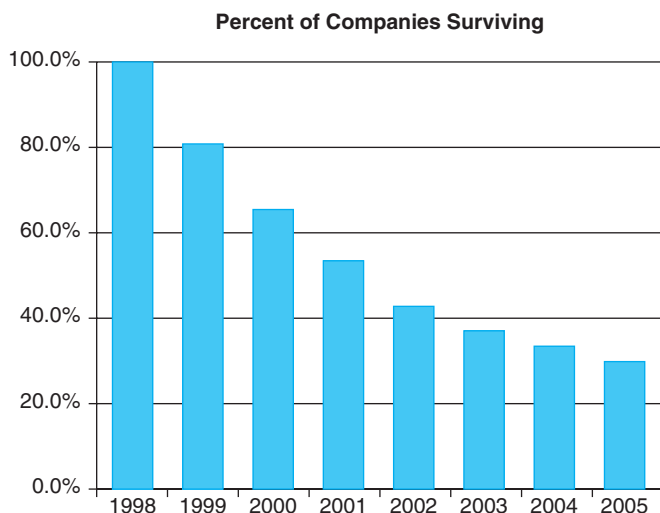


FIGURE 1-1 Business Failure by Age

¹Goodman, Christopher J. and Mance, Steven M., "Employment Loss and the 2007–09 Recession: An Overview," *Monthly Labor Review*, April 2011, p. 6.

²Johnson, Brian, "Construction Job Losses Continue," *Finance and Commerce*, downloaded from <http://finance-commerce.com/2010/07/construction-job-losses-continue/> on May 10, 2011.

³Knaup, Amy E. and Piazza, Merissa C., "Business Employment Dynamics Data: Survival and Longevity, II," *Monthly Labor Review*, September 2007, pp. 6 and 8.

⁴Dun & Bradstreet, *Business Failure Record*, 1986–97, annually as quoted by The Center to Protect Worker's Rights, *The Construction Chart Book*, 3rd Edition, September 2002. Note: Dun & Bradstreet stopped publishing business failure data after 1997.

beginning in 1990 to more than 80,000⁵ construction companies. These failures include only those business failures that resulted in a loss to their creditors and do not include contractors who closed their doors without leaving their creditors with a loss. These failures are divided among companies of all ages. Figure 1-2 shows the breakdown of these failures by age of the business. During 1997 the greatest number of business failures was for construction companies that had been operating for longer than 10 years.⁶

Since 1988 the construction industry has experienced a higher-than-average business failure rate when compared to the failure rate of all businesses.⁸

In 2002, two of Japan's largest construction companies—Sato Kogy Company and Nissan Construction—filed for bankruptcy in the same month.⁹ Also in the same month, Germany's second largest construction company, Philipp Holzmann AG, which had been in business for longer than 150 years, filed for bankruptcy.¹⁰

Large and small, old and new, domestic and foreign construction companies are among the statistics of failed construction companies.

What are the sources of failure for construction companies?

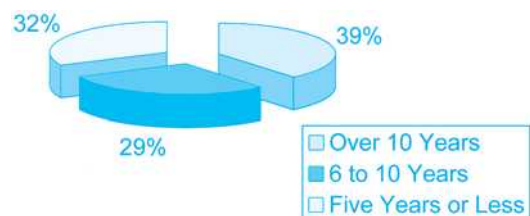


FIGURE 1-2 Business Failure by Age⁷

⁵Dun & Bradstreet, *Business Failure Record*, 1986–97, annually as quoted by Surety Information Office, *Why Do Contractors Fail?*—downloaded from <http://www.sio.org/html/whyfail.html> on April 3, 2003.

⁶Dun & Bradstreet, *Business Failure Record*, 1986–97, annually as quoted by The Center to Protect Worker's Rights, *The Construction Chart Book*, 3rd Edition, September 2002.

⁷Ibid.

⁸Ibid.

⁹The Associated Press, *Nissan Construction to File for Bankruptcy*, *The New York Times* on the Web, April 1, 2002, and Ken Belson, *Contractor in Japan Is Seeking Bankruptcy*, *The New York Times* on the Web, March 5, 2002.

¹⁰Andrews, Edmund L., *Kirch in Danger of Bankruptcy After Rescue Talks Break Down*, *The New York Times* on the Web, April 3, 2002, and Skyscrapers.com.

The Surety Information Office—an office that collects data on surety bonds—has identified six 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 . . . no comprehensive business plan . . . [and] communication problems.”¹¹ Four of these six 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.

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 leaving 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 other 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 industries, 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, and with or without paper backing and packaged in rolls or bundles of 8-foot batts. All of these products are similar with slight variations.

¹¹Surety Information Office, *Why Do Contractors Fail?*—downloaded from <http://www.sio.org/html/whyfail.html> downloaded on April 3, 2003.

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.

No other industry is as project based as is the construction industry. 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 also the cost of the components may be used 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