


BEACON POINTE

ADVISORS

**BEACON POINTE RESEARCH
WHITE PAPER**

**INVESTMENT MANAGER TEAM & STRUCTURE - OPTIMIZATION
OCTOBER 2002**

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HIGHLIGHTS

- *Background:* Institutional investors oftentimes fail to gauge how a change in an investment manager and a change in an investment structure may affect the plan's overall risk and return characteristics. The purpose of this report is to demonstrate how Beacon Pointe will evaluate changes to the overall plan when a decision is made to change an investment manager and/or the investment structure of the plan. The following report is presented in case study format to help our clients understand the analysis process.

- *Case Outline:*
 - The plan has the following asset allocation set as a guideline:
 - U.S. Equity – Large Cap Growth 45%
 - U.S. Equity – Large Cap Value 30%
 - U.S. Equity – Small Cap Growth 10%
 - Non-U.S. Equity – EAFE 15%

 - The plan uses the following managers:
 - W.P. Stewart & Co – Large Cap Growth
 - Dodge & Cox – Large Cap Value
 - Stafford Capital – Small Cap Growth
 - EuroPacific Growth Fund – EAFE

 - Beacon Pointe has recommended the plan terminate its relationship with Stafford Capital. Based on Beacon Pointe's due diligence report on Stafford Capital and on Beacon Pointe's style risk white paper (*Beacon Pointe – Style Risk, September 2002*), we would recommend consideration of a small cap core investment manager to replace Stafford Capital. For the purpose of the case study, the Russell 2000 Index will be used as a proxy for an active small cap core manager.

 - The case study will show how changes in an investment manager and investment structure within the plan can change the risk and return characteristics of a plan.

Mean-Variance Optimization

- Mean Variance Optimization – Beacon Pointe at times will use a mean variance optimization model to determine whether a portfolio structure is efficient. The fundamental goal of modern portfolio theory is to optimally allocate a plan’s investment assets between different assets and investment managers with different styles. Mean variance optimization is a quantitative tool that allows plans to identify the trade-off between risk and return.

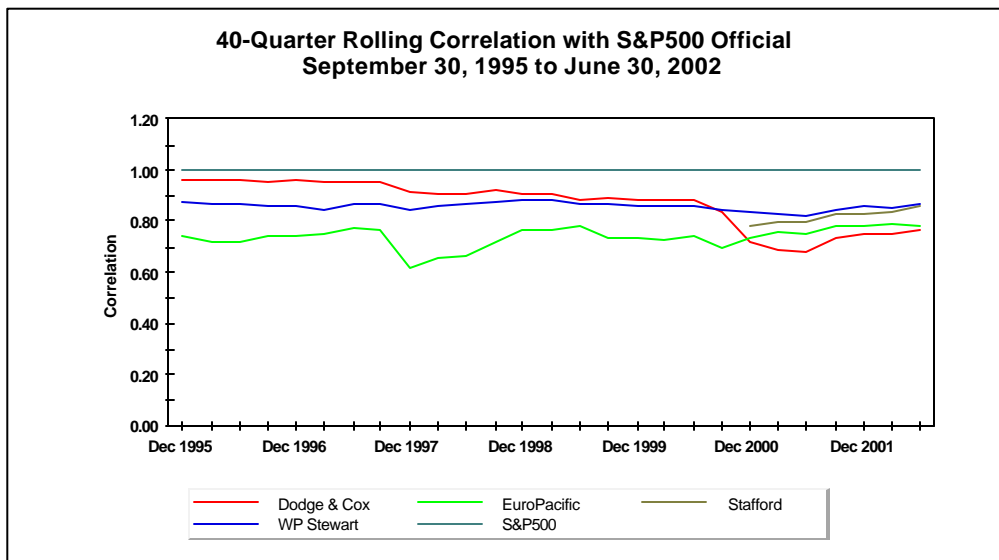
- Required Inputs of Mean Variance Optimization
 - The expected return of the assets
 - The expected risk level of the assets (usually defined by standard deviation)
 - The correlation matrix or diversification benefit of assets relative to the other considered assets

- The policy benchmark of the plan is the S&P500 Index. The Investment Committee evaluates the performance of the plan’s total fund relative to the performance of the S&P500 Index and to other not-for-profit plans.

- Beacon Pointe has evaluated the plan’s investment structure using a mean variance optimization model. The inputs to this analysis, however, will be from an excess return space rather than a total return space.
 - Since the plan’s objective is to outperform the S&P500 index, an appropriate method for this analysis is to use excess return and excess risk (relative to the policy benchmark) for the risk and return assumptions. The efficient frontier will therefore, show
 - the most efficient mixes of alpha and tracking error (relative to the policy benchmark).

