# Chapter 1

## By the Numbers: Assessing your Data Literacy

1. Based on the list of popular jobs held by economists, what is the median salary of a financial manager? What is the median salary of a public relations specialist?

**Answer:** The median salary of a financial manager is approximately $125,000, while the median salary of a public relations specialist is approximately $59,000.

1. What factors might explain the large difference in median salary between a financial manager and a public relations specialist?

**Answer:** Financial managers earn more, on average, than public relations specialists because of the demand for and supply of workers in these fields. Although both roles are important to companies, financial managers generally require a high level of math and technical skills to succeed, and therefore companies pay higher salaries to attract the limited number of students who pursue this career. There are also other lucrative careers that financial managers can pursue based on their technical skills, so companies must compete for this talent by paying higher salaries.

1. Based on the introduction at the top of this page, what types of jobs (other than those listed in the graph) might economists hold?

**Answer:** Because economics is a broad discipline that teaches practical analytical skills, some economists choose to pursue a career in law, financial consulting, or marketing. Others may pursue a career in government, either running for elected office or working in one of numerous government organizations such as the U.S. Census or the U.S. Labor Department. Teaching is another popular career as economics courses are an important part of high school and college curricula. With an economics degree, the careers one can pursue are very abundant.

## Check Your Understanding

**1.** What is wrong with the statement “Economics is everything to do with money”?

**Answer:** Economics involves making choices with limited resources. Money is just one type of resource. Time, intellect, and ability are other resources to be considered. Focusing only on money issues ignores the vast array of nonmoney issues in which economics plays an important role.

**2.** Does your going to college have anything to do with expanding choices or reducing scarcity? Explain.

**Answer:** Yes, clearly going to college instead of going immediately to work represents a choice to get additional skills now and enter the labor force later. Even if you are working and going to school, you are choosing between investing in your education versus another activity. You will see the benefits in the future, when your skills command greater resources.

**3.** What is the difference between a positive question and a normative question?

**Answer:** A positive question attempts to study the relationship between two variables in an economy, while a normative question is based on a value judgment. A positive question would ask what is likely to happen when an activity is undertaken, while a normative question would ask whether that activity should or should not be undertaken.

**4.** You normally stay at home on Wednesday nights and study. Next Wednesday night, your best friend is having his big 21st birthday party. What is the opportunity cost of going to the party?

**Answer:** Opportunity cost is the value of what you give up in order to attend the party. Because you would normally be at home studying, the opportunity cost of the party is the benefit (such as a higher homework or exam grade) that you would have gained from studying that night.

**5.** What is the incentive to spend four years of one’s life and tens of thousands of dollars to earn a college degree?

**Answer:** An incentive encourages individuals to take actions that are in their best self-interest. Although attending college is both costly and time consuming, the potential rewards from significantly higher lifetime earnings more than offsets what one gives up to attend college.

**6.** Why do markets typically lead to an efficient outcome for buyers and sellers?

**Answer:** Markets allow buyers and sellers to interact in such a way that sellers who wish to sell items can find buyers wishing to buy them. Markets are flexible, meaning that prices adjust until every unit of a good that sellers wish to sell is eventually purchased by a consumer wishing to buy it.

## Apply the Concepts

**7.** Many companies offer employees health savings accounts (HSAs) instead of traditional health care plans. HSAs provide each employee with money (usually between $500 and $1,000 per year) that can be used for any health care expense but then requires employees to cover a much higher portion of expenses beyond that. Describe an issue of efficiency and an issue of equity that arises from this policy.

**Answer:** There are many correct answers, but HSAs promote efficiency by giving more control of health care spending to the individual. They are more likely to shop around for better prices, knowing that money is limited. Individuals might also maintain healthier habits to avoid having to pay health care expenses out-of-pocket, which can translate to more efficiency in the workplace. In terms of equity, the fact that everyone in a company receives the same amount of money can be equitable. However, critics point out that individuals with higher health care costs due to preexisting conditions or have family members covered under the plan will end up paying much more under HSA plans, and therefore such plans are not equitable. Also, if individuals forgo health care services because of the incentive to save money, serious illnesses may go undetected until it’s too late, which makes this system less efficient at allocating health care to those who need it the most.

**8.** Stores depend on feedback from their customers as a way to improve their business practices and to market their products. To encourage customers to offer feedback, stores will sometimes offer an incentive, such as a discount on a future purchase or additional reward points in a frequent shopper program. Why do some customers, but not all, take advantage of the incentive to leave feedback? Does the actual shopping experience of the customer affect his or her willingness to do so?

**Answer:** Mail-in rebates allow individuals to recoup a fixed amount of money if they complete and submit the required paperwork. Submitting documents for a rebate involves opportunity costs in terms of the time required to complete the paperwork as well as monetary costs such as a stamp, envelope, and auto expenses incurred to deposit the check. The value of time varies from person to person. Therefore, a person with a lower opportunity cost of time (such as a retiree) is more likely to submit rebate requests than someone with a higher opportunity cost of time (such as a bank executive).

**9.** The black rhinoceros is extremely endangered. Its horn is considered a powerful aphrodisiac in many Asian countries, and a single horn fetches many thousands of dollars on the black market, creating a great incentive for poachers. Unlike other stories of endangered species, this one might have a simple solution. Conservationists could simply capture as many rhinos as possible and remove their horns, reducing the incentive to poach. Do you think this will help reduce poaching? Why or why not?

