



Estimating Your Portfolio Return

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The key to successful investing is monitoring your portfolio returns regularly. For example, if your portfolio grew 15% each year for three years and then goes down by 15% in the fourth year, the total annual compound growth for this four-year period is only 6%. It may be too late to find out that your portfolio did not perform as projected, especially if you are only a few years away from your retirement.

During the initial interview with a potential client, I ask the question: "What was the return on your current portfolio?" In a typical response, the investor usually stares at the ceiling for a while and eventually says, "I don't know!"

Each fund company, dealer, broker or trustee (for a self-directed registered investment) sends out periodic statements. You may end up with stacks of paper, usually destined for the recycling box. Most likely, these statements do not tell you what your annual compound returns are.

The exact calculation of the compound annual return involves calculating what is called the "Internal Rate of Return" (IRR). IRR is a complex calculation and is outside the scope of this article.

Sometimes, a simpler method called the modified Dietz is used. But this method becomes inaccurate as you make significant deposits or withdrawals at irregular time intervals, or if the markets are very volatile.

I will present here a simpler method that I use. Although it is not exact, it will give a rough estimate of your portfolio growth.

I use a spreadsheet program to make this calculation easier. If you don't like computers, you can use a standard 6-column paper.

The first column is the line number. Starting with "0", fill the column all the way down.

The second column is the date. Fill it out quarterly, starting with the inception date. I use March, June, September and December to coincide with the statements that I receive.

In the third column, enter all your deposits to and withdrawals from your account during each quarter. Deposits include:

- Cash or in-kind deposits, and
- Transfers in from other accounts.

Do not include money *you* did not put

in, such as:

- dividends,
- interest income, and
- other distributions.

Withdrawals (use a minus sign) include:

- cash or in-kind withdrawals, and
- transfers out to other accounts.

Do not include money *you* did not receive, such as:

- redemption charges,
- sales' commissions, and
- trustee fees.

The fourth column is simply the running total of all deposits and withdrawals. Your deposits increase this number, and withdrawals will decrease it.

The fifth column is the actual market value of your portfolio at the end of each quarter. You can obtain it from your quarterly statements.

The last column, Column 6, is calculated by dividing the market value

Example A

Column 1 Line No	Column 2 Quarter Ending	Column 3 Deposits & Withdrawals (\$)	Column 4 Cumulative Deposits (\$)	Column 5 Market Value (\$)	Column 6 Growth Ratio
0	Oct-91	181,592	181,592	181,592	1.00
1	Dec-91	51,681	233,273	233,273	1.00
2	Mar-92	-	233,273	242,601	1.04
3	Jun-92	4,000	237,273	250,736	1.06
4	Sep-92	5,000	242,273	253,293	1.05
5	Dec-92	-	242,273	261,609	1.08
6	Mar-93	-	242,273	263,109	1.09
7	Jun-93	-	242,273	264,609	1.09
8	Sep-93	-	242,273	266,109	1.10
9	Dec-93	76,117	318,390	337,726	1.06
10	Mar-94	16,978	335,368	390,320	1.16
11	Jun-94	-	335,368	379,644	1.13
12	Sep-94	-	335,368	395,376	1.18
13	Dec-94	-	335,368	383,734	1.14

