

A Tale of Two Savers

Part I: Ana and Shawn

The following case study is about two people who saved money. Both of them earned 10 percent interest on the money they saved. (Of course, in the real world, the interest or rate of return on savings can differ greatly from year to year and from one savings institution to another.)

Ana Gutierrez started saving when she was 22 years old, right out of college. Saving involves an opportunity cost—the next-best alternative given up. It wasn't easy for Ana to save \$2,000 a year then, considering her car loan, the expenses of operating her car, and rent payments. But Ana was determined to save because her grandmother always said it isn't what you make, but what you save, that determines your wealth. So, reluctantly, Ana gave up buying that new car and renting a really nice apartment, and she saved \$2,000 a year. After 12 years, she got tired of the sacrifice, yearning for a brand-new red sports car and other luxuries. She didn't touch the money she had already saved because she wanted to be sure she would have money for retirement, which she planned to do at the end of her 65th year. But she quit saving and hit the stores.

Shawn Wright didn't start saving until he was 34 years old. He also graduated from college at 22, but he had done without many things in college, and once he found a job that gave him a decent income, he wanted to have some of those things he had done without. He bought a new car, a very nice wardrobe, and he took some wonderful trips. But spending his income involved an opportunity cost. By the time he was 34, Shawn was married; he had many responsibilities, and he decided he'd better start saving and planning for his financial future. He also had heard that it isn't what you have earned, but what you have saved, that determines your wealth. He figured he had 25 to 30 productive years left in his career. So, with new determination, Shawn saved \$2,000 a year for the next 32 years until he retired at the end of his 65th year.

Which person do you believe had more savings at the end of his or her 65th year? Ana or Shawn?

EXERCISE 20.2

Lesson 20: What's the Cost of Spending and Saving?

