This is a sample of the instructor resources for *Healthcare Finance: An Introduction to Accounting and Financial Management*, Fifth Edition, by Louis Gapenski. This sample contains the instructor notes for Chapter 2.

The complete instructor resources consist of 183 pages of instructor notes, appendixes A (Financial Analysis Ratios) and B (Operating Indicator Ratios), and a sample syllabus. If you adopt this text you will be given access to complete materials. To obtain access, e-mail your request to hap1@ache.org and include the following information in your message:

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ANSWERS TO END-OF-CHAPTER QUESTIONS

2.1 The three primary forms of business organization are the proprietorship, partnership, and corporation. A *proprietorship*, sometimes called a *sole proprietorship*, is a business owned by one individual. A proprietorship is easily and inexpensively formed, is subject to few governmental regulations, and the business pays no corporate income taxes.

A *partnership* is formed when two or more persons associate to conduct a nonincorporated business. Like a proprietorship, the major advantages of the partnership form of organization are its low cost and ease of formation. In addition, the tax treatment of a partnership is similar to that of a proprietorship; the partnership's earnings are allocated to the partners and taxed as personal income, regardless of whether the earnings are actually paid out to the partners or retained in the business.

Proprietorships and partnerships have three important limitations:

1. Selling their interest in the business is difficult for owners.
2. The owners have unlimited personal liability for the debts of the business, which can result in losses greater than the amount invested in the business. In a proprietorship, unlimited liability means that the owner is personally responsible for the debts of the business. In a partnership, it means that if any partner is unable to meet his or her pro rata obligation in the event of bankruptcy, the remaining partners are responsible for the unsatisfied claims and must draw on their personal assets if necessary.
3. The life of the business is limited to the life of the owners.

These three disadvantages—difficulty in transferring ownership, unlimited liability, and impermanence of the business—lead to the fourth and perhaps the most important disadvantage from a finance perspective, the difficulty that proprietorships and partnerships have in attracting substantial amounts of capital.

A *corporation* is a legal entity that is separate and distinct from its owners and managers. The creation of a separate business entity gives the corporation three main advantages:

1. A corporation has unlimited life and can continue in existence after its original owners and managers have died or left the company.
2. It is easy to transfer ownership in a corporation because ownership is divided into shares of stock that can be easily sold.
3. Owners of a corporation have limited liability.

The corporate form of organization has two primary disadvantages. First, corporate earnings of taxable entities are subject to double taxation; once at the corporate level and then again at the personal level when dividends are paid to stockholders. Second, setting up a corporation, and then filing the required periodic state and federal reports, is more costly and time-consuming than that required to establish a proprietorship or partnership.

2.2 There are three key features of *investor-owned corporations*. First, the owners (the stockholders) of the business are well defined, and they exercise control of the firm by voting for directors. Second, the residual earnings of the business belong to the owners, so management is responsible only to the stockholders for the profitability of the firm. Finally, investor-owned corporations are subject to taxation at the local, state, and federal levels.
If an organization meets a set of stringent requirements, it can qualify for incorporation as a **tax-exempt**, or **not-for-profit**, corporation. Tax-exempt corporations are sometimes called **nonprofit corporations**. Because nonprofit **businesses** (as opposed to pure charities) need profits to sustain operations, and because it is hard to explain why nonprofit corporations should earn profits, the term “not-for-profit” makes more sense, especially in a finance context. Not-for-profit corporations differ significantly from investor-owned corporations. Because not-for-profit firms have no shareholders, no single body of individuals has ownership rights to the firm's residual earnings, or exercises control of the firm. Rather, control is exercised by a board of trustees that is not constrained by outside oversight. Also, not-for-profit corporations are generally exempt from taxation, including both property and income taxes, and they have the right to issue tax-exempt debt (municipal bonds). Finally, individual contributions to not-for-profit organizations can be deducted from taxable income by the donor; so not-for-profit firms have access to tax-subsidized contribution capital.

2.3 a. The primary goal of investor-owned corporations is shareholder wealth maximization.

b. The primary goal of most not-for-profit healthcare organizations generally takes the form of some mission; such as to enhance the health of the communities served.

c. In spite of overall goal differences, there actually is little difference between the finance goals of investor-owned and not-for-profit businesses. In general, the finance function must ensure the financial viability of the organization and support organizational goals.

d. An **agency problem** exists when one or more individuals (the **principals**) hire another individual or group of individuals (the **agents**) to perform a service on their behalf, and then delegate a decision-making authority to those agents. Within the healthcare finance framework, the agency problem exists between stockholders and managers, and between debtholders and stockholders.

