"A Lesson In Retirement Saving" … How Accurate The Claims?

A Lesson In Retirement Saving

Here's an example of two women who invest the same amount of money per year toward retirement. Who do you think will earn more in the end?

Lauren started a retirement fund at age 40 and contributed until age 65. She paid $4,000 annually, for a total of $100,000. She earned 7% annually.

Cherie started her retirement fund at age 25 and contributed $4,000 annually for just 10 years, for a total of $40,000. She also earned 7% annually.

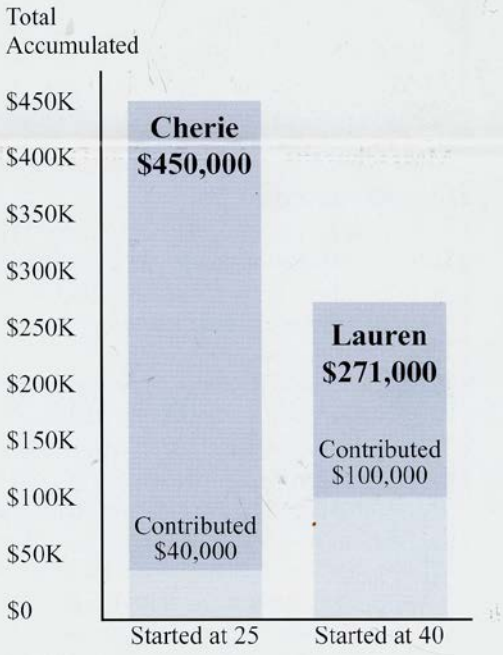
Lauren contributed more than twice as much as Cherie did - $100,000 versus $40,000. But who ends up with more?

By age 65, Lauren has an ending balance of almost $271,000. Cherie has an ending balance of $450,000!

The secret is time and the compounding returns that accompany it. The longer you delay, the less time your money can accumulate.

SVFCU offers IRAs for our members to save for retirement. Opening an IRA is a good idea, even if you have an employer-sponsored retirement plan. In addition, a representative from Horace Mann can provide more retirement suggestions. For information about IRAs or to leave a message for Horace Mann, please call the SVFCU office.

**These figures are hypothetical and do not represent the returns for any particular investment. The figures do not take taxes or inflation into account. This example is provided courtesy of Horace Mann.*



After reading the article "A Lesson In Retirement Saving" use the formulas below to attempt to verify the claims:

$S = R\left\{\dfrac{(1+i)^n - 1}{i}\right\}$ → The future value S of an ordinary annuity consisting of n equal payments or deposits of R dollars each with an interest rate i per payment interval

$A(t) = P\left(1+\dfrac{r}{n}\right)^{nt}$ → $A(t)$ is the amount after time t, P is the principle, r is the interest rate as a decimal, n is the number of times compounded annually and t is time in years

Lauren: Begins at age 40 contributing 4,000 annually till age 65.

Assume $2000 per payment @ $\frac{.07}{2} = .035$ *interest per payment* interval semiannually.

The number of equal payments in this 25 year span is $25 \cdot 2 = 50$.

$$S = R\left\{\frac{(1+i)^n - 1}{i}\right\}$$
$$= 2000\left\{\frac{(1+.035)^{50} - 1}{.035}\right\}$$
$$= \$261,995.82$$

How much, in contributions, did Lauren make toward this annuity?

$100,000

How much in earnings (interest) did Lauren receive?

$\$261,995.82 - \$100,000 = \$161,995.82$

Cherie: Begins at age 25 contributing 4,000 annually till age 35.

Assume $2000 per payment @ $\frac{.07}{2} = .035$ *interest per payment* interval semiannually.

The number of equal payments in this 10 year span is $10 \cdot 2 = 20$.

$$S = R\left\{\frac{(1+i)^n - 1}{i}\right\}$$
$$= 2000\left\{\frac{(1+.035)^{20} - 1}{.035}\right\}$$
$$= \$56,559.36$$

Then, this amount stayed at work for Cherie over the next 30 years earning…

$$A(t) = P\left(1+\frac{r}{n}\right)^{nt}$$
$$A(30) = 56,559.36\left(1+\frac{.07}{2}\right)^{2\cdot 30}$$
$$= 56,559.36(1.035)^{60}$$
$$= \$445,579.78$$

How much, in contributions, did Cherie make? $40,000

How much in earnings did Cherie receive?

$\$445,579.77 - \$40,000 = \$405,579.78$

What investment lessons can be drawn from this example? Explain in complete sentences.

Investing is a time game … time can be your best friend or your worst enemy depending when you choose to begin the process.

How does this example affect your attitude toward beginning to save for your future financial goals of a car? A house? Children's college educations? Retirement?

Hopefully, it would spark some motivation to become proactive towards saving for future financial obligations.