TIME VALUE OF MONEY

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Time Value of Money (TVM)

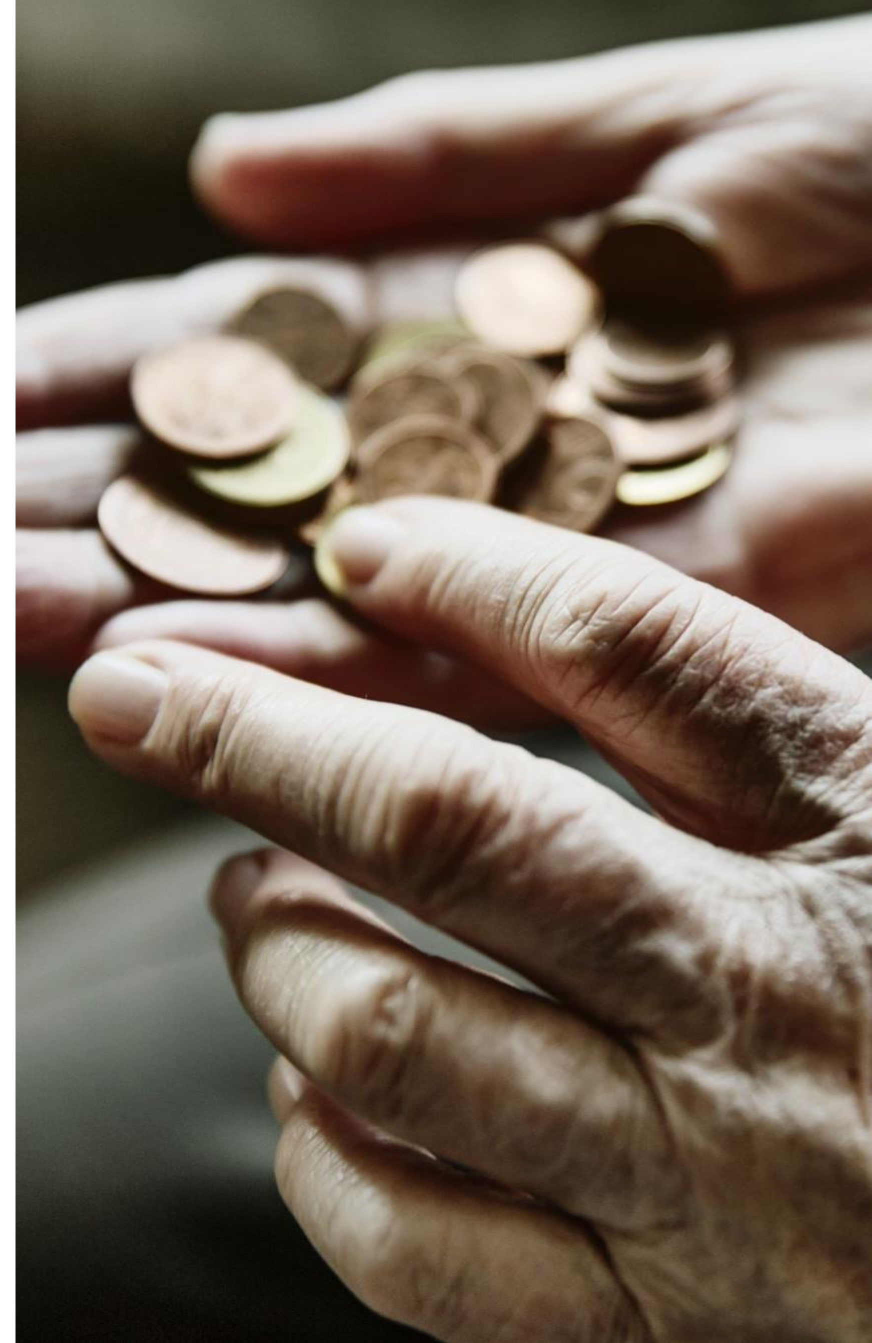
['tīm 'val-(,)yü əv 'mə-nē]

The concept that a sum of money is worth more now than the same sum will be at a future date due to its earnings potential in the interim.

Investopedia

TIME VALUE OF MONEY (TVM)

- Time value of money is the concept that money today is worth more than money tomorrow. That is because money today can be used, invested, or grown. Therefore, $1 earned today is not the same as $1 earned one year from now because the money earned today can generate interest, unrealized gains, or unrealized losses.
- The principle of the time value of money means that it can grow only through investing, so a delayed investment is a lost opportunity.
- The time value of money is also referred to as the present discounted value. The formula for computing the time value of money considers the amount of money, its future value, the amount it can earn, and the time frame.
- For savings accounts, the number of compounding periods is an important determinant as well.
- Inflation has a negative impact on the time value of money because your purchasing power decreases as prices rise.



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Understanding the Time Value of Money (TVM)

- **Investors prefer to receive money today rather than the same amount of money in the future because a sum of money, once invested, grows over time. For example, money deposited into a savings account earns interest. Over time, the interest is added to the principal, earning more interest. That's the power of compounding interest.**
- **If it is not invested, the value of the money erodes over time. If you hide $1,000 in a mattress for three years, you will lose the additional money it could have earned over that time if invested. It will have even less buying power when you retrieve it because inflation reduces its value.**
- **The time value of money has a negative relationship with inflation. Remember that inflation is an increase in the prices of goods and services. As such, the value of a single dollar goes down when prices rise, which means you can't purchase as much as you were able to in the past.**

How Do You Calculate the Time Value of Money?

The time value of money takes several things into account when calculating the future value of money, including the present value of money (PV), the total number of years (n), and the interest rate:

Based on these variables, the formula for TVM is:

$$FV=PV\left(1+\frac{i}{n}\right)^{n}$$

where:

- **FV=Future value of money**
- **PV=Present value of money**
- **i=Interest rate**
- **n=Number of years**

Why Is the Time Value of Money Important?

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The concept of the time value of money can help guide investment decisions. For instance, suppose an investor can choose between two projects: Project A and Project B. They are identical except that Project A promises a $1 million cash payout in year one, whereas Project B offers a $1 million cash payout in year five. The payouts are not equal. The $1 million payout received after one year has a higher present value than the $1 million payout after five years.

How Is the Time Value of Money Used in Finance?.

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It would be hard to find a single area of finance where the time value of money does not influence the decision-making process. The time value of money is the central concept in discounted cash flow (DCF) analysis, which is one of the most popular and influential methods for valuing investment opportunities. It is also an integral part of financial planning and risk management activities. Pension fund managers, for instance, consider the time value of money to ensure that their account holders will receive adequate funds in retirement.

What Impact Does Inflation Have on the Time Value of Money?

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The value of money changes over time and there are several factors that can affect it. Inflation, which is the general rise in prices of goods and services, has a negative impact on the future value of money. That's because when prices rise, your money only goes so far. Even a slight increase in prices means that your purchasing power drops. So that dollar you earned in 2015 and kept in your piggy bank buys less today than it would have back then.

THANK YOU