The agency problem between stockholders and managers occurs because the managers of large, investor-owned firms hold only a very small proportion of the firm's stock, so they benefit very little from stock price increases. On the other hand, managers benefit substantially from such actions as increasing the size of the firm to justify higher salaries and more fringe benefits, awarding themselves generous retirement plans, and spending too much on office space, personal staff, and travel—actions often detrimental to shareholders' wealth. Clearly, many situations can arise in which managers are motivated to take actions that are in their best interests, rather than in the best interests of the firm's stockholders. A similar agency problem exists between the managers and other stakeholders—primarily the communities served—in not-for-profit organizations.

Shareholders (or other stakeholders in not-for-profit organizations) recognize the agency problem and counter it by creating compensation incentives, such as stock options and performance-based bonus plans, that encourage managers to act in shareholders' interests. Additionally, other factors, such as the threat of takeover or removal, are at work to keep managers focused on shareholder wealth maximization.

2.4 a. Tax laws are important to healthcare finance because the value of any investment—whether the investment is a stock, a bond, or an entire business—depends on the **usable** cash flows (i.e., the cash flows after all taxes and fees have been paid) that the investment is expected to provide to the owner. Thus, healthcare finance analyses must include tax implications, at least within those businesses that must pay them.
b. The three most important tax benefits to not-for-profit corporations are:

1. By not paying taxes, the usable earnings of a not-for-profit corporation are greater than those of a similar for-profit entity.
2. Not-for-profit corporations can issue municipal bonds, and hence pay lower interest rates on their debt financing.
3. Not-for-profit businesses have access to contribution capital, because contributions to such organizations are tax deductible to the donor.

c. Not-for-profit organizations are required to submit Form 990 to the IRS annually. Its purpose is to provide both the IRS and the public with financial information about not-for-profit organizations, and it is often the only source of such information. It is also used by government agencies to prevent organizations from abusing their tax-exempt status. Form 990 requires significant disclosures related to governance and boards of directors. In addition, hospitals are required to file Schedule H to Form 990, which includes financial information on the amount and type of community benefits (primarily charity care) provided, bad debt losses, Medicare patients, and collection practices. IRS regulations require not-for-profit organizations to provide copies of their three most recent Form 990s to anyone who requests them, whether in person or by mail, fax, or e-mail. Form 990s are also available to the public through several online services.

2.5 Third-party payers, the organizations that provide most of the revenues to healthcare providers, are classified as either private insurers or public insurers.

Private Insurers

In the United States, the concept of public, or government, health insurance is relatively new, while private health insurance has been in existence since the turn of the century. The major private insurers are Blue Cross/Blue Shield, commercial insurers, and self-insurers.

Blue Cross/Blue Shield organizations trace their roots to the Great Depression, when both hospitals and physicians were concerned about their patients' abilities to pay healthcare bills. Blue Cross originated as a number of separate insurance programs offered by individual hospitals, which were ultimately consolidated into larger programs. The states, one by one, passed enabling legislation that provided for the founding of not-for-profit hospital service corporations that were exempt both from taxes and from the capital requirements mandated for other insurers. However, state insurance departments had—and continue to have—oversight over most aspects of the plans' operations. Blue Shield plans developed in a manner similar to that of the Blue Cross plans, except that the providers were physicians instead of hospitals. The Blues are organized as local or statewide corporations, but all belong to a single, national association that sets standards that must be met to use the Blue Cross/Blue Shield name. Historically, the Blues have been not-for-profit corporations that enjoyed the full benefits accorded to that status, including freedom from taxes. In 1986, however, Congress eliminated the Blues' tax exemption on the grounds that they operated commercial-type insurance activities. In 1994, the national association lifted its traditional ban on member plans becoming investor-owned companies. Since that time several plans have converted to for-profit status.
Commercial health insurance is issued by life insurance companies, by casualty insurance companies, and by companies that were formed exclusively to write health insurance. Commercial insurance companies can be organized either as stock or mutual companies. Stock companies are shareholder-owned, and can raise capital by selling shares of stock just like any other for-profit company. Furthermore, the stockholders assume the risks and responsibilities of ownership and management. A mutual company has no shareholders; its management is controlled by a board of directors elected by the company’s policyholders. Regardless of the form of ownership, commercial insurance companies are taxable entities. Commercial insurers moved strongly into health insurance following World War II. At that time, the United Auto Workers (UAW) negotiated the first contract with employers in which fringe benefits were a major part of the contract. Like the Blues, the majority of individuals with commercial health insurance are covered under group policies with employee groups, professional and other associations, and labor unions.

