EMPIRICAL WEALTH MANAGEMENT

Successful Investing

ISSUE Q1 March 2010

Introduction to Empirical Targeted Premium Portfolios

Executive Summary

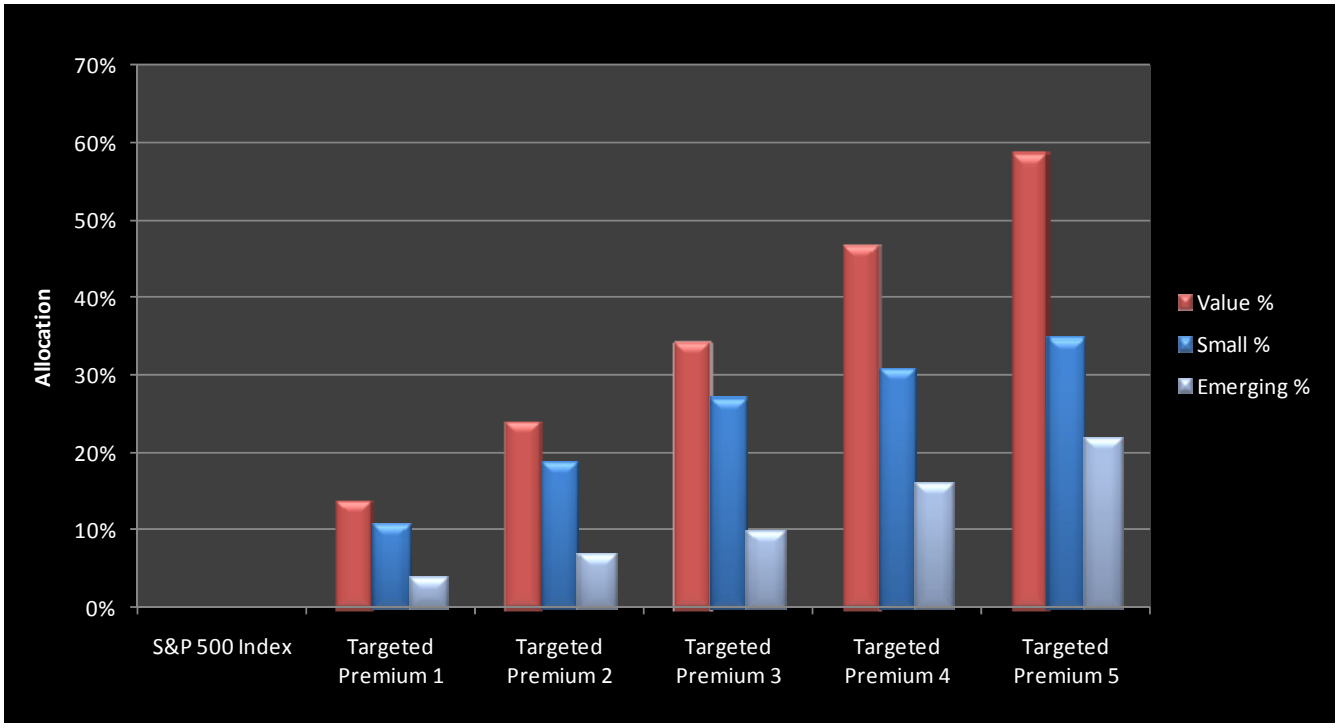
In this quarterly update we are excited to announce the creation of several new equity portfolios. The Empirical Dedicated Portfolio Management Process[1] and our continued investment in portfolio management technology is enabling continued innovation in our portfolio offerings. Empirical has created four equity portfolios in addition to our current global equity model. Relative to our standard global equity model that most of our clients have utilized to date; two of the new model portfolios are constructed with heavier allocations to aggressive asset classes such as emerging markets, value stocks and small company stocks while two of the new models carry less exposure to these asset classes. For most clients, the current model is the most appropriate option. If you are interested in learning more about our new portfolios, review the rest of this letter and contact your advisor to obtain a copy of our comprehensive document.

this issue

Introduction

As shown in **Figure 1**, the primary differences among each of the portfolios can be best explained by the varying exposures of small relative to large companies, value relative to growth companies and emerging markets relative to developed markets. Adjusting exposures to these different areas of the market has historically had an impact on the model portfolio performance. The results may be a little surprising at first because overweighting aggressive asset classes did not significantly increase downside volatility. This letter delves into why this occurred and examines another kind of risk investors face when choosing among Empirical portfolios that we call ***portfolio divergence***. **Figure 2** illustrates the return differences between each model portfolio over the past 40 years. Each of the five portfolios discussed in this update can be combined with tax-managed, environmentally sensitive or socially responsible[2] strategies and can be blended with any

Figure 1: Asset Class Weighting Based on Targeted Premium



Source: Since there are stocks that are both small and value, for example, the totals can exceed 100%. Value stocks allocation includes only funds that invest exclusively in value stocks. 'Blend' funds that invest in both growth and value stocks are excluded from this graph.

