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HOW DOES ILP RE-BALANCING HELP IN BOOSTING ILP FUND PERFORMANCE. (PART 2)

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RE-BALANCING THE PORTFOLIO

The term "re-balancing" has been used in the literature of investing to cover a range of distinct actions including 1) adjusting the actual portfolio to the current strategic asset allocation because of price changes in portfolio holdings; 2) revisions to the investor's target asset class weights because of changes in the investor's investment objectives or constraints, or because of changes in his capital market expectations; and 3) tactical asset allocation (TAA). In this article we use "re-balancing" to refer only to the first type of action: re-balancing to the strategic asset allocation in reaction to price changes. Both individual and institutional investors need to set policy with respect to this type of action.

RE-BALANCING BENEFITS

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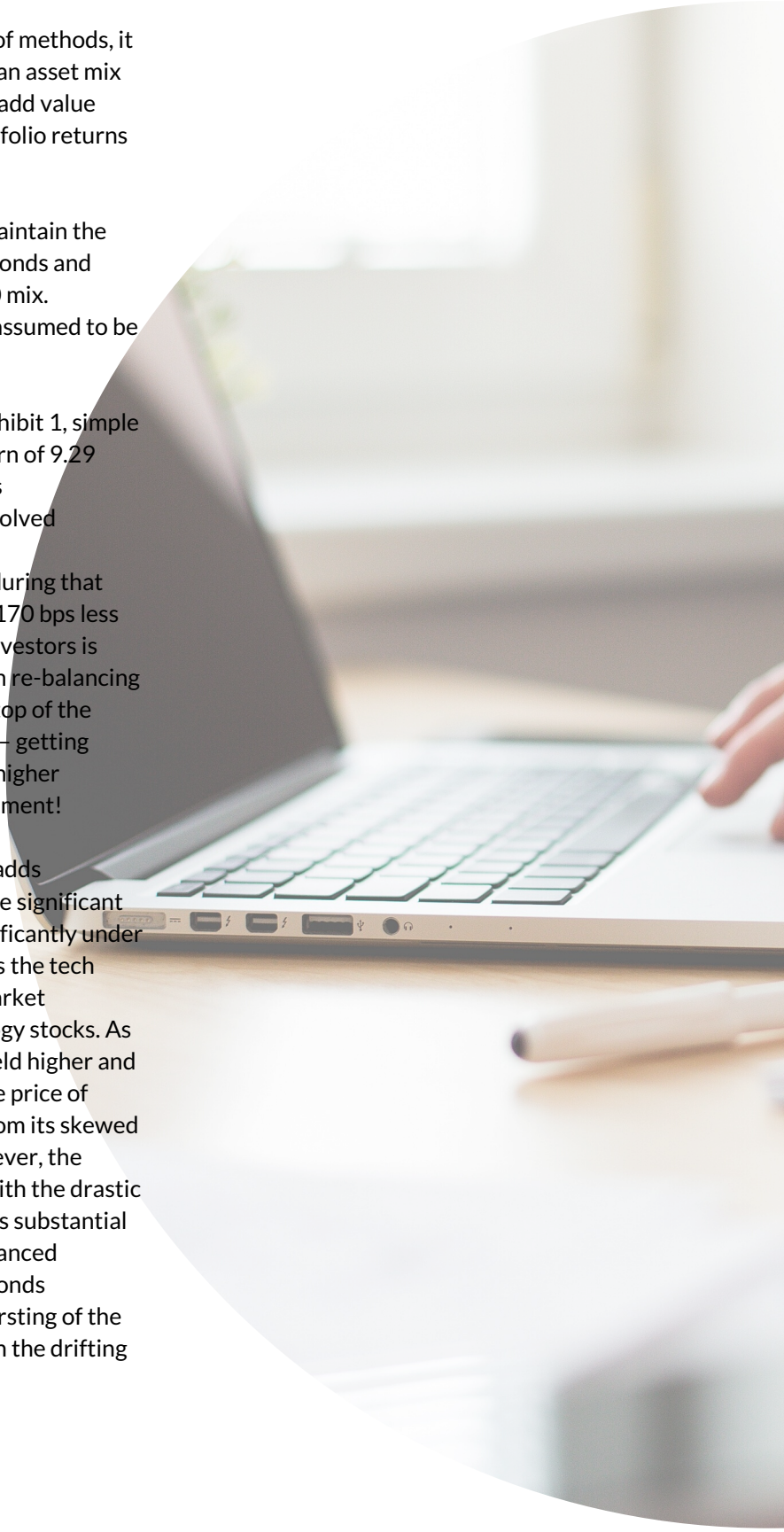
AN ILLUSTRATION OF THE BENEFITS OF DISCIPLINED RE-BALANCING