The third major form of private insurance is self insurance. Self-insurers make a conscious decision to bear the risks associated with healthcare costs, and then set aside funds to pay future costs as they occur. Individuals are not good candidates for self-insurance because they face too much uncertainty concerning healthcare expenses. On the other hand, large groups, especially employers, are good candidates for self-insurance. Today, most large groups are self-insured. For example, employees of the State of Florida are covered by health insurance that is administered by Blue Cross/Blue Shield of Florida, but the actual benefits to plan members are paid directly by the state. Blue Cross/Blue Shield is paid for administering the plan, but the state bears all risks associated with cost and utilization uncertainty.

Public Insurers

The two major government third-party payers are Medicare and Medicaid.

Medicare was established by the federal government in 1966 to provide medical benefits to individuals age 65 and older. Medicare consists of two separate coverages: Part A provides hospital and some skilled nursing home coverage; Part B covers physician services, ambulatory surgical services, outpatient services, and other miscellaneous services. The Medicare program falls under the Department of Health and Human Services (DHHS), which creates the specific rules of the program on the basis of enabling legislation. Medicare is administered by an agency under DHHS called the Centers for Medicare & Medicaid Services (CMS).

Medicaid began in 1966 as a modest program to be jointly funded and operated by the states and the federal government to provide a medical safety net for low-income mothers and children, and for elderly, blind, and disabled individuals receiving benefits from the Supplemental Security Income (SSI) program. Congress mandated that Medicaid cover hospital and physician care, but states were encouraged to expand on the basic package of benefits either by increasing the range of benefits or extending the program to cover more people. States with large tax bases were quick to expand coverage to many groups, while states with limited abilities to raise funds for Medicaid were forced to establish more limited programs. Over the years, Medicaid has provided access to healthcare services for many low-income individuals who otherwise would have no insurance coverage. Furthermore, Medicaid has become an important source of revenue for healthcare providers, especially those that treat large numbers of indigent patients. However, Medicaid expenditures have been growing at an alarming rate, and hence both federal and state policymakers are struggling to find effective ways to improve the program’s access, quality, and cost.
2.6 a. Managed care plans strive to combine the provision of healthcare services and the insurance function into a single entity. Traditionally, such plans have been created by insurers, who either directly own a provider network or create one through contractual arrangements with independent providers. Recently, however, providers in some areas have banded together to form integrated delivery systems (IDSs) that are capable of offering both insurance and healthcare services.

b. One type of managed care plan is the health maintenance organization (HMO). HMOs are based on the premise that the traditional insurer/provider relationship creates perverse incentives that reward providers for treating patients’ illnesses while offering little incentive for providing prevention and rehabilitation services. By combining the financing and delivery of comprehensive healthcare services into a single system, HMOs theoretically have as strong an incentive to prevent as to treat illnesses.

Another type of managed care plan, the preferred provider organization (PPO), evolved during the early 1980s. PPOs are a hybrid of HMOs and traditional health insurance plans. They use many of the cost-saving strategies developed by HMOs. PPOs do not mandate that beneficiaries use specific providers, although financial incentives are created that encourage members to use those providers that are part of the provider panel, which are those providers having discounted-fee contracts with the PPO. Unlike HMOs, PPOs do not require beneficiaries to use pre-selected gatekeeper physicians who serve as the initial contact and authorize all services received. PPOs are less likely than HMOs to provide preventive services. PPOs also do not assume any responsibility for quality assurance, because the enrollees are not constrained to use only the PPO panel of providers.

2.7 The primary difference between fee-for-service and capitation reimbursement is that under fee-for-service each encounter creates additional revenue for the provider. The encounter may be defined as a visit, a diagnosis, a hospital day, or in some other manner, but the key feature is that the more services that are performed, the greater the reimbursement amount. Under capitation, the provider is paid a fixed amount per covered life per period (usually a month) regardless of the amount of services provided.