Portfolio Divergence: *the risk of a portfolio underperforming an investor's chosen benchmark.*

Targeted Premium: *the chosen allocation to small, value and emerging stocks, which historically have had higher returns than the market. The higher the targeted premium, the higher the allocation to these stocks.*

level of fixed income, making the total number of portfolio possibilities very large.

Portfolio Composition of EWM Portfolios

Small, value and emerging stocks have historically had a return premium over the market. Because each Empirical portfolio has different exposures to these asset classes we say that each Empirical portfolio has a unique ***targeted premium***. The portfolio Targeted Premium 3 is our original model that we believe has the optimal exposure to small, value and emerging stocks for most investors. The vast majority of our clients are invested in this model. Targeted Premium 1 and Targeted Premium 2 have a lower exposure to small, value and emerging stocks, and more closely resemble the S&P 500 index. Portfolios 4 and 5 have a larger exposure to these types of stocks. For a table of the complete portfolio allocations see Appendix A. In the next section, we will discuss why some clients might want to consider a portfolio other than Targeted Premium 3 for some or all of their accounts.

Figure 2: Historical Risk and Return of EWM Equity Models

Model performance has been reduced by investment advisory fees and mutual fund expenses

Portfolio Statistics 1970 – 2009				
Portfolio Composition	**Annualized Compound Return**	**Annualized Standard Deviation**	**Average of 5 Worst Draw-downs**	**Growth of $100,000**
EWM US Large Cap*	8.50%	15.60%	-38.29%	$2,615,991
EWM Targeted Premium 1	9.66%	14.88%	-35.67%	$4,003,356
EWM Targeted Premium 2	10.58%	14.67%	-33.61%	$5,590,621
EWM Targeted Premium 3	11.42%	14.81%	-31.90%	$7,561,693
EWM Targeted Premium 4	12.64%	15.21%	-31.98%	$11,677,079
EWM Targeted Premium 5	13.81%	15.75%	-32.68%	$17,699,920

*The EWM US Large Cap portfolio contains only US large cap stocks. This portfolio would only be appropriate for an investor who is extremely sensitive to portfolio divergence. See model disclosure at the end of this document.

Track Record of Empirical's New Strategies

As can be seen in **Figure 2**, by increasing the allocation to small, value and emerging stocks the historical returns for the portfolios increase substantially. Over the 40 year period, the higher annualized returns compounded so much that number 5, the portfolio with the highest targeted premium, had a dollar value nearly seven times higher than US large cap stocks as represented by the S&P 500 index. Appendix D shows the performance of the individual asset classes that make up the EWM portfolios.

This increase wasn't due to higher risk. Standard deviation, a common risk metric, was hardly any higher for Targeted Premium 5 than it was for the S&P 500. Further, we prefer a more useful risk indicator, the drawdown, which is the percentage a portfolio falls from the peak of the market to the bottom. We averaged the 5 worst of these drawdowns to show a measurement that we believe most accurately captures how an investor experiences risk. This is actually lower for Targeted Premium 5 than it is for the S&P 500, because the low correlations of the small, value and emerging stocks offset their increased volatility.

Higher targeted premiums can be melded, with the stability of fixed income, to create portfolios that have historically beat the market with much less risk. **Figure 3** shows the 100% equity Targeted Premium 5 portfolio rising much more than the S&P 500 index. Even more interesting, a portfolio composed of 50% Targeted Premium 5 portfolio and 50% EWM fixed income model had historically higher performance than the S&P 500, with much less risk, as evident by the near straight line appreciation.

Small, Value and Emerging Premiums

By this point, you might be wondering what caused these high returns and whether it is sustainable into the future. The historical success of the targeted premium portfolios depends on the well-documented outperformance of small, value and emerging stocks, which we believe will continue into the future over long enough time horizons.

The small cap premium was first demonstrated empirically in 1981,[3] while the value stock premium was first revealed in an academic paper in 1960.[4] In 1991, Eugene Fama showed in a blockbuster paper that these two factors are the best predictors of US stock returns.[5]

What differentiates these two premiums from other anomalies that have shown up in past stock returns (such as the correlation between the Super Bowl winner and US stock returns[6])? For one, both of these premiums make intuitive sense. Small cap stocks have less available information, fewer analysts covering them and are harder to trade. It makes sense that investors require a higher return to purchase them. Also, value stocks are, by definition, out of favor with the market.

Oftentimes, they are companies that are growing slowly or experiencing financial distress.

In addition, unlike many other stock market anomalies, the small and value premiums have not disappeared since they have been made public.[7] Finally, the US small and value premiums have been shown to consistently exist in other countries.[8]

Compared with the small and value premiums, the emerging premium has been studied less, mostly because of the limited availability of data. It makes good theoretical sense that investors would demand higher returns since emerging economies have greater political, economic and currency risk than developed economies. While we have good information about US stock returns and characteristics going back to 1926, emerging markets data is only available since 1988. However, what the emerging premium lacks in history, it makes up for in magnitude. Over the 22 past years, the MSCI Emerging Markets Index has returned 4% more than the S&P 500 annually.

