



Practical Rebalancing

Investment advisors who believe in Modern Portfolio Theory strive to achieve the benefits of asset allocation. Accordingly, allocation models appropriate to achieve each client's risk/return goals become the foundation for portfolio management.

However, an initial allocation is not all it takes. To maintain consistent risk/return parameters, periodic rebalancing is necessary. But do we really need to maintain consistent risk/return parameters?

Let's think about this logically. Over the long run, stocks outperform bonds, and small stocks outperform large stocks. If we allow portfolios to drift as the markets move, portfolios will eventually become overweighted in equities, especially small-cap equities. Our clients' returns will thus increase. Combine that with avoided tax on rebalancing transactions, and it seems like "not fixing what ain't broken" might be the way to go.

Unfortunately, if we don't keep portfolio proportions consistent through market swings, we can't limit volatility to within the original parameters. And, although long-term returns should be higher with a greater allocation to equities, volatility could have a significant negative impact.

Let's start with a simple example. Assume that Client A's portfolio allocation calls for 60 percent equities and 40 percent bonds. A's investment advisor has determined that this allocation should produce a long-term expected return of 9 percent. Return for equities and bonds are shown in Table 1.

Assuming a constant 60/40 allocation, this portfolio would return an average of 9 percent per year. An initial investment of \$100,000 rebalanced to maintain the allocation, assuming no transaction costs

or tax costs, is shown in Table 2.

In the above example, because of the effect of volatility, total return over four years was \$38,267. An annually compounded 9 percent return would have resulted in an ending balance of \$141,158. That's a difference of \$2,891. Clearly, volatility has an impact on returns.

Now, let's take this same example without rebalancing (Table 3):

Without rebalancing, A's portfolio value after four years would be \$136,192, or \$2,075 less than the rebalanced portfolio. Also, because A's portfolio is now slightly overweighted in equities, the investor's volatility exposure has increased.

Regular rebalancing can enable the portfolio to capture increased returns (buying low and selling high) while reducing exposure to excess risk (volatility) and

possibly avoiding diminished long-term returns (as a result of increased volatility). If rebalancing was easy and cost-free, we'd be doing it all the time. Unfortunately, it's neither easy nor cost-free. So, in order to make good decisions about rebalancing, we need to consider costs and benefits.

The Issues

Potential issues affecting rebalancing decisions include:

- Tolerance ranges
- Frequency of rebalancing
- Transaction costs
- Redemption fees
- Gain recognition
- Wash sales
- Cash needs
- Location optimization
- Consistency

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Table 1

Year:	Equities:	Bonds:	Weighted Return:
1	-20%	+7%	-9.2%
2	+18%	+8%	+14%
3	+26%	+6%	+18%
4	+16%	+9%	+13.2%

Table 2

Year:	Beginning Balance:	Change:	Ending Balance:
1	\$100,000	-\$9,200	\$90,800
2	\$90,800	\$12,712	\$103,512
3	\$103,512	\$18,632	\$122,144
4	\$122,144	\$16,123	\$138,267

Table 3

Year:	Beg. Equities:	Return:	End. Equities:	Beg. Bonds:	Return:	End. Bonds:
1	\$60,000	-\$12,000	\$48,000	\$40,000	\$2,800	\$42,800
2	\$48,000	\$8,640	\$56,640	\$42,800	\$3,424	\$46,224
3	\$56,640	\$14,726	\$71,366	\$46,224	\$2,773	\$48,997
4	\$71,366	\$11,419	\$82,785	\$48,997	\$4,410	\$53,407

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Tolerance ranges. At what point should a portfolio be rebalanced? If rebalancing is done each time the allocation differs even slightly from the target, it is likely that the advisor will submit trades on a daily basis. Obviously, no advisor will do this or even strive to do this. However, rebalancing only once a year or when the allocation differs extremely from the target might produce less-than-optimal results. Thus, an effective rebalancing strategy must consider tolerance ranges, i.e., acceptable amounts of variation from targets, such that slight over- or under-weightings will not trigger transactions.

