

## Starting an Investment Program With Dollar Cost Averaging

By [John Markese](#)

Starting an investment plan can be daunting, particularly when facing a sea of stock market uncertainty. Taking the plunge can be made easier, however, using averaging techniques. A look at dollar cost and value averaging.

▶▶ [CONTINUE](#)



### Related Articles:

- ➔ [Dollar Cost Averaging vs. Lump-Sum Investing](#)
- ➔ [Value Averaging Worksheet](#) (CI Member Only)

The first step is always the hardest. And individual investors taking their first steps in an investment program must also confront a sea of stock market uncertainty. Some plunge headlong into the market with all their savings. Others barely wet their feet before heading back to the safe shores of their money market funds. The problem, however, with these two all-or-nothing approaches is one of timing—the risk of entering the market at a high point in the market cycle.

Dollar cost averaging and its variations, such as value averaging, offer investors an alternative, allowing them to ease into the market over time, which reduces the timing risk. The mechanical aspects of averaging provide an investment discipline, require no market forecasts and are relatively simple to initiate. More and more mutual funds are offering automatic investment and exchange programs—a cruise control for your investment plan that eliminates the more routine aspects of maintaining an averaging plan.

### The Concept

Dollar cost averaging is simple in concept: Invest a fixed amount at equal intervals and continue to do so over a long period. The result is that more shares of a stock or mutual fund are purchased when prices are relatively low and less are purchased when prices are relatively high. This can result in lower average per share cost over time.

Value averaging is a variation: Instead of investing a fixed amount each interval, the amount invested varies so that the total value of the investment increases by a fixed sum or percentage each interval. If share price increases alone cause the total value of the investment to increase above the planned fixed amount, then the investor must sell shares instead of adding to the investment.

Neither approach requires a forecast of market direction. And with both plans, the discipline of periodic investment during all market situations and the continuation of the plan over long investment periods—of five years, 10 years, 20 years or even longer—provides substantial benefits, not the least of which is simply getting started in an investment program in the first place.

Investors who should use dollar cost averaging or value averaging include:

- Any investor with a pool of cash or periodic cash flows who seeks to invest in a risky asset, who has a long-term investment horizon, and who feels that he cannot forecast short-term moves in the market.
- Any investor who is having difficulty finding the right moment to move into the market (or back into the market if he was temporarily out of the market).

One key to the successful use of an averaging approach is to choose an appropriate long-term horizon. In order to avoid

the potential disaster of placing a substantial portion of your portfolio in risky investments at the high point of a market cycle, take a minimum of two years, investing monthly or quarterly, to complete the move into the market. Five years is an ideal period, albeit a bit too long for many impatient investors.

Those investors without a significant pool of cash currently available but who instead have cash periodically available are spared the temptation of rushing a large sum into the market all at once. These investors are already structured for dollar cost averaging, but without a plan, they may never start an investment program.

Another consideration is the frequency of the investments. Any periodic interval could be used and, of course, any amount or value. Investing often enough over a uniform time interval is important and every quarter, two months, or every month is reasonable. Investing weekly, however, is probably overkill, while waiting every six months or every year to invest is too infrequent and may defeat the benefits of diversifying the investments over time in an ever-changing market.

## How They Work: An Example

Table 1. Vanguard Index Trust — 500

Quarter	NAV	Dollar Cost Averaging (\$1,000 invested each quarter)					Value Averaging (\$1,000 quarterly increase in value)				
		Amount Invested (\$)	No. of Shares Bought	Total No. of Shares Owned	Total Invested (\$)	Total Value (\$)	Amount Invested (\$)	No. of Shares Bought	Total No. of Shares Owned	Total Invested (\$)	
Dec-86	24.27	1,000	41.20	41.20	1,000	1,000	1,000	41.20	41.20	1,000	
Mar-87	29.22	1,000	34.22	75.42	2,000	2,204	796	27.25	68.45	1,796	
Jun-87	30.52	1,000	32.77	108.19	3,000	3,302	911	29.85	98.30	2,707	
Sep-87	32.31	1,000	30.95	139.14	4,000	4,496	824	25.50	123.80	3,531	
Dec-87	24.65	1,000	40.57	179.71	5,000	4,430	1,948	79.04	202.84	5,479	
Mar-88	25.67	1,000	38.96	218.67	6,000	5,613	793	30.90	233.74	6,272	
Jun-88	27.15	1,000	36.83	255.50	7,000	6,937	654	24.09	257.83	6,926	
Sep-88	27.06	1,000	36.95	292.45	8,000	7,914	1,023	37.81	295.64	7,949	
Dec-88	27.18	1,000	36.79	329.24	9,000	8,949	965	35.49	331.13	8,914	
Mar-89	28.74	1,000	34.79	364.03	10,000	10,462	483	16.82	347.95	9,397	
Jun-89	31.09	1,000	32.16	396.19	11,000	12,318	182	5.86	353.81	9,579	
Sep-89	34.20	1,000	29.24	425.43	12,000	14,550	-100	-2.93	350.88	9,479	
Dec-89	33.64	1,000	29.73	455.16	13,000	15,312	1,196	35.56	386.44	10,675	
Mar-90	32.38	1,000	30.88	486.04	14,000	15,738	1,487	45.93	432.37	12,162	
Jun-90	34.21	1,000	29.23	515.27	15,000	17,627	209	6.10	438.47	12,371	
Sep-90	29.32	1,000	34.11	549.38	16,000	16,108	3,144	107.23	545.70	15,515	
Dec-90	31.24	1,000	32.01	581.39	17,000	18,163	-48	-1.53	544.17	15,467	
Mar-91	35.51	1,000	28.16	609.55	18,000	21,645	-1,323	-37.27	506.90	14,144	
Jun-91	35.23	1,000	28.38	637.93	19,000	22,474	1,142	32.41	539.31	15,286	
Sep-91	36.91	1,000	27.09	665.02	20,000	24,546	94	2.55	541.86	15,380	
Dec-91	39.31	1,000	25.44	690.46	21,000	27,142	-300	-7.64	534.22	15,080	
Mar-92	38.09	1,000	26.25	716.71	22,000	27,299	1,652	43.36	577.58	16,732	
Jun-92	38.58	1,000	25.92	742.63	23,000	28,651	717	18.58	596.16	17,449	