Figure 4 shows the small, value and emerging premiums over the longest time periods for which data is available. Note that the small and value premium is strong for both US and international developed stocks. Although not shown, the small and value premiums also exist for emerging markets stocks.

For the asset classes with historical premiums, the funds we use have a history of outperforming their corresponding index (see Appendix C). This means that our model portfolios would have seen an additional premium on top of the premiums tracked by the indexes shown in **Figure 4**. For more information on how the funds we use are structured to outperform see the Q1 2008 letter.

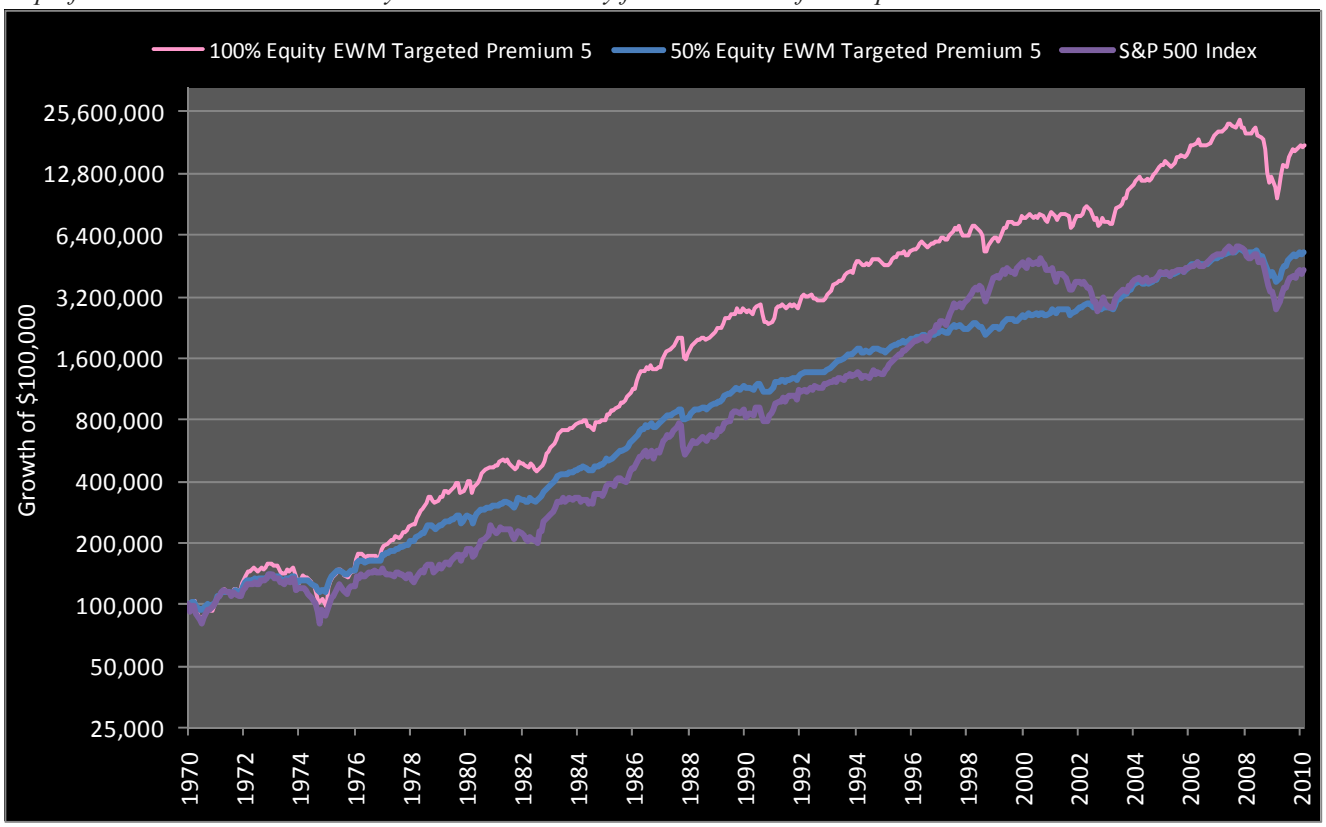
Drawback of High Premium Portfolios — Portfolio Divergence

Portfolio divergence is Empirical's term that describes the risk of a portfolio underperforming an investor's chosen benchmark. Oftentimes, an investor has in mind a popular US index such as the S&P 500 or the Dow Jones Industrial Average, or even the performance of a popular investment at the time. People have strong emotional tendencies that make it difficult to stick to a strategy with large amounts of portfolio divergence. There is no reason to start investing in a strategy unless you can maintain discipline in any market climate. Just as it is critical to avoid a portfolio with excessive equity risk, it is also critical to avoid too much portfolio divergence.