2.8 a. Under cost-based reimbursement, providers are given a “blank check” in regards to acquiring assets and incurring operating costs. If payers reimburse providers for all costs, the incentive is to incur costs. Facilities will be lavish and conveniently located, and staff will be available to ensure that patients are given “deluxe” treatment. Furthermore, as in billed charges reimbursement, services that may not truly be required will be provided because more services lead to higher costs, which mean higher revenues. Cost-based reimbursement is the least risky for providers because payers more or less ensure that costs will be covered, and hence profits will be earned.

b. Under charge-based reimbursement, providers have the incentive to set high charge rates, which leads to high revenues. However, in highly competitive markets, there will be a constraint on how high providers can go. Because billed charges is a fee-for-service type of reimbursement, in which more services result in higher revenue, a strong incentive exists to provide the highest possible amount of services. In essence, providers can increase utilization, and hence revenues, by churning—creating more visits, ordering more tests, extending inpatient stays, and so on. Although charge-based reimbursement does encourage providers to contain costs, the incentive is weak because charges can be more easily increased than costs can be reduced. Note, however, that discounted charge reimbursement places additional pressure on profitability, and hence creates an increased incentive for providers to lower costs. In charge-based systems, providers typically can set charges high enough to ensure that costs are covered, although discounts introduce
uncertainty into the reimbursement process. Providers bear the cost-of-service risk, in that costs can exceed revenues. However, if providers set charge rates for each type of service provided, they can most easily ensure that revenues exceed costs.

c. Under **prospective payment** reimbursement, provider incentives are altered. First, under **per procedure** reimbursement, the profitability of individual procedures will vary depending on the relationship between the actual costs incurred and the payment for that procedure. Providers, usually physicians, have the incentive to perform procedures that have the highest profit potential. Furthermore, the more procedures the better, because each procedure generates additional revenue. Prospective payment adds a second dimension of risk to reimbursement contracts because the bundle of services needed to treat a particular patient may be more extensive than that assumed in the payment. However, when the prospective payment is made on a per procedure basis, risk is minimal because each procedure will produce its own revenue.

d. The incentives under **per diagnosis** reimbursement are similar to those under per procedure reimbursement. Providers, usually hospitals, will seek patients with those diagnoses that have the greatest profit potential, and discourage (even discontinue) those services that have the least potential. Furthermore, to the extent that providers have some flexibility in assigning diagnoses to patients, an incentive exists to **upcode** diagnoses to another one that provides greater reimbursement. When prospective payment is made on a per diagnosis basis, provider risk is increased relative to cost- or charge-based reimbursement. If, on average, patients require more intensive treatments, and for hospitals, a longer length of stay (LOS), than assumed in the prospective payment amount, the provider must bear the added costs.

e. In all prospective payment methods, providers have the incentive to reduce costs, because the amount of reimbursement is fixed and independent of the costs actually incurred. When **per diem** reimbursement is used, particularly with hospitals, providers have an incentive to increase length of stay. Because the early days of a hospitalization are typically more costly to the provider than the later days, the later days are more profitable. When prospective payment is made on a per diem basis, even when stratified, one daily rate usually covers a large number of diagnoses. Because the nature of the services provided could vary widely, both due to varying diagnoses as well as intensity differences within a single diagnosis, the provider bears the risk that costs associated with the services provided on any day exceed the per diem rate. Although patients with complex diagnoses and greater intensity tend to remain hospitalized longer, the additional days of stay (and hence reimbursement) may be insufficient to make up for the increased resources consumed. In addition, providers bear the risk that the payer, through the utilization review process, will constrain LOS, and hence increase intensity during the days that a patient is hospitalized.