**Answer:** It is probably bound to help somewhat. If only some have horns removed, however, poachers might still kill the rhino to keep from having to track this animal in the future. After all, poachers are concerned with efficiency as well. Thus, the more animals with horns removed, the better the result. Also, dehorning may make the animals more susceptible to predators. But incentives do matter, and removing the horn on balance may help the effort to save the black rhino. See Charles Wheelan, *Naked Economics: Undressing the Dismal Science* (New York: W. W. Norton), 2002, Chapter 2.

**10.** Most amusement parks in the United States charge a fixed price for admission, which includes unlimited roller coaster rides for the day. Some people attempt to ride the roller coasters as often as possible in order to maximize the value of their admission. Why is riding a roller coaster at an amusement park over and over to “get your money’s worth” not considered *thinking on the margin*?

**Answer:** Attempting to ride the roller coaster as many times as possible allows one to minimize the average cost per ride. However, this does not necessarily maximize one’s satisfaction. After riding a roller coaster several times, one may get bored or even physically sick from riding again. If riding the roller coaster one more time makes a person worse off, then total satisfaction would fall. Therefore, thinking on the margin says that one should continue riding the roller coaster as long as the marginal benefit is greater than the marginal cost.

**11.** Because the U.S. government wants to reduce the nation’s reliance on fossil fuels, greater use of solar panels has been encouraged among households and businesses. However, the cost of installing solar panels can be prohibitively expensive for most people. Because people follow incentives, what can the government do to encourage more households and businesses to install solar panels?

**Answer:** Because the cost of installing solar panels can outweigh the savings in monthly utility bills, even over a long period of time, most households and businesses would rationally choose not to install them. However, those who place a greater value on environmental protection may experience nonmonetary benefits, thereby encouraging installations. If the government wishes to increase solar panel installations, it needs to incentivize households and businesses by increasing monetary benefits relative to costs. It can do so by offering tax credits and deductions for installation expenses. It could also subsidize the installation costs in exchange for a monthly fee equivalent to part of the electricity savings that result. In some states, the utility company will install solar panels for free but charge a monthly fee similar to an electricity bill. In this latter case, there may be no monetary benefit or cost but may be some nonmonetary benefits that encourage greater installations.

**12.** Some colleges and universities charge tuition by the credit hour, while others charge tuition by the term, allowing students to take as many classes as they desire. How do these tuition structures affect the incentives students face when deciding how many classes to take? Provide an example of a beneficial effect and an example of a potentially harmful effect resulting from the incentives created with each system. How does marginal analysis affect the incentives with each system?

**Answer:** If tuition is charged as a fixed rate per term regardless of the number of courses taken, students would have an incentive to take more classes per term. It might encourage students to forgo working and take additional classes to complete their degrees more quickly. A beneficial effect of the fixed rate is that it encourages students to focus on their studies and complete degrees more quickly. A beneficial effect of the per credit system is that it allows working students to complete their degrees part time while holding a job. A potentially harmful effect of the fixed rate system is that students may enroll in more classes than they can handle, resulting in lower grades. Marginal analysis guides students into determining whether it is in their best interest to take an additional class: Under the per credit system, the marginal cost of an additional class is the monetary cost of tuition and the time commitment, while under the fixed tuition system, the marginal cost of tuition is zero, but the time commitment still creates a marginal cost.

## In the News

**13.** The *New York Times* reported in an article titled “What the Top 1% of Earners Majored In” that 8.2% of Americans who majored in economics for their undergraduate degree are in the top 1% of salary earners. Only those who majored in pre-med had a higher percentage in the top 1%. What might be some reasons why economics majors have done well in the job market?

**Answer:** Economics is an analytical subject that prepares students for a very broad range of careers. Economics majors can find jobs in corporations, banks, and government institutions. Economics is also a popular major for those wishing to pursue a law degree. In sum, economics provides a well-rounded background for many well-paying careers.

**14.** In 2018, Seattle and San Francisco passed laws banning the use of plastic disposable straws because they are harmful to the environment (because plastic does not easily biodegrade) and to marine life (which ingest straws that end up in the ocean). But opponents point out that such bans may result in unintended monetary costs as well as external costs. Describe two potential costs that may arise as a result of these new laws.

**Answer:** Critics of the plastic straw ban have pointed out a number of unintended costs and consequences that may arise. For example, it may make life more difficult for individuals with disabilities who require straws to consume liquids and liquefied foods. It may also harm certain businesses such as bubble (boba) tea shops that require large straws to effectively consume their products. And for many businesses that choose to replace plastic straws with paper or biodegradable straws, the added cost will reduce profits and/or be passed on to consumers in the form of higher prices. There are many other arguments against the plastic straw ban, highlighting the difficult tradeoffs that occur when debating any new policy.

## Solving Problems

**15.** Suppose your favorite band is on tour and coming to your area. Tickets are $100, and you take a day off of work for which you could have earned $60. What is your opportunity cost of going to the concert?

**Answer:** The opportunity cost is the $100 that you could have spent on something else plus the $60 you would have earned by working, for a total of $160.

**16.** At your local family fun center, miniature golf is $12 per person for unlimited rounds in a day, while each go-kart session is $8. If you played three rounds of miniature golf and rode the go-karts three times, what was the marginal cost of the third round of miniature golf ? What was the marginal cost of the third go-kart session?

**Answer:** Miniature golf costs $12 regardless of how many rounds you play; therefore, the third round has a marginal cost of $0 because you already paid the $12 to play the first round. However, the marginal cost of the third round of go-karts is $8 because each session requires an additional payment.