Appendix B shows the frequency of small and value stocks underperforming the market. One extreme example of portfolio divergence is the late 1990s technology boom. From 1995-1999, the S&P 500 index had an annualized return of 29%, driven primarily by large growth companies. As such, portfolios with heavy weightings to small and value portfolios

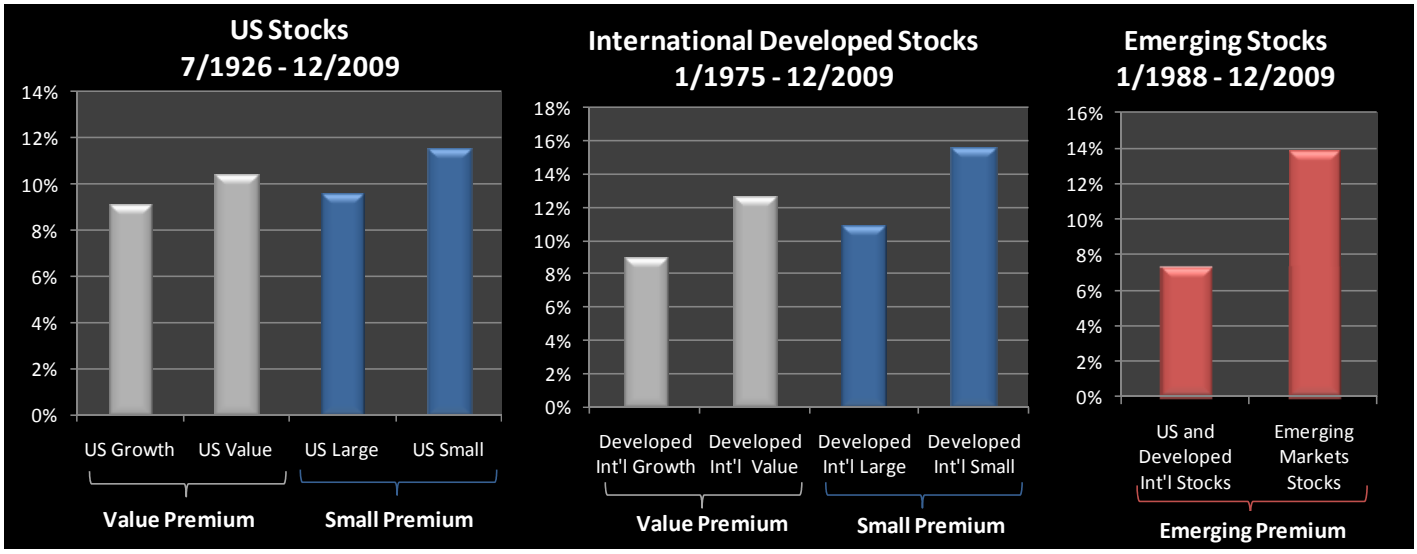
Figure 3: Using Targeted Premiums to Improve Risk and Return

Model performance has been reduced by investment advisory fees and mutual fund expenses



Source: The S&P data are provided by Standard & Poor's Index Services Group. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. See performance disclosure at the end of this document.