**Internal Rate of Return**

**8.14%**

Table 2. Twentieth Century Ultra

Quarter	NAV	Dollar Cost Averaging (\$1,000 invested each quarter)					Value Averaging (\$1,000 quarterly increase in value)				
		Amount Invested (\$)	No. of Shares Bought	Total No. of Shares Owned	Total Invested (\$)	Total Value (\$)	Amount Invested (\$)	No. of Shares Bought	Total No. of Shares Owned	Total Invested (\$)	
Dec-86	8.92	1,000	112.11	112.11	1,000	1,000	1,000	112.11	112.11	1,000	
Mar-87	12.55	1,000	79.68	191.79	2,000	2,407	593	47.25	159.36	1,593	
Jun-87	12.07	1,000	82.85	274.64	3,000	3,315	1,077	89.19	248.55	2,670	
Sep-87	12.97	1,000	77.10	351.74	4,000	4,562	776	59.85	308.40	3,446	
Dec-87	6.23	1,000	160.51	512.25	5,000	3,191	3,079	494.17	802.57	6,525	
Mar-88	6.89	1,000	145.14	657.39	6,000	4,529	470	68.26	870.83	6,995	
Jun-88	7.59	1,000	131.75	789.14	7,000	5,990	390	51.44	922.27	7,385	
Sep-88	7.00	1,000	142.86	932.00	8,000	6,524	1,544	220.59	1142.86	8,929	
Dec-88	7.06	1,000	141.64	1073.64	9,000	7,580	931	131.93	1274.79	9,860	
Mar-89	8.34	1,000	119.90	1193.54	10,000	9,954	-632	-75.75	1199.04	9,228	
Jun-89	9.21	1,000	108.58	1302.12	11,000	11,993	-43	-4.69	1194.35	9,185	
Sep-89	10.26	1,000	97.47	1399.59	12,000	14,360	-254	-24.76	1169.59	8,931	
Dec-89	8.53	1,000	117.23	1516.82	13,000	12,938	3,023	354.44	1524.03	11,954	
Mar-90	8.16	1,000	122.55	1639.37	14,000	13,377	1,564	191.66	1715.69	13,518	
Jun-90	9.47	1,000	105.60	1744.97	15,000	16,525	-1,248	-131.74	1583.95	12,270	
Sep-90	7.94	1,000	125.94	1870.91	16,000	14,855	3,423	431.16	2015.11	15,693	
Dec-90	9.30	1,000	107.53	1978.44	17,000	18,399	-1,740	-187.15	1827.96	13,953	
Mar-91	13.09	1,000	76.39	2054.83	18,000	26,898	-5,928	-452.86	1375.10	8,025	
Jun-91	12.28	1,000	81.43	2136.26	19,000	26,233	2,114	172.13	1547.23	10,139	
Sep-91	14.56	1,000	68.68	2204.94	20,000	32,104	-2,528	-173.60	1373.63	7,611	
Dec-91	17.34	1,000	57.67	2262.61	21,000	39,234	-2,819	-162.56	1211.07	4,792	
Mar-92	16.14	1,000	61.96	2324.57	22,000	37,519	2,453	152.00	1363.07	7,245	
Jun-92	14.36	1,000	69.64	2394.21	23,000	34,381	3,426	238.60	1601.67	10,671	

**Internal Rate of Return****14.67%**

1

Tables 1 and 2 show examples of dollar cost averaging and its more market-tuned cousin, value averaging, illustrating the structure of each investment plan and highlighting the differences. The investments in the example are the Vanguard Index Trust—500 mutual fund, a broad-based stock index fund, and Twentieth Century Ultra, an aggressive growth mutual fund; the time period covered is the last five and a half calendar years, 1987 through June 1992; the investment frequency is quarterly. These two averaging approaches could be used to invest in individual stocks as well.

