FINANCIAL CHECK-UP: FIGURING OUT YOUR MUTUAL FUND PORTFOLIO

By John Markese

A simple worksheet for your mutual fund portfolio allows you to see what it may generate over time in terms of income, return, and risk. It also allows you to see the trade-offs that can occur with different percentages committed to the different asset categories.

Surprised at how your mutual fund portfolio behaved in the last market swoon?

Want to do some practical return and risk planning for all your mutual funds together?

Here is an approach and a simple worksheet that will help you get a grip around all your funds as a portfolio. It will give you insights into your funds individually and force you to assess whether the funds you own make sense when they are taken together as a portfolio.

THE FRAMEWORK

The worksheet in Table 1 provides you with a framework to evaluate expected risk and return for individual funds and your portfolio of funds. There are some assumptions built into this approach that are important. First, the annual yield and annual capital gains percentages for the fund categories are long-term averages that can vary year-to-year but are historically reasonable. The longer your investment period, the more likely you are to experience similar returns.

Can your individual fund performances differ from these averages? Yes—and the differences can be significant. The more diversified your fund, however, the more likely that it will be similar to the average. However, the more funds trade securities, incurring transaction costs, and the greater the expense ratio, the more likely that funds will underperform these numbers. And it is important to note that these returns are before taxes, so the less tax-efficient your fund is, the lower your aftertax returns will be.

In other words, index funds will be closer to these long-term averages, and actively managed individual funds will have performance distributed both above and below these numbers. But it is important to remember that these are only informed guesses, and future performance may well differ from history and will certainly do so in the short run. If you feel the need to adjust any of these figures, particularly the stock fund numbers, err on the conservative side, reducing the capital gains component. These numbers would probably be 1% to 2% lower if the experience of the last decade were completely removed. Also, dividend yields have dropped dramatically over the same period, and these expected annual yield figures are near all-time lows. And if your mutual fund is not an index fund with naturally low expenses (expenses are netted out against income) the yields will be even lower.

RISK: THE DOWNSIDE

The downside risk measure is a practical look at what might happen to the value of your mutual fund portfolio in a worst-case scenario.

What is a worst-case? That would occur if diversification among different fund categories fails and all your funds fall in unison. The downside percentage loss in value in any one year for the mutual fund categories is based on post World War II experiences for average funds. Are there plenty of funds

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TABLE 1. WORKSHEET FOR MUTUAL FUND PORTFOLIOS

Fund Category	A Portfolio Weight (%)	B Annual Yield* (%)	C Annual Capital Gain* (%)	D Downside Risk** (%)
Money market	____	4	0	0
Bond, General	____	6	0	10
Corporate	____	6	0	10
Government	____	5	0	10
High-Yield Corporate	____	10	0	20
Stock, General	____	1	10	30
Large Stock	____	2	8	30
Small Stock	____	0	12	40
Growth Stock	____	0	11	40
Value Stock	____	3	8	20
Sector	____	0 to 6	4 to 14	20 to 70
International	____	2	10	40
Emerging Markets	____	0	14	70
Total	100%			

Average Portfolio Yield = Add A X B for each fund category
Average Portfolio Capital Gain = Add A X C for each fund catregory
Total Return = Average yield plus average capital gain
Downside Risk = Add A X D for each specific fund category

**Long-term average annual compound yield and capital gains estimates assume reinvestments of income; significant annual variation can be expected for categories and individual funds.*
***Annual decline potential based on severe bear market conditions and the conservative assumption that all fund categories would decline simultaneously.*

that have done worse in any year? Yes, but they again tend to deviate significantly from these norms when they are not as broadly diversified as the category average.

Taking a look at the amount by which your mutual fund portfolio could drop in a year will give you a feeling for just how appropriate your fund portfolio risk level is relative to your risk tolerance. Converting the percentage downside potential of the funds to dollars, which will be explained, is the test of your ability to sustain short-term losses without breaking your long-term financial plan (selling off investments at absolutely the wrong time, after a market drop).

Fund categories are listed in the worksheet, and general entries are made for money market, bond, and stock funds. Under the bond and stock fund general categories, there are breakdowns of fund types that cover almost all funds.