Figure 4: Historical Premiums

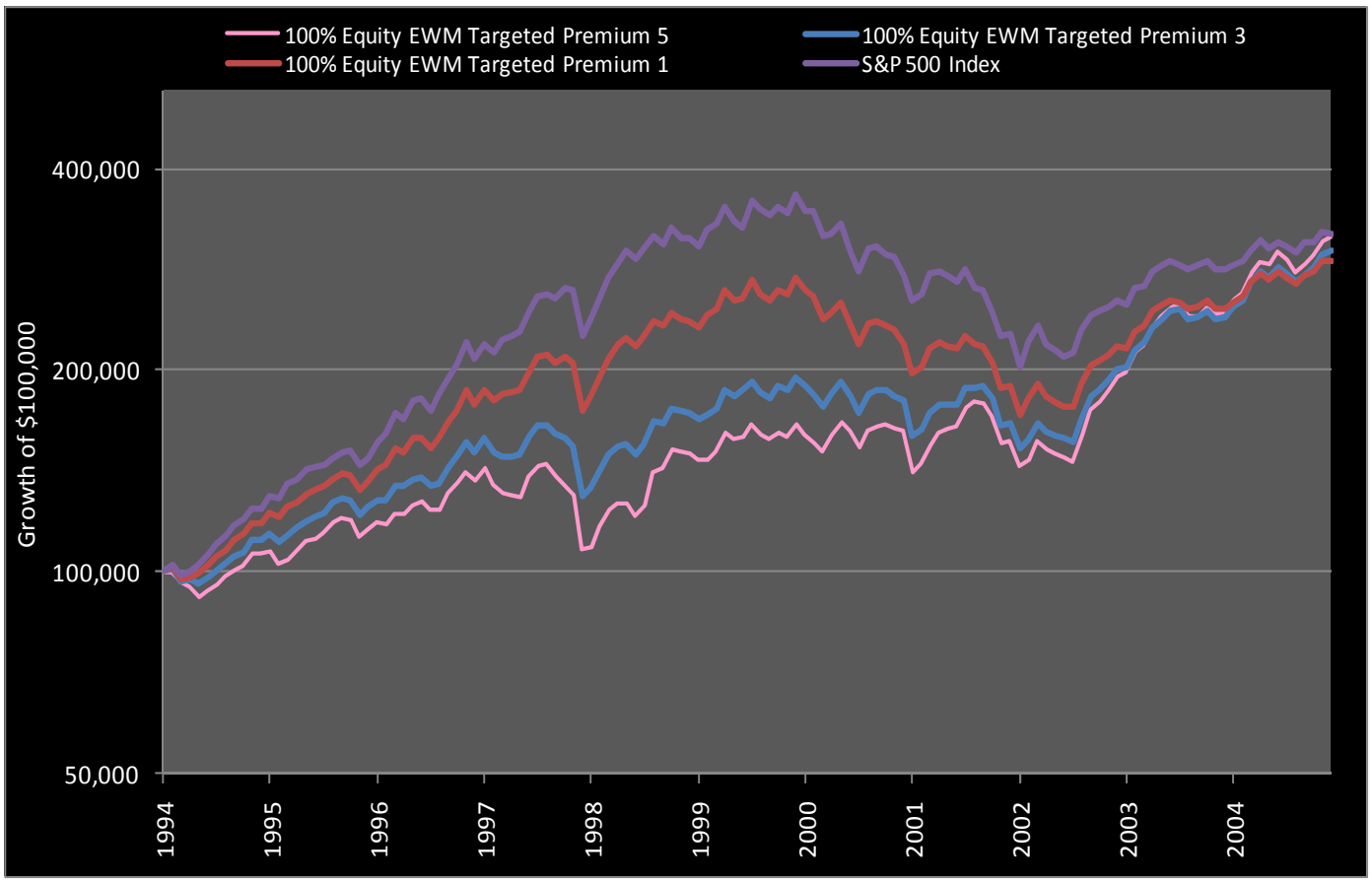


Source: US value and growth index data provided by Fama/French, ex utilities. US large and small index data provided by Center for Research in Security Prices, University of Chicago. International data provided by MSCI, except for Developed Int'l Small data which are provided by Dimensional Fund Advisors.

were largely left out of the market run up. Emerging markets were disproportionally hurt during the 1998 market downturn, and had an annualized return of 2% over the period.[9] As shown in **Figure 5**, The Empirical portfolio did not overtake the S&P 500 until 2004. To make matters worse, the dot-com boom had many people comparing their stock performance to the high-flying Nasdaq index, which significantly outperformed the S&P 500 due to its concentration in the

Figure 5: Comparison of EWM Portfolios During the '90s Large Growth Stock Boom

Model performance has been reduced by investment advisory fees and mutual fund expenses



Source:The S&P data are provided by Standard & Poor's Index Services Group. Indices are not available for direct investment. Their performance does not reflect the expenses associated with the management of an actual portfolio. See performance disclosure at the end of this document.

technology sector.

Choosing Among the New Portfolios

Choosing a portfolio, which requires balancing the tradeoff between return and portfolio divergence, can seem overwhelming at first. We believe that the EWM Targeted Premium 3 portfolio is the most appropriate option for most clients. As any investor who experienced the recent market downturn has realized, it is difficult to maintain discipline even when the pain is shared by everyone. Imagine owning a poorly performing portfolio while your family, neighbors and friends are dramatically increasing their wealth.

So when is a high targeted premium appropriate? We believe that an investor should only choose a higher targeted premium portfolio when they can leave their money invested for at least 10 years before judging whether it is performing well. Ten years was the length of the most severe case of portfolio divergence since 1970, shown in **Figure 5**. A Roth IRA account that won't be withdrawn until late in retirement or after death would be a good candidate for a more aggressive targeted premium portfolio. An investor may find it easier to leave an account alone knowing that withdrawing won't be necessary for multiple decades. Keep in mind that accounts with different objectives and time horizons can be invested in portfolios with different targeted premiums. Before you make any changes to your current portfolio, it is important to discuss with your advisor the characteristics of the different targeted premium portfolios. We would only recommend the higher targeted premium portfolios to clients with a high degree of confidence in the premiums and who tend to ignore relative performance.

Conclusion

Understanding targeted premiums requires some effort, but our intent is not to confuse our clients or burden them with extra work. At Empirical, we are continually looking at innovative investment strategies with the intent of helping our clients reach their goals, with the least risk possible. The targeted premium portfolios are not for everyone. Many clients are best off remaining in their current model. If you are interested in targeted premium portfolios contact your advisor for more information.

Sincerely,

The Empirical Wealth Management Team
Kenneth R. Smith, CFP®, MS
Chief Executive Officer

Notes

[1] With the Empirical Dedicated Portfolio Management Process a Lead Advisor and Portfolio Manager team up to design custom investment allocations for each client. Accounts are individually managed to maximize efficiencies in rebalancing and tax management.