f. Under **global pricing**, providers do not have the opportunity to be reimbursed for a series of separate services, which is called **unbundling**. For example, a physician's treatment of a fracture could be bundled and hence, billed as one episode, or it could be unbundled with separate bills submitted for diagnosis, x-rays, setting the fracture, removing the cast, and so on. The rationale for unbundling is usually to provide more detailed records of treatments rendered, but often the result is higher total charges for the parts than would be charged for the entire package. Also, global pricing, when applied to multiple providers for a single episode of care, forces involved providers (e.g., physicians and a hospital) to jointly offer the most cost-effective treatment. Such a joint view of cost containment may be more effective than when each provider separately attempts to minimize its treatment costs, because lowering costs in one phase of treatment could increase costs in another. Under global pricing, a more inclusive set of procedures, or providers, are included in one fixed payment. Clearly, the more services that must be rendered for a single payment—or the more providers that have to share a single payment—the more providers are at risk for intensity of services.
Finally, *capitation* reimbursement totally changes the playing field by completely reversing the actions that providers must take to ensure financial success. Under all prospective payment methods, the key to provider success is to work harder, increase utilization, and hence increase profits; under capitation, the key to profitability is to work smarter and decrease utilization. As with prospective payment, capitated providers have the incentive to reduce costs, but now they also have the incentive to reduce utilization. Thus, only those procedures that are truly medically necessary should be performed, and treatment should take place in the lowest-cost setting that can provide the appropriate quality of care. Furthermore, providers have the incentive to promote health rather than just treat illness and injury, because a healthier population consumes fewer healthcare services. Under capitation, providers assume utilization and actuarial risks that traditionally have been an insurance function. In the traditional fee-for-service system, the financial risk of providing healthcare is shared between purchasers and insurers. Hospitals, physicians, and other providers bear negligible risk because they are paid on the basis of the amount of services provided. Insurers bear short-term risk in that in any year, payments to providers can exceed the amount of premiums collected. However, poor profitability by insurers in one year usually can be offset by premium increases to purchasers the next year, so the long-term risk of financing the healthcare system is borne by purchasers. Capitation, however, places the burden of short-term utilization risk on providers.

### 2.9 Medical coding

Medical coding, or medical classification, is the process of transforming descriptions of medical diagnoses and procedures into code numbers that can be universally recognized and interpreted. The diagnoses and procedures are usually taken from a variety of sources within the medical record, such as doctor's notes, laboratory results, and radiological tests. In practice, the basis for most fee-for-service reimbursement is the patient's diagnosis (in the case of hospitals) or the procedures performed on the patient (in the case of outpatient settings). The *International Classification of Diseases* (most commonly known by the abbreviation ICD) is the standard for designating diseases plus a wide variety of signs, symptoms, and external causes of injury and are used internationally to record many types of health events, including hospital inpatient stays. While ICD codes are used to specify diseases, *Current Procedural Terminology* (CPT) codes are used to specify medical procedures (treatments). CPT codes were developed and are copyrighted by the American Medical Association. The purpose of CPT is to create a uniform language (set of descriptive terms and codes) that accurately describes medical, surgical, and diagnostic procedures. CPT terminology and codes are revised periodically to reflect current trends in clinical treatments. To increase standardization and the use of electronic medical records, federal law requires that physicians and other clinical providers, including laboratory and diagnostic services, use CPT for the coding and transfer of healthcare information. (The same law also requires that ICD-9-CM codes be used for hospital inpatient services.)

### 2.10 Healthcare reform

Healthcare reform is a generic term used to describe the actions taken by Congress in 2009 and 2010 to “reform” the healthcare system. The messy legislative process was completed in early 2010, when President Barack Obama signed the *Patient Protection and Affordable Care Act* on March 23. Because of the difficulties in passing legislation that was acceptable to both the House and Senate, a second law was required. This legislation, the *HealthCare and Education Reconciliation Act of 2010*, was signed into law on March 30, 2010. Healthcare reform includes a large number of provisions that will, if not changed, take effect over the next several years with the primary goal of helping an additional 32 million Americans obtain health insurance. The provisions include expanding Medicaid eligibility, subsidizing insurance premiums, providing incentives for businesses to provide healthcare benefits, prohibiting denial of coverage based on pre-existing conditions, establishing health insurance exchanges, and providing financial
support for medical research. For the most part, reform focuses on the insurance side of the healthcare sector as opposed to the provider side. Thus, many people believe that the legislation should be called “insurance reform” rather than “healthcare reform.”