 - Exhibit 1 below shows that correlations between the investment managers, from a total return perspective, are relatively high and would increase the sensitivity of the inputs within the mean variance optimization model. The excess returns of the investment managers relative to the S&P500 Index, however, have a lower correlation among each other, and would provide more meaningful results.

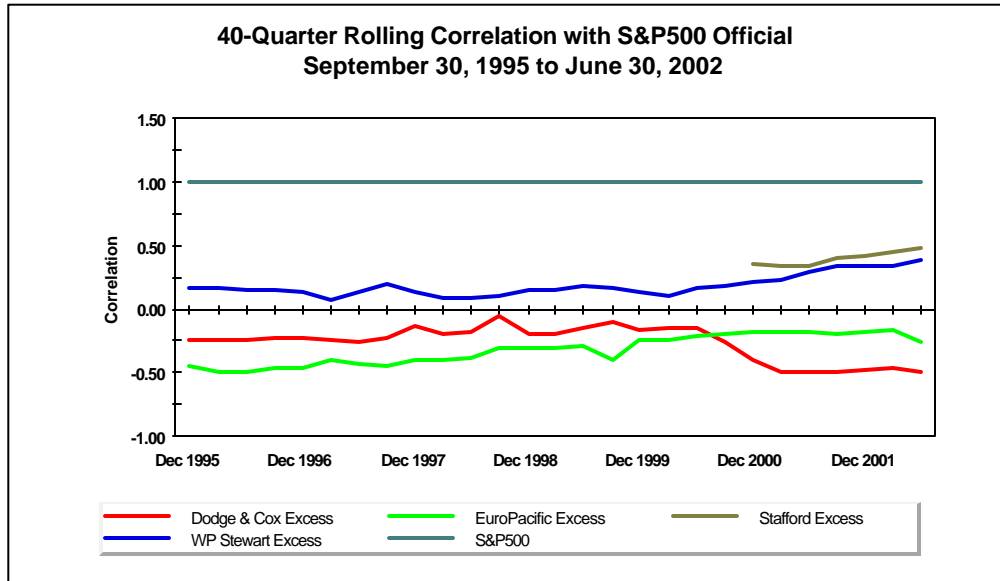
Exhibit 1



Mean-Variance Optimization

- Exhibit 2 shows the correlation of excess returns (relative to the S&P500 Index) for each investment manager. Rather than having correlations greater than 0.70 (as was the case when the investment managers' total returns were used), these correlations are much lower and will work well within the mean variance optimization model.

Exhibit 2



➤ *Mean Variance Optimization Inputs*

- Correlation Matrix, Diversification Benefit (Excess Returns)

Our analysis shows that running an investment manager structure optimization in an excess return space decreases the sensitivity of the model to the inputs. The lower correlations among the assets allow the model to distinguish the assets from one another. Exhibit 2 also demonstrates that the excess return correlations are relatively stable over time. Due to the stability of correlations, Beacon Pointe has decided to use a historical 10-year excess correlation as inputs for the correlation matrix.

Exhibit 3

Correlations	Dodge & Cox	WP Stewart	EuroPacific Growth	Stafford	Russell 2000
Dodge & Cox	1.00				
WP Stewart	0.10	1.00			
EuroPacific	0.12	-0.02	1.00		
Stafford	-0.24	-0.23	0.07	1.00	
Russell 2000	0.43	-0.17	0.28	0.57	1.00

Mean-Variance Optimization

- Expected Risk (Excess Risk)

Exhibit 4 below shows the excess risk of each investment manager relative to the S&P500 index over rolling 10-year periods. The analysis shows that the investment managers have consistently maintained a stable tracking error relative to the S&P 500, with the exception of Dodge & Cox. Dodge & Cox, however, has maintained a tracking error of a little over 10% in the most recent 6 rolling periods. From this analysis, Beacon Pointe feels comfortable using the historical 10-year excess risk as the risk input within the mean variance optimization (Exhibit 5).