[2] The environmentally sensitive strategy overweights companies with strong environmental track records. The socially responsible strategy screens out companies involved in certain industries such as tobacco, military weapons or gambling. For more information see the Q3 09 newsletter.

[3] Rolf W. Bänz, "The Relationship Between Market Value and Return of Common Stocks," *Journal of Financial Economics* (Nov. 1981): 3—18

[4] S. Francis Nicholson, "Price-Earnings Ratios," *Financial Analysts Journal* (July-August 1960): 43—45

[5] Eugene F. Fama, "Efficient Capital Markets: II," *Journal of Finance* (December 1991): 1575—1617

[6] Floyd Norris. "The Super Bowl Predicts the Market, and Vice Versa." *The New York Times*. (24 January 1997) D6

[7] From the year following Bänz 's paper, 1982 through 2/2010 the Fama/French Small Versus Large premium has been 0.69%. From the year following Nicholson's paper, 1961 – 2/2010 the Fama/French Value Versus Growth premium has been 4.92%. *Source: Fama/French*

[8] Steven L. Heston et al. "The Structure of International Stock Returns and the Integration of Capital Markets," *Journal of Empirical Finance* (September 1995): 173—97

[9] MSCI Emerging Markets Index (gross dividends). *Source: MSCI*

Performance Disclosure

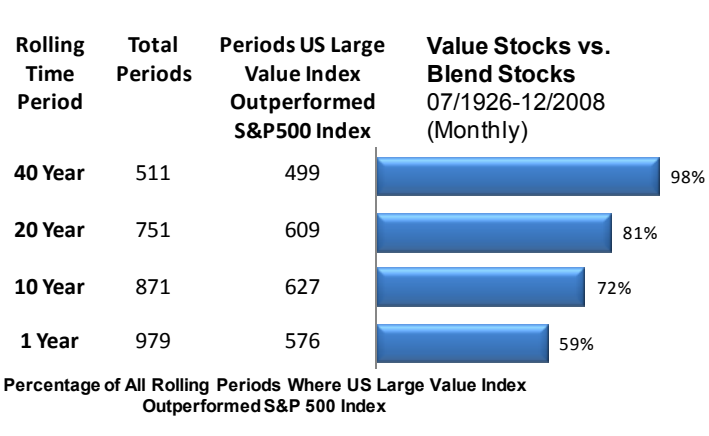
Past performance is not a guarantee of future results. Even a long-term investment approach cannot guarantee a profit. Economic, political, and issuer-specific events will cause the value of securities, and the portfolios that own them, to rise or fall. The investment returns are hypothetical model returns, not actual returns and should not be interpreted as an indication of such performance. The portfolios were designed well after the beginning date of the performance time period. These portfolios were created with the benefit of hindsight, and do not take into account actual market conditions and available knowledge that would have impacted an investment advisor's decisions. The investment strategy that the back-tested results were based upon can be changed at any time in order to show better performance, was based on hindsight, and can continue to be tested and adjusted until the desired results are achieved. The model performance includes advisory costs estimated by Empirical's maximum fee, 1.25%. All performance data includes dividends. Prior to each fund's inception month, the performance of a similar fund or index adjusted by the fund's expense ratio is used. When index performance is used, estimated mutual fund expenses are deducted from index performance each month. The estimate used is the expense ratio of the current fund in the Empirical portfolio. Since indexes do not represent actual portfolios, they do not include several important costs, such as trading costs within funds, market impact costs, bid/ask spreads and other factors, which negatively impact performance. Portfolios are assumed to be rebalanced annually. Model portfolios do not include an allocation to cash. Taxes and trading costs are not included.