Frequency of rebalancing. How often should a portfolio be rebalanced? Should rebalancing occur only when subclasses are outside of tolerance ranges? Should portfolios be reviewed periodically for potential rebalancing needs? Is the frequency of rebalancing limited by the advisor's capacity? All of these factors

interrelate and, yet, what is best for the client might not be realistically doable from the advisor's standpoint.

Transaction costs. At what point does the benefit of rebalancing overcome the costs of executing transactions? At what point will the client object to the relative cost of transactions? When making a rebalancing decision, a prudent advisor will consider transaction costs.

Redemption fees. Typically, redemption fees apply only for a limited period of time after purchase of fund shares. Most advisors and their clients would prefer not to incur redemption fees as a result of periodic rebalancing. Thus, when determining appropriate trades, a careful advisor will avoid shares subject to redemption fees.

Gain recognition. Rebalancing necessarily requires sales and purchases. When sales are made in taxable accounts, gains might be recognized. Absent basis step-up on death, appreciation in taxable

accounts will eventually become taxable. However, the compounding value of tax deferral, coupled with clients' typical aversion to paying tax, means that the proficient advisor should attempt to minimize taxable gain recognition when rebalancing. To truly minimize taxes, the advisor must coordinate various factors. For example, can sales be made in non-taxable accounts (such as IRAs) rather than taxable accounts? Can high-cost lots be specifically identified for sales? Can short-term gains be avoided?

Wash sales. If a client recognizes a loss on the sale of securities, the loss will be disregarded for tax purposes if the same securities are purchased within 30 days before or after the loss sale. When rebalancing, the thorough advisor must avoid purchasing securities or funds that were sold at a loss within 30 days.

Cash needs. Rebalancing becomes more complicated when the client needs cash for regular or intermittent distributions. Should the advisor sell more than what is bought? Should the account be rebalanced each time there is a cash need, or should a pool of cash be consistently maintained? Whatever the advisor's strategy, cash needs must be accounted for when rebalancing.

Location optimization. If a client has several accounts, including taxable, non-taxable, and/or tax-deferred accounts, rebalancing decisions can be structured to reflect location-optimization strategies. For example, rather than hold ordinary income-producing bonds in a taxable account or settle for diminished returns from municipal bonds, why not hold bonds in an IRA, which will ultimately be taxed at ordinary rates? Likewise, rather than hold appreciating securities in an IRA, which will ultimately be taxed at ordinary rates, why not hold equities in a taxable account, which may allow for taxation at advantageous capital gains rates? Coordinating location decisions along with rebalancing transactions can be quite cumbersome, but the results have the potential for significant benefits.

Consistency. With all of the factors to consider when rebalancing, it is difficult for an advisor to make consistent decisions by client and time after time. Moreso,



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Isaac Gregory, Senior Vice President, Investor Services
817.479.1423 or email: igregory@rcpinvestments.com

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it is difficult to enforce consistency among multiple advisors within a firm. Written policies and procedures may be helpful; however, they cannot guarantee against human errors and inconsistent judgment calls.

The Practical Approach

The conclusion is that taking rebalancing to its optimal iteration might bring significant benefits for clients. However, to properly and consistently coordinate the multiple variables affecting rebalancing decisions, an advisor will need more than a good memory.

Many advisors choose to simplify the rebalancing process, even if their method is sub-optimal. According to a 2005 survey of 100 advisors by Gobind Daryanani, CFP®, Ph.D., and the Financial Planning Association, over 90 percent use some structured methodology, with a preference for quarterly, semiannual, or annual rebalancing.¹ Accordingly, advisors might limit their efforts through one or more of the following methods:

- Rebalance accounts only once or twice a year;
- Rebalance accounts only when cash is needed or added;
- Manage each account, as opposed to household, to a complete allocation;
- Prepare trades solely based on rebalance reports; or
- Rebalance at the end of each calendar year to generate tax losses.