Although portfolios can be re-balanced using a variety of methods, it is important to recognize that, in comparison to letting an asset mix drift, any disciplined approach to re-balancing tends to add value over a long-term investment horizon by enhancing portfolio returns and/or reducing portfolio risk.

For example, assume an institutional client wishes to maintain the stated policy mix of 60 percent stocks and 40 percent bonds and requires monthly re-balancing to the equilibrium 60/40 mix. Transaction costs of 10 bps on each side of a trade are assumed to be attainable using futures.

In the four decades (1973–2010) summarized in the Exhibit 1, simple monthly re-balancing produced an average annual return of 9.29 percent versus 9.02 percent for a drifting mix—a 27 bps enhancement. Furthermore, the incremental return involved significantly less risk.
That is, the re-balanced portfolio's standard deviation during that time period was 11.96 percent versus 13.66 percent—170 bps less than that of the drifting mix! What this means for the investors is that they will experience less variability in returns when re-balancing is done compared to letting the asset mix drift. This on top of the higher average return over the period is a clear benefit – getting higher return with lower volatility as illustrated by the higher rewards to risk ratio of 0.78 over 0.66- an 18% improvement!

Analysing the results of the two strategies across time adds additional insight. Examining Exhibit 2 gives rise to some significant return differences. First, the re-balancing strategy significantly under performed the drifting mix strategy in the late 1990s as the tech bubble began to build. During this period, the equity market experienced large gains attributable mainly to technology stocks. As equity prices kept climbing, the drifting mix portfolio held higher and higher percentages of its assets in equity. As long as the price of equities continued to rise, the drifting mix benefited from its skewed asset allocation. As the tech bubble burst in 2000, however, the benefit of disciplined re-balancing becomes obvious. With the drastic price declines in stocks, the drifting mix portfolio suffers substantial losses in 2000, 2001, and 2002. Meanwhile, the re-balanced portfolio, which held a significant portion of assets in bonds throughout the tech bubble, is not as exposed to the bursting of the tech bubble and performs relatively well compared with the drifting mix portfolio.



AN ILLUSTRATION OF THE BENEFITS OF DISCIPLINED RE-BALANCING

A second trend evident in Exhibit 2 is the out-performance by the re-balanced portfolio during the recent economic crisis. The intuition for this out-performance is similar to the explanation of the tech boom and bust above. With strong positive stock returns in the mid- 2000s, especially in 2003 and 2006, the drifting mix portfolio again becomes heavily invested in equities. With the equity market's precipitous drop in 2008, the drifting mix experiences a significant loss. The re-balanced portfolio, by retaining a healthy mix of stocks and bonds, avoids some of this exposure and performs relatively well.

In the most recent 16-year period (1995–2010), re-balancing appears to be even more beneficial. As seen in the Exhibit 3, the additional average annual return for a monthly re-balanced portfolio over a drifting mix portfolio is 68 bps for the period. This incremental return is over twice as large as the 27 bps difference observed over the entire period from 1973–2010 (see Exhibit 1). Exhibit 3 illustrates that the risk (standard deviation of return) during the last 16 years is significantly higher than the risk measured for the entire 38-year period. However, consistent with the full-period findings, re-balancing during this more recent period results in substantially lower risk than the drifting mix approach (the difference in risk is 184 bps). Relative to the full-period, the recent 16-year period shows lower overall average returns and higher risk, yet the benefits of re-balancing remain consistent. This most recent period provides an obvious example of the benefit of re-balancing. By re-balancing, investors are able to retain a diversified mix of assets and avoid over-exposure to extreme price fluctuations in individual asset classes. Over the last 16 years, a re-balanced portfolio would have allowed investors to avoid some of the losses associated with the bursting of the tech bubble and the most recent financial crisis.