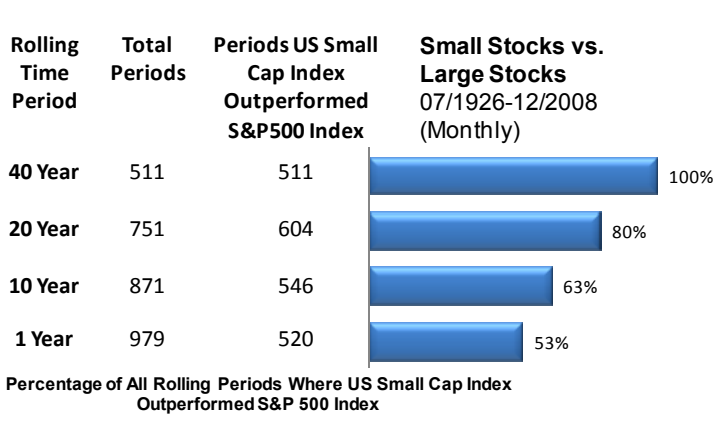
Appendix A: Portfolio Construction

Equity Portfolio Construction							
EWM Linked Index	EWM Targeted Premium 1 Model	EWM Targeted Premium 2 Model	EWM Targeted Premium 3 Model	EWM Targeted Premium 4 Model	EWM Targeted Premium 5 Model	Expense Ratio of EWM Model Security	Morningstar Category Average Expenses
US Large Blend	67.60%	43.30%	19.00%	13.30%	7.60%	0.08%	1.26%
US Large Value	5.60%	9.80%	14.00%	9.80%	5.60%	0.28%	1.29%
US Small Blend	3.00%	5.25%	7.50%	5.25%	3.00%	0.38%	1.45%
US Micro	3.20%	5.60%	8.00%	5.60%	3.20%	0.68%	1.45%
US Small Value	1.60%	2.80%	4.00%	16.30%	28.60%	0.40%	1.53%
Intl Large Blend	2.00%	3.50%	5.00%	3.50%	2.00%	0.16%	1.50%
Intl Large Value	3.60%	6.30%	9.00%	6.30%	3.60%	0.44%	1.43%
Intl Small Blend	1.60%	2.80%	4.00%	2.80%	1.60%	0.55%	1.55%
Intl Small Value	1.80%	3.15%	4.50%	9.15%	13.80%	0.69%	1.49%
Emerging Large Blend	1.60%	2.80%	4.00%	2.80%	1.60%	0.27%	1.78%
Emerging Large Value	1.20%	2.10%	3.00%	5.10%	7.20%	0.60%	1.78%
Emerging Small Blend	1.20%	2.10%	3.00%	8.10%	13.20%	0.77%	1.78%
US Real Estate	2.00%	3.50%	5.00%	3.50%	2.00%	0.15%	1.49%
Intl Real Estate	2.00%	3.50%	5.00%	3.50%	2.00%	0.44%	1.58%
Commodities	2.00%	3.50%	5.00%	5.00%	5.00%	0.75%	1.49%
Model Expense Ratio	**0.20%**	**0.28%**	**0.37%**	**0.43%**	**0.49%**		

Source: Morningstar

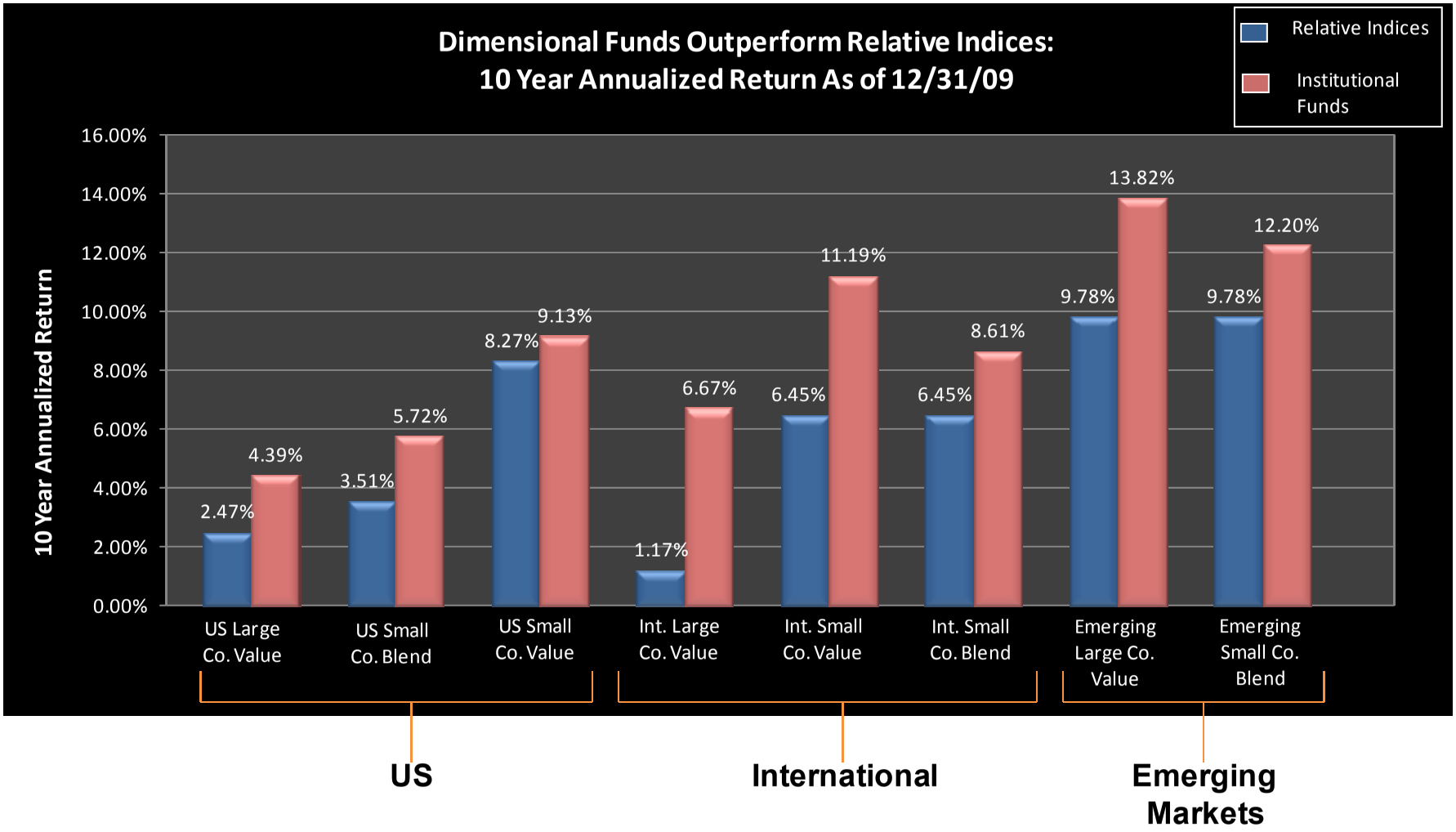
Appendix B: Frequency of Value and Small Outperformance





