

→ *The Great NAV Debate: Part II*

The debate over the relative virtues of a stable vs a floating NAV for money market funds (MMFs), has prompted numerous questions from local agency investors about the “ins and outs” of NAV: what it represents and just how important it is as a measure of investment performance. Given the intensity of the debate surrounding MMFs and the importance of local agency investors having a clear understanding of the issue, it seems timely to offer some background on the topic. Part I of this series looked at MMFs and the importance of the stable NAV pricing regimen for those cash-like instruments. In this second part, we will discuss the floating NAV: what it represents, and how it ensures equal treatment for all investors in non-money market funds, such as the CalTRUST Short- and Medium-Term funds. We will conclude by examining why investors should not fixate on a fund’s NAV or share price when evaluating fund performance, but rather should focus on the **total return** generated by a fund.

→ *The Floating NAV*

Non-money market mutual funds and some local government investment pools (LGIPs), such as the **CalTRUST Short-Term and Medium-Term** funds, determine their NAV based on the **market prices** of the securities in the their portfolio at each valuation period.

The CalTRUST funds, like most mutual funds, compute their NAV on a daily basis. Money funds typically compute their NAV more frequently; for instance, the CalTRUST Heritage MMF computes its NAV seven times each business day. Many LGIPs compute their NAV less frequently; on a monthly or quarterly basis. The Government Finance Officers Association (GFOA) recommends that LGIPs report the market value of their holdings “on at least a quarterly basis”, and that “those that employ a more active portfolio management style should consider more frequent marking to market”.

The NAV per share on non-money market funds can change (float) from one valuation period to the next, depending upon changes in the net value of the fund. The floating NAV is a recognition of the market risk associated with a portfolio of securities. To take a simple example, suppose the market value of the securities in a fund increases due to a drop in market interest rates (since price and yield move in opposite directions). All else being equal, the net value of the fund would increase, and assuming the number of shares has stayed constant, the NAV per share would increase (a higher share price). Conversely, all else being equal, a rise in market interest rates would cause the market value of the fund’s securities to decrease, leading to a lower share price.

The *extent* to which a bond fund’s NAV per share will change (its share price volatility) is a function largely of its **duration** (its price sensitivity given changes in interest rates). All else being equal, a fund with a longer duration (a more accurate though somewhat more complex measure than weighted average maturity) will have greater NAV or share price volatility than a shorter duration fund. This greater volatility results from the fact that, as time to maturity increases, changes in interest rates exert a greater effect on the present value of securities.

So, What is NAV, Anyway?

The “net asset value”, or NAV, is the value of all of a fund’s assets minus the value of its liabilities; literally the net value of the fund. More specifically, the NAV is the number (value) - calculated by the fund accountant using industry recognized pricing sources - that captures all activity within a fund, from the purchase/sale of securities, realized/unrealized gains/losses, amortization/accretion of bonds, income, expenses, and capital activity (purchases and sales of shares by investors in the fund). All of this data is captured each time a fund is valued to determine the NAV of the fund.

As discussed in Part I, MMFs are permitted to value their holdings on an amortized cost (book value) basis, rather than current market value, though they must periodically calculate their per share market value, or “shadow NAV”. **Non-money market** mutual funds (equity and bond funds) determine their NAV on a current market value basis, based on the **closing market prices** of the securities in the fund’s portfolio. Some local government investment pools (LGIPs) such as the **CalTRUST Short-Term and Medium-Term** funds, also determine their NAV on this “mark-to-market” basis; other LGIPs utilize the amortized cost basis of valuation.

Quite commonly when people speak of a fund’s NAV, they are really referring to the **NAV per share**, or **share price**. This is simply the NAV at any given valuation divided by the number of shares outstanding at that time, then rounded to the nearest whole penny.

→ *Floating NAV Ensures Equal Treatment*

Non-money market funds trade on what is known as a “forward pricing” model, with buy and sell orders (such as CalTRUST Short- and Medium-Term cash transaction notices) executed at the **next-determined share price**. Thus, each transaction takes place at the share price determined at the end of the day the trade notice is submitted (This is why the CalTRUST Short-Term Fund provides next-day liquidity.). Forward pricing safeguards shareholders’ interests by preventing some investors from potentially profiting - at the expense of other shareholders - from trades in the fund based on developments in the market since the fund was last priced (late trading).