1. Financial Planning Association, *Survey on Rebalancing*, conducted for FPA's 2005 Annual Conference, San Diego.

2. Daryanani, Gobind and Chris Cordaro. 2005. "Asset Allocation: A Generic Framework for Maximizing After-Tax Wealth." *Journal of Financial Planning* 18, 1 (January): 44-54.

3. Daryanani, Gobind, 2008. "Opportunistic Rebalancing: A New Paradigm for Wealth Managers." *Journal of Financial Planning*, January 2008.

4. *ibid.*

These simplifying procedures can add consistency and control, but the advisor leaves client dollars on the table by not being more proactive. Applying tax-aware investing and location-optimization strategies can result in significant added value. According to research by Daryanani and Cordaro², portfolio returns can be improved by an average of 30 basis points (bps) through optimal location vs. pro-rata distribution of asset classes. In addition, according to a recent study by Daryanani, benefits from "opportunistic rebalancing" can range from 50 bps to 80 bps.³ Trading costs should be a very minor consideration since they will typically be much less than 5 percent of rebalancing benefits.⁴

Tax-aware investing employs methods of either postponing or reducing income taxes on investments. Tax lot identification can postpone income taxes on sales by specifically identifying the highest-basis tax lots. By avoiding recognition of short-term capital gains, the ultimate effective tax rate on appreciation is minimized, without incurring a deferred tax liability to be paid at some future date.

To quickly review, interest and dividends paid on positions held in taxable accounts are subject to immediate taxation. Upon sale, appreciation is taxed at capital gains rates. Alternatively, if appreciated securities are held until the owner's death, appreciation escapes income tax altogether.

The opposite is true for retirement accounts, such as IRAs and annuities. Interest and dividends generated within retirement accounts are not taxed as paid. Likewise, gains on sales of positions held within retirement accounts are not taxed currently. However, upon withdrawal from the account, all income (interest, dividends, and appreciation) is taxed at ordinary rates. Thus, although retirement accounts avoid immediate taxation, eventually all income is taxed at ordinary rates. It should also be noted that the liability for ordinary income tax is not avoided by death.

Therefore, investments generating ordinary income should be held in retirement accounts to avoid current taxation. Investments held primarily for long-term appreciation should be held in

taxable accounts in order to take advantage of capital gains rates and/or basis step-ups at death.

To illustrate the above principles, let's look at a couple of examples.

Tax-Aware Investing: On June 1, 2008, Client Y has a taxable portfolio consisting of \$700,000 invested in a U.S. Equity Fund (Equity) and \$300,000 in a Municipal Bond Fund (Muni). Assume that Y's combined federal and state ordinary tax rate is 40 percent and her combined capital gain rate is 20 percent. To rebalance to a 60/40 allocation, Y must sell \$100,000 Equity and purchase \$100,000 Muni. Equity is currently selling at \$100 per share. Y's Equity shares were purchased as follows:

- January 4, 2005
200 shares purchased at \$70/share
- April 16, 2006
500 shares purchased at \$85/share
- May 30, 2006
600 shares purchased at \$80/share
- July 12, 2007
1,000 shares purchased at \$90/share

If Y sells 1,000 shares and uses first-in, first-out accounting, she would recognize long-term capital gain of \$19,500 (\$100,000 - [200 x \$70] - [500 x \$85] - [300 x \$80]). This would generate a tax bill of \$3,900. By not specifically identifying higher-cost lots, Y would pay more current tax than necessary. It should be noted that if the remaining shares are sold at the same market value after July 12, 2008, the deferred tax would be \$3,200 (\$16,000 x 20 percent).

If Y sells 1,000 shares based on last-in, first-out, she would recognize short-term capital gain of \$10,000 (\$100,000 - [1,000 x \$90]), resulting in tax of \$4,000. The higher tax rate could have been avoided if the shares had been held for longer than one year. If the remaining shares are sold at the same market value after July 12, 2008, the deferred tax would be \$5,100.