2.11  *Accountable care organizations (ACOs)*, one of the cornerstones of healthcare reform, are a method of integrating local physicians with other members of the healthcare community and rewarding them for controlling costs and improving quality. While ACOs are not radically different from other attempts to improve the delivery of healthcare services, their uniqueness lies in the flexibility of their structures and payment methodologies along with their ability to assume risk. Similar to some managed care organizations and integrated healthcare systems such as the Mayo Clinic, ACOs are responsible for the health outcomes of the population served and are tasked with collaboratively improving care to reach cost and clinical quality targets set by the payer. To help achieve cost control and quality goals, ACOs can distribute bonuses when targets are met and impose penalties when targets are missed. To be effective, an ACO should include, at a minimum, primary care physicians, specialists, and typically, a hospital. In addition, it should have the managerial systems in place to administer payments, set benchmarks, measure performance, and distribute shared savings. A variety of federal, regional, state, and academic hospital initiatives are investigating how to implement ACOs. Although the concept shows potential, there are still many legal and managerial hurdles that have to be overcome for ACOs to live up to their initial promise. One of the features of healthcare reform is a plan for a *shared savings* program in which Medicare pays a fixed (global) payment to ACOs that covers the entire cost of care of an entire population. In such a program, cost targets are first established and then any cost savings (costs that are below target costs) are shared between the payer (Medicare) and the ACO. In addition to the global payment and shared savings, bonuses are paid if the ACO meets quality and patient satisfaction scores.

A *medical home* (or *patient-centered medical home*) is a team-based model of care led by a personal physician who provides continuous and coordinated care throughout a patient’s lifetime to maximize health outcomes. The medical home practice is responsible for providing all of a patient’s healthcare needs or appropriately arranging care with other qualified professionals. This includes the provision of preventive services, treatment of acute and chronic illnesses, and assistance with end-of-life issues. It is a model of practice in which a team of healthcare professionals, coordinated by a personal physician, works collaboratively to ensure coordinated and integrated care, patient access and communication, quality, and safety. The medical home model is independent of the ACO concept, but it is anticipated that ACOs would provide an organizational setting that facilitates implementation of the model.
# ANSWERS TO END-OF-CHAPTER PROBLEMS

## 2.1 a.
With $1 million of taxable income and a 30 percent tax rate, the hospital’s taxes are
0.30 \times 1,000,000 = 300,000, and its net income is $1,000,000 – $300,000 = $700,000.
Alternatively, after-tax income can be found as:

\[
AT = BT \times (1 - T) = 1,000,000 \times (1 - 0.30) \\
= 1,000,000 \times 0.70 \\
= 700,000.
\]

b.

\[
AT = BT \times (1 - T) = 10,000 \times (1 - 0.15) \\
= 10,000 \times 0.85 \\
= 8,500.
\]

## 2.2
If only 30 percent of the $100,000 dividend is taxable, then taxes need be paid only on
0.30 \times 100,000 = 30,000. At a rate of 35 percent, the firm’s taxes are 0.35 \times 30,000 =
$10,500. This means that the after-tax dividend is $100,000 – $10,500 = $89,500. Note
that because of the dividend exclusion, the effective tax rate was reduced from the 35
percent normal rate to $10,500 \div 100,000 = 0.105 = 10.5\%$. Alternatively,

\[
AT = BT \times (1 - \text{Effective } T) = 100,000 \times (1 - 0.30 \times 0.35) \\
= 100,000 \times (1 - 0.105) \\
= 100,000 \times 0.895 \\
= 89,500.
\]

## 2.3 a.
HCA: \[AT = BT \times (1 - T) = 12\% \times (1 - 0.40) \\
= 12\% \times 0.60 \\
= 7.2\%.
\]

b. Twin Cities: \[AT = BT \times (1 - T) = 6\% \times (1 - 0) \\
= 6\% \times 1.0 \\
= 6\%.
\]

John should buy the HCA bonds, because they have a higher return after taxes are
considered.

c. Because the Twin Cities’ bonds must yield 7.2 percent after taxes to be indifferent, and
because they are tax-exempt; the interest rate on the bonds must be 7.2 percent.

## 2.4
Because the interest rate on taxable bonds is treated as ordinary income, the taxable
bonds must yield 7 percent after taxes are paid, so

\[
AT = BT \times (1 - T) \\
7\% = BT \times (1 - 0.40) = BT \times 0.60 \\
BT = 7\% \div 0.60 = 11.67\%.
\]
2.5 Without the contribution, the tax bill would be: 0.48 x $2,000,000 = $960,000
With the contribution, it would be: 0.48 x $1,500,000 = $720,000
Impact of contribution on taxes: $240,000

Note that the reduction in taxes that results from a tax deduction is called a *tax shield*. It is calculated as $T \times \text{Amount of deduction}$. In this example, the tax shield is $0.48 \times $500,000 = $240,000.