Source: Dimensional Fund Advisors. See Performance Disclosure

Appendix C: Fund Outperformance



Source: Dimensional Fund Advisors. See Performance Disclosure

Appendix D: Asset Class Returns

Best and Worst: EWM Asset Class Returns Over 10 Year Period
2000-2009

	Equities Model	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
US Large Cap	US Large	-12.00%	-12.96%	**-22.03%**	29.31%	**11.28%**	6.27%	15.61%	6.43%	-37.01%	27.79%
	US Large Value	10.22%	3.84%	-14.92%	34.42%	18.25%	10.24%	20.18%	-2.77%	-40.80%	30.19%
US Small Cap	US Small	2.45%	12.69%	-19.14%	51.49%	17.87%	6.08%	16.61%	-3.06%	-36.01%	36.34%
	US Micro	20.48%	17.93%	-9.66%	54.07%	24.68%	9.25%	19.70%	-8.19%	**-33.78%**	31.88%
	US Small Value	-3.60%	**22.77%**	-13.27%	60.72%	18.39%	**5.69%**	16.16%	-5.22%	-36.72%	28.06%
International	International Large	-14.31%	-21.57%	-16.07%	38.36%	20.06%	13.35%	26.14%	11.65%	-41.24%	28.33%
	International Large Value	-0.16%	-15.26%	-8.52%	49.93%	28.80%	15.27%	34.15%	10.24%	-46.33%	39.45%
	International Small	-5.41%	-10.52%	1.91%	58.78%	30.92%	21.96%	24.88%	5.66%	-43.87%	41.96%
	International Small Value	-3.09%	-4.59%	5.79%	66.48%	34.80%	23.23%	28.39%	2.95%	-41.68%	39.51%
Emerging Markets	Emerging Large	-30.79%	-2.64%	-6.25%	55.84%	25.61%	**32.70%**	29.51%	39.04%	-52.76%	76.31%
	Emerging Large Value	**-34.16%**	-0.99%	-1.70%	**76.21%**	**39.53%**	30.81%	37.93%	**45.64%**	-53.94%	92.28%
	Emerging Small	-31.84%	-2.59%	-0.18%	72.80%	28.88%	25.75%	37.31%	38.02%	**-54.54%**	**99.74%**
Real Estate	US Real Estate	30.85%	12.18%	3.43%	35.98%	31.86%	12.02%	35.19%	**-16.40%**	-36.99%	29.75%
	International Real Estate	1.97%	5.60%	24.28%	45.76%	38.69%	5.81%	**43.90%**	-7.54%	-51.92%	37.01%
Commodities	Commodities	**48.65%**	**-32.45%**	**31.09%**	**19.83%**	16.40%	24.64%	**-15.77%**	32.01%	-47.74%	**13.17%**
	Best and Worst Spread	**82.81%**	**55.22%**	**53.12%**	**56.38%**	**28.25%**	**27.01%**	**59.67%**	**62.04%**	**20.76%**	**86.57%**

	Fixed Income Model	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Treasury	Short-Term Treasury	7.90%	8.21%	**5.66%**	**1.78%**	**0.79%**	1.51%	3.82%	7.31%	6.61%	0.54%
	Intermediate-Term Treasury	11.51%	8.24%	11.74%	2.38%	2.10%	**0.87%**	3.32%	9.98%	**13.12%**	**-1.84%**
Credit	Short-Term Credit	**7.59%**	**9.16%**	6.72%	4.45%	1.62%	1.69%	**4.44%**	**5.64%**	-0.05%	10.74%
Inflation Protected	Inflation Protected	**12.95%**	**7.68%**	**16.33%**	**8.19%**	**8.21%**	**2.65%**	**0.27%**	11.43%	**-2.38%**	**11.37%**
	Best and Worst Spread	**5.36%**	**1.48%**	**10.67%**	**6.41%**	**7.42%**	**1.78%**	**4.17%**	**5.79%**	**15.50%**	**13.21%**

See Performance Disclosure