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As individuals and employees in today's economy, we need a solid financial understanding to make good saving and investment decisions. In the past, individuals didn't have to take as much personal financial responsibility. After World War II, most companies provided their employees with pensions. As an employee, you would pay a percentage of your salary into a retirement fund managed by the company, and the company would provide you with income each year after you retired. Today, pensions are increasingly rare in the private sector. Most employers have shifted employees to 401K or 403b plans that require employees to make saving and investing decisions. Individual retirement accounts (IRAs) are another vehicle for investing that individuals have control over. Because of structural changes in the economy, each individual needs to understand how to effectively save and invest.

This article has three main goals: 1) to demonstrate the importance of saving and investing as early as possible in your career, 2) to show the impact of different rates of return on cumulative savings, and 3) to encourage you to save as much of your salary as possible as early as possible to maximize your wealth. As Albert Einstein said, "Compound interest is the eighth wonder of the world. He who understands it, earns it." Saving at a very young age allows your money a longer time to grow in value. Although this idea is a straightforward concept that most students understand, the significance of saving as early as possible is often underestimated until you look at the numbers.

### **The Importance of Saving and Investing Early**

Tables 1A and 1B show the cumulative ending value of different yearly savings as a function of length of time. Table 1A shows the dollar value of cumulative savings, while Table 1B shows the present value of cumulative savings (assuming a 3% per year rate of inflation). Table 1B adjusts for the decline in the value of money over time, especially for long time

Table 1A: The Impact of Different Yearly Savings and Number of Years on Final Amount

	<u>\$1,000</u>	<u>\$2,500</u>	<u>\$5,000</u>	<u>\$7,000</u>	<u>\$10,000</u>	<u>\$15,000</u>	<u>\$20,000</u>
10							
15							
20							
25							
30							
35							
40							
50							

Table 1B: The Impact of Different Yearly Savings and Number of Years on Final Amount (In Present Value Terms Adjusted for Inflation)

So how do we understand this table from the perspective of saving for retirement? A standard retirement age is 65. If you wait to start saving for retirement until you are 45, you only have 20 years for your money to grow. Saving \$5,000 per year for those 20 years will net you a final cumulative amount of \$228,810 at the start of retirement (\$126,686 in present value terms). However, if you start saving just 10 years earlier, at age 35, your money has 30 years to grow. As a result, your cumulative amount at the start of retirement will increase from \$228,810 to \$566,416 (\$233,356 in PV terms), which is more than double the previous amount. If you start saving even earlier, at age 25, the final amount will be almost \$1.3 million dollars (about \$400,000 in present value terms). The take-home message is very clear: time is your friend when it comes to savings. The greater the amount of time for your money to grow, the greater your nest egg at retirement.

Tables 1A and 1B are

40 years, equivalent to starting to save at age 25. If you wait another two decades to start saving, at age 45, then you must save a much greater amount of money to reach your goal. Instead of saving \$4,000 each year, you now need to save over \$20,000 each

Table 2A: The Impact of Different Rates of Return on Ending Net Wealth (\$7,000 Invested Each Year)

	<u>4%</u>	<u>6%</u>	<u>8%</u>	<u>10%</u>	<u>12%</u>
10					