Exhibit 4

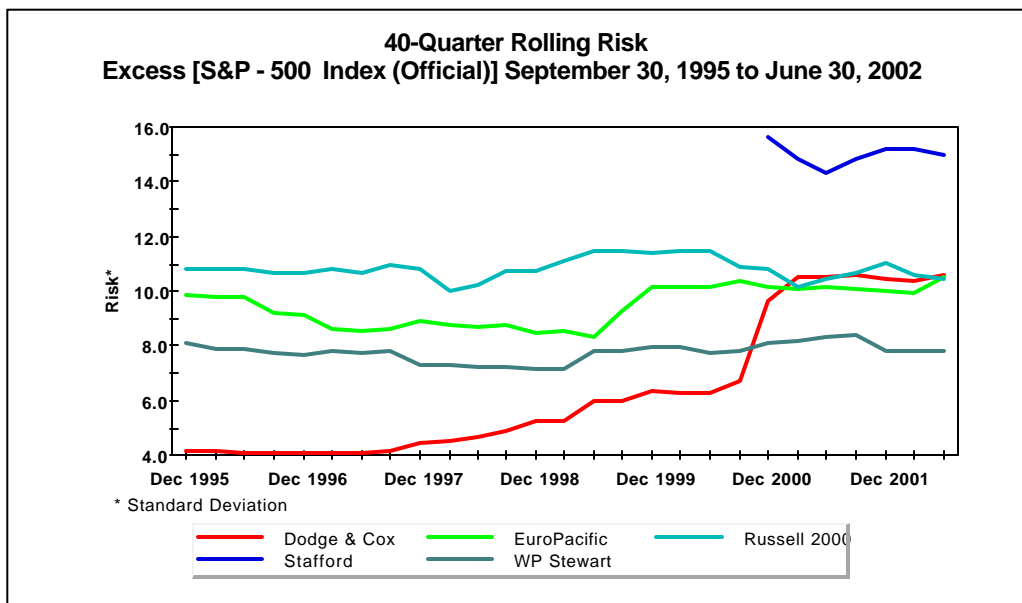


Exhibit 5

<u>Manager</u>	<u>Dodge & Cox</u>	<u>WP Stewart</u>	<u>EuroPacific</u>	<u>Stafford</u>	<u>Russell 2000</u>
Risk	10.56%	7.81%	10.51%	14.99%	10.40%

Mean-Variance Optimization

- Expected Return (Excess Return)

The last necessary input for the mean variance optimization is the expected excess return (alpha) for each investment manager relative to the S&P500 Index. Many within the industry consider this process an art as much as a science as a subjective decision must be made. Beacon Pointe's manager research process involves an evaluation of a number of qualitative and quantitative factors to serve as a guide in determining the probability an investment manager has in meeting future investment objectives:

People/Organization
Investment Philosophy/Process
Product/Firm Resources
Performance
Fees

Beacon Pointe has followed and continues to monitor each of the investment managers within this case study and has assigned the following excess return (alpha) expectations (Exhibit 6):

Exhibit 6

<u>Manager</u>	<u>Dodge & Cox</u>	<u>WP Stewart</u>	<u>EuroPacific</u>	<u>Stafford</u>	<u>Russell 2000</u>
Return	1.75%	1.75%	1.50%	-0.25%	1.50%

Beacon Pointe expects that each of the investment managers will add positive alpha relative to the S&P500 Index, with the exception of Stafford Capital, which Beacon Pointe has assigned an alpha of -0.25%. Beacon Pointe believes that Stafford Capital will not be able to generate positive alpha due to insufficient resources, a questionable investment strategy, inadequate valuation methodologies, and consistent underperformance relative to its peers and to the benchmark.

It is important to note that the above expected excess return values are *assumptions* on future alpha levels over the benchmark. One can argue that a manager may add greater or less alpha over longer periods of time. Different assumptions may be used depending on various scenarios or perspectives.

Mean-Variance Optimization

➤ Optimization

The optimization analysis will identify the risk and return characteristics of the overall plan for two different policies. Mix 1 is the investment manager structure if the plan decides to remain with Stafford Capital and a small cap growth allocation. Mix 2 is the investment manager structure if the plan decides to terminate Stafford Capital and transition the assets to a small cap core manager (as represented by the Russell 2000 Index).

