

What is Cagr How to calculate annual compound growth rate (CAGR)

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You've heard of CAGR or compound annual growth, but you still don't know what CAGR is? And how do we calculate annual compound growth rate (CAGR)? So please refer to the following article to better understand CAGR.



The following article shares with you the concept of CAGR and how to calculate the compound annual growth rate of CAGR, invite you to follow along.

What is CAGR?

CAGR - Compounded Annual Growth rate (English) is a specific term of business and investment for the annual investment income in a certain period. You can understand simple **CAGR** is used to measure the rate of return when you make an investment in a certain period of time.

This is not an accounting term but is still widely used, especially in growth industries by financial analysts, investment managers or business owners.

CAGR is often used to describe the growth over a period of several business factors such as revenue, suppliers, registered users, etc.

How to calculate annual compound growth rate (CAGR)

To calculate the **CAGR compound** annual growth rate, it is necessary to base on three values: the beginning value, the end value and the time period to achieve the ending value.

The formula for calculating the compound annual growth rate is as follows:

$$[CAGR_{left}({t_0}, {t_n} \text{ right}) = \left(\frac{V_{left}({t_n} \text{ right})}{V_{left}({t_0} \text{ right})} \right)^{\frac{1}{{t_n} - {t_0}}} - 1]$$

Inside:

1. ($V_{left}({t_0} \text{ right})$) is the beginning value.
2. ($V_{left}({t_n} \text{ right})$) is the final value.
3. (${t_n} - {t_0}$) is the number of years.

For example, suppose you have the following table:

	A	B	C	D	E	F	G	H	I
1	CÁCH TÍNH TỐC ĐỘ TĂNG TRƯỞNG KÉP HÀNG NĂM								
2	<i>thuthuatphanmem.vn</i>								
3									
4									
5			Năm	Doanh thu (triệu đồng)					
6			2012	100					
7			2013	120					
8			2014	150					
9			2015	110					
10			2016	115					
11			2017	130					
12									
13									
14									
15									
16									
17									
18									
19									

You want to calculate the compound annual growth rate?

First, you need to create additional **CAGR** columns to use the **CAGR** formula to calculate the compound growth rate for each year.

	A	B	C	D	E	F	G	H
1	CÁCH TÍNH TỐC ĐỘ TĂNG TRƯỞNG KÉP HÀNG NĂM							
2	<i>thuthuatphanmem.vn</i>							
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Next, you need to identify three values ??to be able to apply the formula for calculating the annual growth rate.

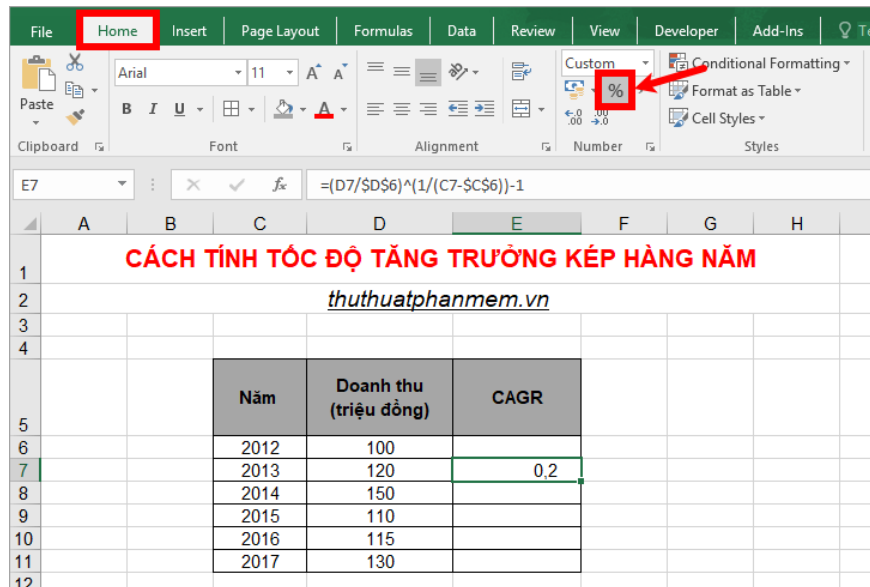
1. The value at the beginning of the period is 100 (million dong).
2. The closing value is the value corresponding to the year in which the compound growth rate is to be calculated; for example, if the compound growth rate for 2013 is calculated, the final value is 120.
3. The number of years is the number of years in which the growth rate is needed minus the first year (2012), for example, if the compound growth rate in 2013 is calculated, the number of years is 2013-2012 = 1.

