

## 4.1.2: Time Is Money

### Learning Objectives

1. Explain *compound interest* and *the time value of money*.
2. Discuss the value of getting an early start on your plans for saving.

The fact that you have to choose a career at an early stage in your financial life cycle isn't the only reason that you need to start early on your financial planning. Let's assume, for instance, that it's your eighteenth birthday and that on this day you take possession of \$10,000 that your grandparents put in trust for you. You could, of course, spend it; in particular, it would probably cover the cost of flight training for a private pilot's license—something you've always wanted but were convinced that you couldn't afford for another ten or fifteen years. Your grandfather, of course, suggests that you put it into some kind of savings account. If you just wait until you finish college, he says, and if you can find a savings plan that pays 5 percent interest, you'll have the \$10,000 plus another \$2,209 to buy a pretty good used car.

The total amount you'll have—\$12,209—piques your interest. If that \$10,000 could turn itself into \$12,209 after sitting around for four years, what would it be worth if you actually held on to it until you did retire—say, at age sixty-five? A quick trip to the Internet to find a compound-interest calculator informs you that, forty-seven years later, your \$10,000 will have grown to \$104,345 (assuming a 5 percent interest rate). That's not really enough to retire on, but after all, you'd at least have some cash, even if you hadn't saved another dime for nearly half a century. On the other hand, what if that four years in college had paid off the way you planned, so that (once you get a good job) you're able to add, say, another \$10,000 to your retirement savings account every year until age sixty-five? At that rate, you'll have amassed a nice little nest egg of slightly more than \$1.6 million.

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