Refer to Table A

TABLE A

Exhibit 1: Full- Period Rebalancing Results January 1973- December 2010			
	Rebalancing Returns	Drifting Mix	Difference
Average	9.29%	9.02%	0.27%
Maximum	35.25	35.75%	
Minimum	–15.71	-13.57%	
Standard Deviation	11.96	13.66	
Rewards/ Risk Ratio	0.78	0.66	

Exhibit 2: Rebalancing Returns vs. Drifting Mix Returns by Year							
Year	Rebalancing	Drifting	Diff.	Year	Rebalancing	Drifting	Diff.
1973	–10.22%	–10.19%	–0.03%	1992	7.64	7.55	0.09
1974	-15.71	-13.57	-2.14	1993	12.97	12.49	0.48
1975	24.87	21.66	3.21	1994	-1.90	-1.36	-0.54
1976	20.80	20.15	0.65	1995	35.25	35.75	-0.50
1977	-5.10	-4.62	-0.48	1996	13.58	16.23	-2.65
1978	3.28	2.51	0.77	1997	26.38	29.00	-2.62
1979	8.00	7.15	0.85	1998	24.45	26.60	-2.15
1980	16.09	15.46	0.63	1999	9.12	15.72	-6.60
1981	-1.51	-1.99	0.48	2000	-0.29	-6.98	6.69
1982	29.40	28.90	0.50	2001	-5.17	-8.47	3.30
1983	13.14	13.39	-0.25	2002	-7.83	-12.88	5.05
1984	9.91	9.38	0.53	2003	17.47	18.11	-0.64
1985	32.41	32.29	0.12	2004	7.06	7.31	-0.25
1986	20.43	19.99	0.44	2005	2.54	2.57	-0.03
1987	2.73	1.30	1.43	2006	9.86	10.58	-0.72
1988	13.27	13.45	-0.18	2007	5.79	5.19	0.60
1989	26.54	26.74	-0.48	2008	-23.75	-25.37	1.62
1990	1.36	0.78	0.58	2009	17.93	16.85	1.08
1991	26.26	26.74	-0.48	2010	9.65	9.18	0.47

Exhibit 3: Portfolio Returns January 1995- December 2010			
	Rebalancing Returns	Drifting Mix	Difference
Average	8.88%	8.20%	0.68%
Maximum	35.25	35.75%	
Minimum	-23.75	-25.37	
Standard Deviation	14.38	16.22	
Rewards/ Risk Ratio	0.62	0.51	

This example reinforces the point that disciplined rebalancing has tended to reduce risk while incrementally adding to returns. “Tended” means just that: It does not work in every year or even in every market cycle, but it should work over long-term investment horizons.

Rebalancing to a fixed asset mix—because it involves both selling appreciated assets and buying depreciated assets—can be viewed as a contrarian investment discipline that can be expected to earn a positive return for supplying liquidity.

RE-BALANCING COSTS

Despite its benefits, re-balancing exacts financial costs. These costs are of two types— transaction costs and, for taxable investors, tax costs.

Transaction Costs:
Transaction costs can never be recovered, and their cumulative erosion of value can significantly deteriorate portfolio performance. Transaction costs offset the benefits of re-balancing. Yet the true trade-off is not easy to gauge because transaction costs are difficult to measure.

Tax Costs:
In re-balancing, a portfolio manager sells appreciated asset classes and buys depreciated asset classes to bring the asset mix in line with target proportions. In most jurisdictions the sale of appreciated assets triggers a tax liability for taxable investors and is a cost of re-balancing for such investors. However, an appreciated asset class may contain assets with not only unrealized short- and long-term capital gains but also short- and long-term capital losses. Realizing short-term losses, long-term capital losses, long-term capital gains, and lastly short-term gains, in that order, would usually be the tax-efficient priority in selling. In contrast to the difference between long-and short-term capital gains, the value of the deferral of a long-term capital gain is generally much less in magnitude.

About the Author:
Wong Kwek Yong is a licensed financial practitioner. He holds the CHFC and CLU Designations.