Dividend and capital gains distributions are ignored to simplify the presentation, but for investors, the reinvestment of all dividends and distributions should be part of any investment plan.

The examples use a \$1,000 quarterly contribution for the dollar cost averaging approach: \$1,000 is invested each quarter at whatever the prevailing price of the security is at that time.

For the value averaging approach, a \$1,000 quarterly increase in value is used: The amount invested quarterly varies such that the total value of the investment increases by \$1,000 each quarter; if the share price rises enough to cause the investment to increase by more than \$1,000 during the quarter, shares would be sold to hold the increase in value to

\$1,000 for the period. For example, in the first quarter of 1989, Twentieth Century Ultra jumped from a net asset value of \$7.06 to \$8.34 (Table 2). To keep the increase in value to \$1,000, the following calculations must be made: At the end of the quarter, the investor held 1,274.79 shares with a net asset value of \$8.34 before any changes, so the value of the portfolio would have been \$10,632 (1,274.79 x \$8.34, rounded), an increase of \$1,632, or \$632 more than the planned \$1,000 increase. That means that 75.75 shares ( $\$631.73$  divided by  $\$8.34$ , rounded) would have to be sold.

While dollar cost averaging is unchanging, value averaging forces sales when prices rise sharply and forces larger purchases—more shares purchased—when prices fall. For example, in September 1990 the share price of Twentieth Century Ultra fell to \$7.94 from \$9.47 the previous quarter. That resulted in a \$3,423 investment under the value averaging approach. Although there was a much bigger price drop in December 1987, few shares were held at that time, so the increased investment required was less, at \$3,079. With a volatile market or a volatile investment, or both, as was the case with Twentieth Century Ultra in 1990, the \$3,423 additional required investment was followed two quarters later, after a price run-up, by a redemption (a sale of shares) of \$5,928. The experience for the Vanguard Index Trust—500 is similar, but because the Vanguard fund is less volatile than the Twentieth Century Ultra fund and had a lower return for the period, the investments and redemptions are of a smaller magnitude under the value averaging approach.

## The End Results

Under the value averaging approach, the ending total value will be the periodical value increase times the number of periods—in this example, \$1,000 times 23 quarters, for a total ending value of \$23,000. In other words, when you start the value averaging program, the ending amount is known, but the amount to be invested isn't.

Under the dollar cost averaging approach, the total value at the end of the period could be any value, but the total amount invested is equal to the number of periods times the periodic sum—in this example, 23 quarters times \$1,000, for a total amount invested of \$23,000. When you start the dollar cost averaging program, the amount to be invested is known, but the ending amount isn't.

Keep in mind that the goal of value averaging is to increase the portfolio by a fixed amount each period, and it may take substantial total amounts invested to do so, conceivably much more or much less in total than the certain dollar cost averaging sum.

Which approach works best? While either approach could dominate over any time period, value averaging probably has the edge because it is more aggressive. However, value averaging requires more monitoring, more transactions costs, and because it triggers sales, potentially more tax consequences. Value averaging can be modified so that no sales take place, with future value increases adjusted to compensate. Also, the loss potential is greater for value averaging because the total amount that is required to be invested is unconstrained.

Please note that you cannot judge which approach did best in the examples simply by looking at ending portfolio values because the amounts invested and the timing of the investments differ for the two approaches. The calculation to determine performance is called an internal rate of return calculation that takes into consideration all the cash flows and their timing. These returns are given at the bottom of each example.

## A Practical Approach—Mutual Funds

Dollar cost averaging has been made even easier by mutual funds that offer an automatic exchange plan. Under these plans, money can be moved periodically and automatically from a money market fund to any other fund in the family, or between any two funds in the family.

Additionally, some plans have a systematic withdrawal plan which allows the shareholder to automatically withdraw money from their fund account. Withdrawal plans sometimes give investors the choice of transferring the money into their checking account or into another fund within the fund family, although often this option is explained only on the account application form.

Someone with a lump sum to invest might put the money in a money market fund and set up an automatic exchange program with an equity fund, for example. If a fund you are interested in is not on this list, don't give up—check with the fund; these services are being initiated continuously.

(Keep in mind that automatic exchange plans will not be useful for value averaging, since the amounts vary each investment period. To use a value averaging approach, look for a fund that allows telephone exchanges.)

Dollar cost averaging and value averaging provide a clear path for investors to follow. With the pathway marked, taking the first few steps of an investment plan should be that much easier.

*John Markese is president of AAI.*

✓ [More articles by John Markese](#)

© AAI Journal September 1992, Volume XIV, No. 8

---

[TOP](#) | [HOME](#) | [CONTACT AAI](#) | [ABOUT](#) | [SITE MAP](#) | [JOIN](#)

★ [BOOKMARK AAI.COM](#)

© 2002 American Association of Individual Investors  
All Rights Reserved. [Privacy Policy](#)  
<http://www.aai.com> | <http://www.aai.org>