Table 1 - Estimating the Compound Annual Growth Rate of Your Portfolio

Line No	Compound Annual Return							
	4%	6%	8%	10%	12%	14%	16%	18%
0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1	1.01	1.01	1.02	1.02	1.03	1.03	1.04	1.04
2	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09
3	1.03	1.04	1.06	1.07	1.09	1.10	1.12	1.13
4	1.04	1.06	1.08	1.10	1.12	1.14	1.16	1.18
5	1.05	1.08	1.10	1.13	1.15	1.18	1.20	1.23
6	1.06	1.09	1.12	1.15	1.19	1.22	1.25	1.28
7	1.07	1.11	1.14	1.18	1.22	1.26	1.30	1.34
8	1.08	1.12	1.17	1.21	1.25	1.30	1.35	1.39
9	1.09	1.14	1.19	1.24	1.29	1.34	1.40	1.45
10	1.10	1.16	1.21	1.27	1.33	1.38	1.45	1.51
11	1.11	1.17	1.24	1.30	1.37	1.43	1.50	1.58
12	1.12	1.19	1.26	1.33	1.40	1.48	1.56	1.64
13	1.14	1.21	1.28	1.36	1.44	1.53	1.62	1.71
14	1.15	1.23	1.31	1.40	1.49	1.58	1.68	1.78
15	1.16	1.24	1.33	1.43	1.53	1.63	1.74	1.86
16	1.17	1.26	1.36	1.46	1.57	1.68	1.81	1.94
17	1.18	1.28	1.39	1.50	1.62	1.74	1.88	2.02
18	1.19	1.30	1.41	1.54	1.66	1.79	1.95	2.11
19	1.20	1.32	1.44	1.57	1.71	1.85	2.02	2.20
20	1.22	1.34	1.47	1.61	1.76	1.91	2.10	2.29
21	1.23	1.36	1.50	1.65	1.81	1.98	2.18	2.38
22	1.24	1.38	1.53	1.69	1.86	2.04	2.26	2.49
23	1.25	1.40	1.56	1.73	1.92	2.11	2.35	2.59
24	1.27	1.42	1.59	1.77	1.97	2.18	2.44	2.70
25	1.28	1.44	1.62	1.81	2.03	2.25	2.53	2.81
26	1.29	1.46	1.65	1.86	2.09	2.33	2.62	2.93
27	1.30	1.48	1.68	1.90	2.15	2.40	2.72	3.06
28	1.32	1.50	1.71	1.95	2.21	2.48	2.83	3.19
29	1.33	1.53	1.75	2.00	2.27	2.56	2.93	3.32
30	1.34	1.55	1.78	2.04	2.34	2.65	3.04	3.46
31	1.36	1.57	1.82	2.09	2.40	2.74	3.16	3.61
32	1.37	1.59	1.85	2.14	2.47	2.83	3.28	3.76
33	1.38	1.62	1.89	2.20	2.54	2.92	3.40	3.92
34	1.40	1.64	1.92	2.25	2.62	3.02	3.53	4.08
35	1.41	1.66	1.96	2.30	2.69	3.12	3.66	4.26
36	1.42	1.69	2.00	2.36	2.77	3.22	3.80	4.44
37	1.44	1.71	2.04	2.41	2.85	3.32	3.95	4.62
38	1.45	1.74	2.08	2.47	2.93	3.43	4.10	4.82
39	1.47	1.76	2.12	2.53	3.01	3.55	4.25	5.02
40	1.48	1.79	2.16	2.59	3.10	3.66	4.41	5.23

(Column 5) by the cumulative total (Column 4). I call this the "Growth Ratio".

To arrive at your compound annual growth rate, go to the last line of your table and read the line number (Column 1) and the growth ratio (Column 6). Go to Table 1. Find the same line number and move across to the right until you find your growth ratio. Look up the column heading. This is the *approximate* compound annual growth of your portfolio. That simple!

Example A

The projected growth rate in the original retirement plan was 12% per year. After completing the table, we see that the growth ratio after the 13th quarter was 1.14. Looking at Table 1, go to line 13 and move right across this line until you find 1.14. In this case, it happens to be the first column; read the column heading of 4%. This is the approximate compound annual return over the 13-quarter (39-month) period. When I worked out the exact calculations based on exact dates of investment, the actual return was 5.06%. This estimation is close enough to conclude that the portfolio was not performing as projected.

Example B

After realizing that the return was not meeting the investment objectives, the portfolio was redesigned and rearranged.

The performance of the new and improved portfolio is tracked in a new table (Example B).

The growth ratio after the 10th quarter is 1.38. Go to line 10 of Table 1, move across to the right until a growth ratio of 1.38 is found. This corresponds to a compound annual return of 14% during this 10-quarter (30-month) time frame.

Once you have your table, all you have to do is add one line each quarter, and read off the compound annual growth from Table 1.

Example B

Line No	Quarter Ending	Deposits & Withdrawals (\$)	Cumulative Deposits (\$)	Market Value (\$)	Growth Ratio
0	Dec-94	383,734	383,734	383,734	1.00
1	Mar-95	7,150	390,884	403,239	1.03
2	Jun-95	-	390,884	416,191	1.06
3	Sep-95	-	390,884	417,471	1.07
4	Dec-95	-	390,884	426,298	1.09
5	Mar-96	6,182	397,066	454,855	1.15
6	Jun-96	-	397,066	481,464	1.21
7	Sep-96	-	397,066	500,779	1.26
8	Dec-96	-	397,066	516,177	1.30
9	Mar-97	1,321	398,388	515,275	1.29
10	Jun-97	10,000	408,388	564,629	1.38

Two to three years of history should be sufficient for a meaningful estimation. Make sure to monitor your returns. Time is your friend. Don't waste it.

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