		Ana Gutierrez			Shawn Wright		
Age	Interest rate	Saved	Interest Earned	Total saved at the end of the year	Saved	Interest Earned	Total saved at the end of the year
21	10%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
22	10%	\$2,000.00	\$200.00	\$2,200.00	\$0.00	\$0.00	\$0.00
23	10%	\$2,000.00	\$420.00	\$4,620.00	\$0.00	\$0.00	\$0.00
24	10%	\$2,000.00	\$662.00	\$7,282.00	\$0.00	\$0.00	\$0.00
25	10%	\$2,000.00	\$928.20	\$10,210.20	\$0.00	\$0.00	\$0.00
26	10%	\$2,000.00	\$1,221.02	\$13,431.22	\$0.00	\$0.00	\$0.00
27	10%	\$2,000.00	\$1,543.12	\$16,974.34	\$0.00	\$0.00	\$0.00
28	10%	\$2,000.00	\$1,897.43	\$20,871.78	\$0.00	\$0.00	\$0.00
29	10%	\$2,000.00	\$2,287.18	\$25,158.95	\$0.00	\$0.00	\$0.00
30	10%	\$2,000.00	\$2,715.90	\$29,874.85	\$0.00	\$0.00	\$0.00
31	10%	\$2,000.00	\$3,187.48	\$35,062.33	\$0.00	\$0.00	\$0.00
32	10%	\$2,000.00	\$3,706.23	\$40,768.57	\$0.00	\$0.00	\$0.00
33	10%	\$2,000.00	\$4,276.86	\$47,045.42	\$0.00	\$0.00	\$0.00
34	10%	\$0.00	\$4,704.54	\$51,749.97	\$2,000.00	\$200.00	\$2,200.00
35	10%	\$0.00	\$5,175.00	\$56,924.96	\$2,000.00	\$420.00	\$4,620.00
36	10%	\$0.00	\$5,692.50	\$62,617.46	\$2,000.00	\$662.00	\$7,282.00
37	10%	\$0.00	\$6,261.75	\$68,879.21	\$2,000.00	\$928.20	\$10,210.20
38	10%	\$0.00	\$6,887.92	\$75,767.18	\$2,000.00	\$1,221.02	\$13,431.22
39	10%	\$0.00	\$7,576.71	\$83,343.84	\$2,000.00	\$1,543.12	\$16,974.34
40	10%	\$0.00	\$8,334.38	\$91,678.22	\$2,000.00	\$1,897.43	\$20,871.78
41	10%	\$0.00	\$9,167.82	\$100,846.05	\$2,000.00	\$2,287.18	\$25,158.95
42	10%	\$0.00	\$10,084.60	\$110,930.65	\$2,000.00	\$2,715.90	\$29,874.85
43	10%	\$0.00	\$11,093.06	\$122,023.71	\$2,000.00	\$3,187.48	\$35,062.33
44	10%	\$0.00	\$12,202.37	\$134,226.09	\$2,000.00	\$3,706.23	\$40,768.57
45	10%	\$0.00	\$13,422.61	\$147,648.69	\$2,000.00	\$4,276.86	\$47,045.42
46	10%	\$0.00	\$14,764.87	\$162,413.56	\$2,000.00	\$4,904.54	\$53,949.97
47	10%	\$0.00	\$16,241.36	\$178,654.92	\$2,000.00	\$5,595.00	\$61,544.96
48	10%	\$0.00	\$17,865.49	\$196,520.41	\$2,000.00	\$6,254.50	\$69,899.46
49	10%	\$0.00	\$19,652.04	\$216,172.45	\$2,000.00	\$7,189.95	\$79,089.41
50	10%	\$0.00	\$21,617.25	\$237,789.70	\$2,000.00	\$8,108.94	\$89,198.35
51	10%	\$0.00	\$23,778.97	\$261,568.67	\$2,000.00	\$9,119.83	\$100,318.18
52	10%	\$0.00	\$26,156.87	\$287,725.54	\$2,000.00	\$10,231.82	\$112,550.00
53	10%	\$0.00	\$28,772.55	\$316,498.09	\$2,000.00	\$11,455.00	\$126,005.00
54	10%	\$0.00	\$31,649.81	\$348,147.90	\$2,000.00	\$12,800.50	\$140,805.50
55	10%	\$0.00	\$34,814.79	\$382,962.69	\$2,000.00	\$14,280.55	\$157,086.05
56	10%	\$0.00	\$38,296.27	\$421,258.96	\$2,000.00	\$15,908.60	\$174,994.65
57	10%	\$0.00	\$42,125.90	\$463,384.85	\$2,000.00	\$17,699.47	\$194,694.12
58	10%	\$0.00	\$46,338.49	\$509,723.34	\$2,000.00	\$19,669.41	\$216,363.53
59	10%	\$0.00	\$50,972.33	\$560,695.67	\$2,000.00	\$21,836.35	\$240,199.88
60	10%	\$0.00	\$56,069.57	\$616,765.24	\$2,000.00	\$24,219.99	\$266,419.87
61	10%	\$0.00	\$61,676.52	\$678,441.76	\$2,000.00	\$26,841.99	\$295,261.86
62	10%	\$0.00	\$67,844.18	\$746,285.94	\$2,000.00	\$29,726.19	\$326,988.05
63	10%	\$0.00	\$74,628.59	\$820,914.53	\$2,000.00	\$32,898.80	\$361,886.85
64	10%	\$0.00	\$82,091.45	\$903,005.99	\$2,000.00	\$36,388.68	\$400,275.53
65	10%	\$0.00	\$90,300.60	\$993,306.59	\$2,000.00	\$40,227.55	\$442,503.09

Why It Pays to Save Early and Often

Suppose you put \$1,000 into an investment that earns 10 percent interest. You leave the \$1,000 there for 10 years. You might expect to have earnings of \$1,000 or a total of \$2,000 in your account ($\$1,000 \times .1 \times 10 = \$1,000$). Adding the \$1,000 in earnings to your original \$1,000, you would end up with \$2,000, right?

Wrong! You would have more than that. The return would be much higher because you would earn interest not only on the original \$1,000 but also on the interest earned along the way over the 10 years. This sort of interest is called compound interest. Here's how compounding works. Let's assume that 10 percent interest is compounded annually. This first year you earn \$100 in interest. Now you have \$1,100. The second year you earn interest on \$1,100 ($\$1,100 \times .1 = \110), and that amount is added on to your principal.

As interest compounds, savings grow. How long would it take for the savings of our hypothetical saver to double if he didn't spend any of those savings? You can find out, approximately, by dividing 72 by the interest rate (expressed in percentage form). This is called the Rule of 72. For example, at 10 percent interest, money will double in about 7.2 years if the interest is compounded ($72 \div 10 = 7.2$ years).

Let's see how long it will take money to double in other cases. Do the calculations and fill in the answers in the right-hand column below.

Investments	Interest or rate of return	Years to double
Passbook savings	3%	
Money market account	4%	
U.S. Treasury bond	6%	
Stock market	9%	

Because of compounding, it pays to save early and often. These are the factors that affect the growth of savings.

- The earlier or longer you save, the more savings you will have.
- The more income you save each year, the more savings you will have.
- The higher the interest rate or rate of return, the more savings you will have.
- One key point in the economic way of thinking is that people respond to incentives. What is the incentive for saving early and often?