Using the principles of tax-aware investing, Y would sell 500 shares acquired April 16, 2006 at \$85, and would sell 500 shares acquired on May 30, 2006, at \$80. These are the highest-cost shares

held longer than one year. Thus, Y would recognize long-term capital gain of \$17,500 ($\$100,000 - [500 \times \$85] - [500 \times \$80]$), resulting in tax of \$3,500. If the remaining shares are sold at the same market value after July 12, 2008, the deferred tax would be \$3,600.

In this example, tax-aware strategies did not save any permanent taxes over the first-in, first-out method (\$7,100 total tax v. \$7,100 total tax). However, the tax-aware strategy postponed \$400 of tax (\$3,900 v. \$3,500). Tax-aware strategies saved \$2,000 in permanent taxes over the last-in, first-out method (\$9,100 total tax v. \$7,100 total tax), as well as postponed \$500 of tax (\$4,000 v. \$3,500).

Location Optimization: Client X's portfolio consists of \$600,000 invested in a U.S. Equity Fund (Equity) held in his IRA and \$400,000 of a Municipal Bond Fund (Muni) held in his taxable account. X wants to retain his 60 percent Equities/40 percent Bonds asset allocation. Assume that Equity pays no dividends, but appreciates at 10 percent per year; assume that Muni pays tax-free interest at 3.6 percent annually. Also, assume that a taxable bond fund (Bond) would pay interest at 6 percent annually. Finally, assume that X's combined federal and state ordinary tax rate is 40 percent, and his combined capital gain rate is 20 percent.

After five years, X's portfolio would be:

IRA:	\$966,306
Taxable:	\$477,374
Total:	\$1,443,680

Assuming that X withdraws everything from his IRA and taxable account, his after-tax portfolio value would be:

IRA:	\$579,784
Taxable:	\$477,374
Total:	\$1,057,158

Alternatively, if location optimization principles were applied, X's IRA would initially hold \$400,000 of Bond and \$200,000 of Equity, instead of \$600,000 of Equity. His taxable account would hold \$400,000 of Equity instead of \$400,000 of Bond.

After five years, X's portfolio would be:

IRA:	\$857,392
Taxable:	\$644,204
Total:	\$1,501,596

Assuming that X withdraws everything from his IRA and taxable account, his after-tax portfolio value would be:

IRA:	\$514,435
Taxable:	\$595,363
Total:	\$1,109,798

In this illustration, location optimization has resulted in additional after-tax value of \$52,640, or approximately 5 percent excess after-tax total return over five years.

Clearly, applying advanced rebalancing strategies can add value—in this case, about 110 bps per year. However, since most advisors wish to grow their practices, spending more time on rebalancing could significantly affect their capacity to serve more clients. With a shortage of talent and a glut of commission-generating brokers competing for clients, would an independent advisor truly be serving the “greater good” if increasing management quality meant decreasing his ability to take on more clients?

How can the advisor practically rebalance clients' accounts, while considering tolerance ranges, frequency of rebalancing, transaction costs, redemption fees, gain recognition, wash sales, cash needs, and location optimization while maintaining consistent management? Undoubtedly, the “final frontier” is automation. What better opportunity for automation than a repetitive process dealing with multiple variables that needs consistent and timely application? Just as CPAs ultimately migrated from hand-completing tax returns to computerized preparation, investment advisors will need to embrace a computerized approach to rebalancing. NA

Sheryl L. Rowling, CPA/PFS is a NAPFA member in San Diego. She can be contacted at Sheryl@trxpert.com.



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Dr. William G. Droms, CFA, Co-Chairman of Droms Strauss Advisors, Inc. & the John J. Powers, Jr. Chair Professor of Finance and International Business at Georgetown University's McDonough School of Business