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The floating NAV provides a true representation of the change in value of the fund, given changes in the market. While there is risk to the investor when share prices decline, there also is reward when they appreciate. All parties to a transaction receive their fair proportion of the current market value of the fund; buyers in the form of new shares, and sellers in the form of cash. With the floating NAV, the integrity of the fund - and the interests of all shareholders - is maintained even in the event that a large portion of investors liquidate their position in the fund.

The floating NAV, along with forward pricing, ensures that all investors in the fund are treated equitably. To understand why, just consider the alternative. Suppose the share price of a non-money market fund did not float; that is, it was not tied to changes in the market value of its holdings. In such a circumstance, a fund could be over- or under-valued; leading buyers to pay and sellers to be paid either too much or too little. Moreover, this distortion would be most acute during times of rapid and dramatic changes in market interest rates. By ensuring that all investors hold their shares at current market value, the floating NAV reduces the incentive to "be the first one out" of a fund in periods of extreme market turmoil, because the impact of a share price drop on the last investor out is no greater than that on the first investor out.

➔ When Judging Fund Performance Get the Full Picture – Total Return

When evaluating the performance of a fund, it is tempting to focus on the NAV, or more specifically, *changes* to the NAV over the holding period. And, indeed, changes to a fund's share price, can give you some idea of how a fund is performing; you can see whether the fund's market value per share went up or down over a given period. Yet a single-minded focus on the NAV gives you only part of the overall performance picture. That is because the overall return on an investment in a fund consists of the **price return** -- attributable to changes in the NAV -- plus the **income return** -- produced by the periodic dividend and interest earnings distributed by the fund (and the reinvestment of these distributions).

Together, these two components make up the **total return** on an investment and provide the fullest picture of fund performance. To understand why total return gives the most complete picture, consider that it is possible for a fund to generate next to nothing in the way of interest income (in a very low rate environment), but its NAV can appreciate significantly, thus generating substantial capital appreciation. Conversely, a fund's NAV can fall over time (in a rising rate environment, for instance) but the interest earnings on the portfolio can produce solid returns.

This point is illustrated by the example in the box. It shows the performance of \$10 million invested in the CalTRUST Medium-Term Fund over one-year, with all interest earnings reinvested in the fund, at the then-current share price.

An investor focusing only on the NAV could conclude that this was a 'bad' investment, since the initial \$10 million in principal was worth only \$9,970,547 after one year (a negative 0.295% return). On the other hand, looking only at the income return could lead to the rosy conclusion that the fund returned 1.131%, while the yield on a 2-year Treasury never exceeded 0.41% over the period.

Initial Investment:	Unrealized Gain/(Loss) From			Shares	Total Shares	Account Value
	NAV	NAV Change	Income			
\$10,000,000	\$10.14			986,193.294	986,193.294	\$10,000,000.00
Month 1	\$10.13	(\$9,861.93)	\$9,265.24	914.634	987,107.928	\$9,999,403.31
2	\$10.10	(\$29,613.24)	\$10,743.68	1,063.731	988,171.658	\$9,980,533.75
3	\$10.10	\$0.00	\$10,126.75	1,002.649	989,174.307	\$9,990,660.50
4	\$10.09	(\$9,891.74)	\$10,158.36	1,006.775	990,181.082	\$9,990,927.12
5	\$10.08	(\$9,901.81)	\$10,086.60	1,000.655	991,181.737	\$9,991,111.91
6	\$10.10	\$19,823.63	\$9,756.53	965.993	992,147.730	\$10,020,692.07
7	\$10.10	\$0.00	\$10,136.41	1,003.605	993,151.335	\$10,030,828.48
8	\$10.09	(\$9,931.51)	\$9,070.22	898.932	994,050.266	\$10,029,967.19
9	\$10.10	\$9,940.50	\$9,325.92	923.358	994,973.625	\$10,049,233.61
10	\$10.09	(\$9,949.74)	\$8,429.29	835.410	995,809.035	\$10,047,713.16
11	\$10.09	\$0.00	\$8,347.46	827.300	996,636.335	\$10,056,060.62
12	\$10.11	\$19,932.73	\$7,611.99	752.917	997,389.252	\$10,083,605.34
Total		(\$29,453.11)	\$113,058.45			
Return		-0.295%	1.131%			
Total Return	0.8361%					

The reality actually lies between these extremes: the investment returned a solid 0.836% for the year on a **total return** basis.

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