Municipal bond funds are not a separate listing, but adjusting yields for long-term government bond funds or money market funds for taxes (1.00 minus your federal tax rate in decimal form times the government bond or money market yield) will give you a useful approximation.

Money market funds and short-term government bond funds have yields that are close enough for planning purposes, and the yields on intermediate bond funds are equally close to long-term bond funds. Capital gains for money market funds are zero because of their structure. Capital gains for bond funds are shown to be zero under the assumption that over the long-term, the impact of interest rate charges and economic cycles will net out capital gains and losses to zero. Clearly, actual holding periods, particularly short-term ones, could produce significant capital gains or losses—primarily for long-term bond funds with average maturities of bonds in the portfolio over 10 years.

Under the stock category, both stock size—large and small—and investment approach—growth and value—are separately shown.

Small stocks are riskier than large stocks, and a growth approach is riskier than a value approach. But the surprise is that value stocks tend to have about the same returns in the long run as growth stocks, although the growth approach beat value for most of the last decade of the last century. Probably the highest historical returns, but not the highest risk, have been in portfolios holding small value stocks. If you are not quite certain where a stock fund fits, but you are sure it is diversified, just think of the general stock category as an appropriate match. And if you have a balanced fund, one that holds both stocks and bonds, 50% in each for example, half would be general bond and half general stock.

Sector funds are all over the board as the name indicates, but only very concentrated, high-risk funds, such as in technology or biotechnology, would approach a 14% long-term capital gain average and then it would be paired with a 0% yield. An average utility stock sector fund might be close to a 4% yield and a 6% capital gain, as an illustration of how to use the sector figures. The downside risk for the biotech fund

or technology sector fund is 70%, for the utility, 20%. The higher the yield, the lower the capital gains, and the less the downside risk; conversely, the lower the yield, the higher the capital gains, and the greater the downside risk.

International stock funds are affected by currency exchange risk and are inherently riskier, even when investing in large international companies that are indistinguishable from large domestic companies. Emerging market funds, however, have greater currency risks but also significant risk from government instability and less diversified economies. Funds that hold stock from many emerging markets are clearly less risky than single-country or regional emerging market funds.

HOW IT WORKS

Time for an example. Example 1 shows how you can use the worksheet by plugging in your mutual fund portfolio and doing some simple arithmetic. The portfolio weight percentage is the market value of a fund divided by the total market value of all funds in your portfolio. If you have financial investments other than mutual funds and want to use this approach for your entire portfolio, take the market value of each investment, stock, bond, or fund and divide it by the total market value of all financial investments. Then fit your non-fund investments into an appropriate category. Here, the example assumes only mutual fund investments and represents an aggressive portfolio mix appropriate for investors with long horizons, low cash needs, and a strong tolerance for short-term downside moves in their total portfolio.

In Example 1, yield is relatively low, at 1.50%, and it should be reinvested if income is not required. Mutual fund shares, however, can always be redeemed to provide cash, and importantly, long-term capital gains are taxed at lower rates than dividend income. The capital gains, at 9.2%, are substantial, and compounded over long periods will create substantial wealth. The short-term cost of this long-term wealth accumulation is portfolio volatility—this aggressive portfolio may decline by more than one-third (34.5%) in value in a single year. That means that if you have $1 million invested, you may have a potential unrealized loss of $345,000. The question you must ask is whether you can sustain this kind of loss without breaking your long-term plan. If not, reduce the total commitment to stocks across the board, eliminate high-risk investments such as emerging markets, and increase investments in money market funds, or bond funds with shorter average maturities.

At the other extreme is Example 2 a very conservative portfolio, perhaps for someone in retirement. The stock/fixed-income breakdown is 50%/50%, and the stock fund portion is decidedly income-oriented. The 40% in value stock funds could conceivably be in an index fund, in separate large-cap and small-cap funds, one broadly diversified value fund, or some combination. The 10% in a utility sector fund would be somewhat redundant if the value funds had significant positions in utility stocks.

The bond portion of the portfolio is primarily in a government bond fund. An average maturity for this fund in the seven- to 10-year range would capture almost all the return of the longer maturity bonds while avoiding some of the volatility of the longest sector of the yield curve.