So in 2013, CAGR, you enter the formula = (D7 / \$D\$6) ^ (1 / (C7- \$C\$6)) - 1

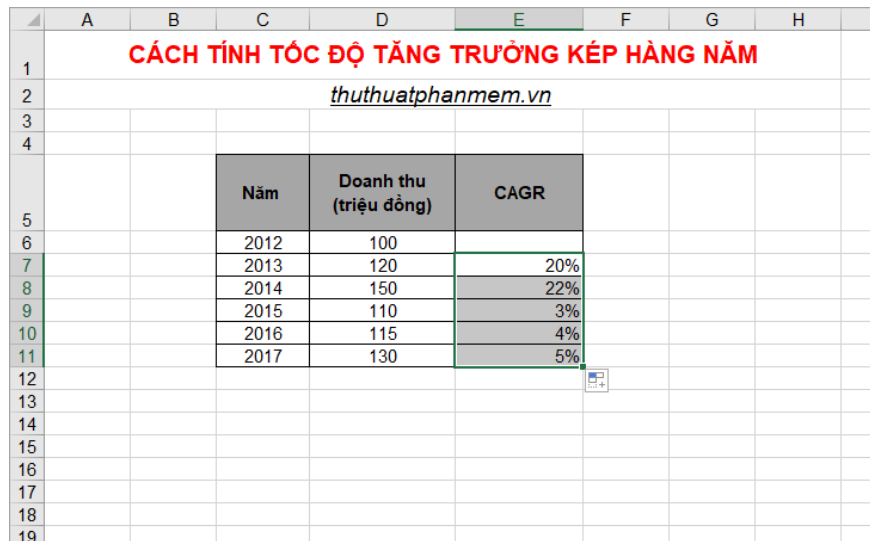
D7 is the revenue in 2013, **D6** is the beginning value of the year of 2012. After you enter or select the value of **D6**, press the **F4** key to freeze the cell (because this cell is the beginning value so it needs to be fixed so that when copy the formula down to years, this value will stay the same). **C7** is the year to calculate **CAGR** , **C6** is the first year of the period and **C7 –C6** is the number of years. **C6** you also need to fix it with the **F4** key . If you don't need to copy the formula, you don't need to fix cells **D6** and **C6** .

	A	B	C	D	E	F	G	H
1	CÁCH TÍNH TỐC ĐỘ TĂNG TRƯỞNG KÉP HÀNG NĂM							
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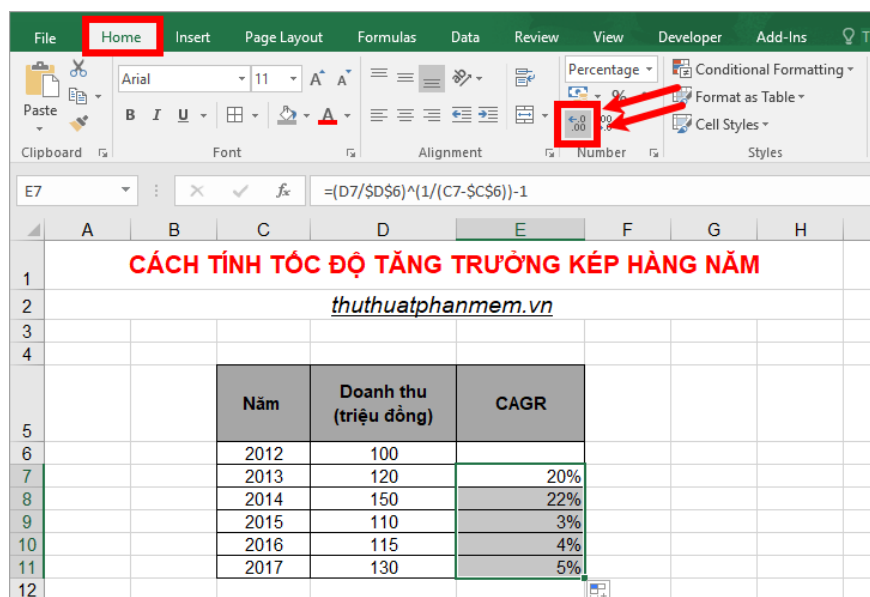
You get the decimal value you convert to percent by selecting the% icon on the **Number** section of the **Home** tab . So you will get a result of 20% as shown below.



Next, you only need to copy the formula to the years below, and you can calculate the **CAGR** for each year.



The result here has been rounded, if you want to get the result to the exact two decimal places, then select the results and click on the icon as shown below 2 times.



You will get the following result:

	A	B	C	D	E	F	G	H
1	CÁCH TÍNH TỐC ĐỘ TĂNG TRƯỞNG KÉP HÀNG NĂM							
2	<i>thuthuatphanmem.vn</i>							
3								
4								
5				Năm	Doanh thu (triệu đồng)	CAGR		
6				2012	100			
7				2013	120	20,00%		
8				2014	150	22,47%		
9				2015	110	3,23%		
10				2016	115	3,56%		
11				2017	130	5,39%		
12								
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18								

Thus, the article presented the concept of CAGR, formulas and specific examples of CAGR annual growth rate. Hopefully, through this article, you will have more knowledge about CAGR and use it if you want to calculate the CAGR annual growth rate. Good luck!

You finished reading the article "**What is Cagr How to calculate annual compound growth rate (CAGR)**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks. You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.