

Time value of money



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Credit card financial service companies are commonly known to issue private student loans. Therefore, credit card companies would use the time value of money to determine loan payment schedules and the number that students most fear, the ending balance, the future value of the loan.

Credit card companies would use the formula for present value of an annuity to determine the payment schedule, and they would use the formula for future value of an annuity to determine how much money the student will end up paying the credit card company at the end of student loan. Insurance companies also use time value of money. A structured settlement is one example. If a person owes \$100, 000 payable in \$20, 000 increments over the next five years, the present value of the settlement is less than \$100, 000.

Therefore, the person would be better off paying the lump sum now if possible. The same time value of money can be seen in state governments and lotteries. For example, a person wins a lottery worth one million dollars. This person is given three options, and each option has a different fee attached to it. The first option is to receive \$20, 000 a year for the next 50 years. The second option is to receive a lump sum now of one million dollars.

This option has the largest fee. The third option is to receive half the money now and the other half over the next 25 years. One would use the time value of money to determine the better deal. Time value of money can also be seen with retirement plan financial service providers.

For example, a customer goes to a service provider and says that he would like to retire in 25 years with one million dollars. He would like to know how

much he should invest now to ensure that he has one million dollars at retirement. If the person only intends to deposit money one time, the answer lies in the present value formula. If the person would prefer to make regular deposits, the answer lies in the present value of an annuity formula.

Most businesses use the concept of time value of money in one form or another, as this example observed. Additionally, most people use the concept of time value of money as well, in various forms. Any business or person who has a loan with a fixed monthly payment, like a mortgage or car payment, uses time value of money, for example. Many organizations and their employees deal with benefits, such as mutual funds, retirement plans, education savings plans, equities, municipal bonds, and insurances, that all involve the time value of money. The most common time value of money concepts involved with these benefits are the future value formula and the present value formula.

Time value of money is also important in investments. Investments such as a savings account use the future value of money to determine how much money an investment made today will earn at a specified date. Time value of money is the idea that a specified amount of money received at the present date is worth more than the same amount of money received at a future date. With a five percent interest rate, \$100 received today would be worth \$105 in one year.

Alternately, \$100 received in one year would only be worth \$95.25 today. This concept is important for most businesses and its employees, as well as

anyone who invests money, whether the money is used to purchase a car, stashed away in a savings account, or it is invested in mutual funds.