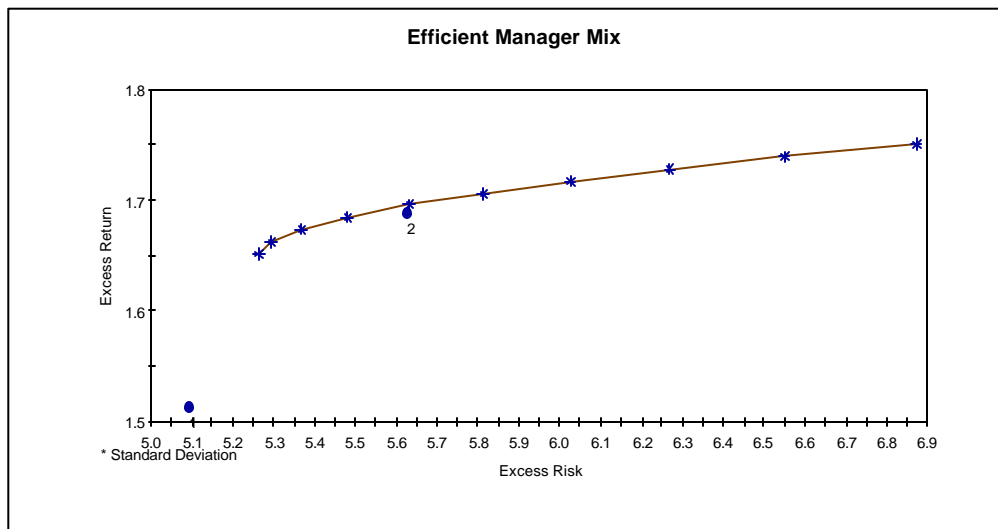
Exhibit 7

Selected Managers	Weight 1	Weight 2
Dodge & Cox	30%	30%
WP Stewart	45%	45%
EuroPacific	15%	15%
Stafford	10%	0%
Russell 2000	0%	10%
Total Weight	100%	100%

➤ *Efficient Frontier*

Exhibit 8 below shows presents an efficient frontier of the plan. The efficient frontier is a set of optimal portfolios that can be constructed. Each portfolio mix on the efficient frontier offers the maximum possible expected return for a given level of risk. For the purpose of our case study, excess return relative to the S&P500 Index is considered our expected return and excess risk or tracking error relative to the S&P500 Index, is considered our risk level. It is apparent that by transitioning from Stafford Capital to a small cap core manager, the expected excess return (alpha) has increased. Mix 2 is also considered more efficient mix of assets. Interesting to note, however, is that the amount of expected tracking error has also increased. Exhibit 9 on the following page identifies that Stafford has had a lower correlation to the other investment managers relative to the Russell 2000 Index—resulting in greater diversification and a lower tracking error to the S&P500 Index.

Exhibit 8



Mean-Variance Optimization

Exhibit 9

	Dodge & Cox	WP Stewart	EuroPacific	Stafford	Russell 2000
Expected Excess Return	1.75	1.75	1.50	-0.25	1.50
Expected Excess Risk	10.56	7.81	10.51	14.99	10.40
Dodge & Cox	1.00				
WP Stewart	0.10	1.00			
EuroPacific	0.12	-0.02	1.00		
Stafford	-0.24	-0.23	0.07	1.00	
Russell 2000	0.43	-0.17	0.28	0.57	1.00

- *Exhibit 10 below identifies that the main factor behind the lower correlations for Stafford relative to the other investment managers compared to the Russell 2000 Index is Stafford's poor performance. Exhibit 10 presents the correlations of excess return of the Russell 2000 Growth relative to the other investment managers. This analysis shows that the small cap growth index has a higher correlation to the other investment managers compared to Stafford and that the small cap growth investment style is not the only factor to the lower correlations provided by Stafford.*

Exhibit 10

	Dodge & Cox	WP Stewart	EuroPacific	Stafford	Russell 2000	R2000 Growth
Dodge & Cox	1.00					
WP Stewart	0.10	1.00				
EuroPacific	0.12	-0.02	1.00			
Stafford	-0.24	-0.23	0.07	1.00		
Russell 2000	0.43	-0.17	0.28	0.57	1.00	
Russell 2000 Growth	-0.14	-0.30	0.25	0.80	0.78	1.00

Summary

- A mean variance optimization analysis was used to identify the changes in a plan's risk and return characteristics if a small cap growth manager was terminated and replaced by a small cap core manager.
- The analysis shows that by replacing the small cap growth manager with a small cap core manager, the overall asset mix of the plan moved closer to the efficient frontier.
- Beacon Pointe recommends that the plan terminate Stafford Capital and replace the small cap growth mandate with a small cap core mandate. Beacon Pointe is comfortable with this recommendation even though the analysis shows that the plan can expect a greater tracking error to the S&P500 Index. The analysis shows that the lower tracking error (risk level) using Stafford is a result of their poor performance relative to the other investment managers within the plan.
- *The purpose of this case study is to demonstrate an internal analysis method Beacon Pointe uses when evaluating changes in a plan's investment managers or in a plan's investment structure.*
- Please feel free to contact your Beacon Pointe consultant if you have any questions.

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