EXAMPLE 1. AN AGGRESSIVE PORTFOLIO

Fund Category	Portfolio Weight (%)	Annual Yield* (%)	Annual Capital Gain (%)	Downside Risk (%)
Money Market	10	4	0	0
Bond, General		6	0	10
Corporate		6	0	10
Government		5	0	10
High Yield Corporate		10	0	20
Stock, General		1	10	30
Large Stock	30	2	8	30
Small Stock	30	0	12	40
Growth Stock		0	11	40
Value Stock		3	8	20
Sector		0 to 6	4 to 14	20 to 70
International	25	2	10	40
Emerging Markets	5	0	14	70
Total	100%			

Average Portfolio Yield = 1.5% = (0.10 X 4) + (0.30 X 2) + (0.30 X 0) + (0.25 X 2) + (0.05 X 0)
Average Portfolio Capital Gain = 9.2% = (0.10 X 0) + (0.30 X 8) + (0.30 X 12) + (0.25 X 10) + (0.05 X 14)
Total Return = 10.7% = 1.50% + 9.20 %
Downside Risk = 34.5% = (0.10 X 0) + (0.30 X 30) + (0.30 X 40) + (0.25 X 40) + (0.05 X 70)

EXAMPLE 2. A CONSERVATIVE PORTFOLIO

Fund Category	Portfolio Weight (%)	Annual Yield (%)	Annual Capital Gain (%)	Downside Risk (%)
Money Market	10	4	0	0
Bond, General		6	0	10
Corporate		6	0	10
Government	30	5	0	10
High Yield Corporate	10	10	0	20
Stock, General		1	10	30
Large Stock		2	8	30
Small Stock		0	12	40
Growth Stock		0	11	40
Value Stock	40	3	8	20
Sector (Utility)	10	4	6	20
International		2	10	40
Emerging Markets		0	14	70
Total	**100%**			

Average Portfolio Yield = 4.5% = (0.10 X 4) + (0.30 X 5) + (0.10 X 10) + (0.40 X 3) + (0.10 X 4)
Average Portfolio Capital Gain = 3.8% = (0.10 X 0) + (0.30 X 0) + (0.10 X 0) + (0.40 X 8) + (0.10 X 6)
Total Return = 8.3% = 4.5% + 3.8 %
Downside Risk = 15.0% = (0.10 X 0) + (0.30 X 10) + (0.10 X 20) + (0.40 X 20) + (0.10 X 20)

The 10% in the corporate high-yield (junk) category is a pure income boost supported by a diversified holding in junk bonds, which spreads default risk over a large portfolio base. And while the downside of the high-yield category is double that of the government bond fund category, it is still less than the growth stock category.

Notice in Example 2, as compared to the aggressive portfolio in Example 1, that yield (income) is up, capital gains are down, and total return is down. But downside risk is more that halved, at 15% for this portfolio. The trade-off: lower return for higher income, and lower growth for lower risk.

Note, however, that if the stock component drops much below 50%, the growth—capital gains—that can be generated by this portfolio starts to fall below most expectations of the long-term inflation rate experience of 3% to 4%, eroding the real value of the portfolio over time. The capital gains rate for this conservative portfolio falls within the long-term inflation range by generating a 3.8% growth rate.

RUNNING THE NUMBERS

The worksheet is designed to "put up" your portfolio and see what it may generate over time in terms of income, return, and risk. It also allows you to move the mix around and observe the trade-offs. When you multiply the downside percentage against your portfolio value, you can test your financial courage.

A side benefit of running your portfolio through this worksheet is that it forces you to categorize your investments, and it forces you to evaluate whether your portfolio is redundant, has gaps, is concentrated, diversified, rational versus your goals, or just a big cumulative, historical mess.

And while you're at it, count the number of funds you have. If the number of fund choices under your control (not in 401(k) or 403(b) plans) is out of control (eight is typically enough) it's probably time to clean house.

Fill out the worksheet, do the math, think about your goals and tolerance for risk, and play with changing the percentage commitment to each category. You would be hard-pressed to spend a more financially productive hour. ✥