

Contents

Preface	v
Contents	ix
1 Introduction	1
1.1 Literature survey	5
2 Tracking Error Quantile Regression	11
2.1 Index Tracking Problem	13
2.1.1 Common Measure of Dispersion of Tracking Error . .	15
2.1.2 Linear and Quadratic Dispersion Measures	16
2.2 The Quantile Regression	19
2.2.1 Financial Application of the Quantile Regression . . .	21
2.2.2 A suitable probability metric	22
2.2.3 Tracking Error Quantile Regression	24
2.2.4 Reward, Risk Measure and Information Ratio	27
2.3 Enhanced Indexing Strategy	31
2.3.1 Problem Formulation for the Enhanced Indexing . . .	34
2.3.2 Stochastic Dominance and Benchmark Tracking . . .	35
2.3.3 Enhanced Indexing Problem	39
2.4 Final Remarks	41
3 Dispersion Measures for the Benchmark Tracking Portfolio Problem	43
3.1 Coherent Expectation Bounded Risk Measures	44
3.1.1 Expectation Bounded Risk Measure	45

3.1.2	CVaR and Coherent Gini Type Measures	46
3.1.3	Gini Tail Measures Associated with a Dilation Order .	47
3.1.4	The L^p Compound Metric	49
3.2	Different Metrics for the Benchmark Tracking Problem	51
3.2.1	L^p Average Compound Metrics	53
3.3	Stochastic Investment Chain	55
3.3.1	The Rachev Utility Function	56
3.3.2	Linear Third Order Stochastic Dominance	58
3.3.3	Two Strategies with Different Stochastic Orders	61
3.4	Final Remarks	63
4	Linear Programming Active Management Strategy	65
4.1	Performance Measures and Different Investors' Profiles	66
4.1.1	The Sharpe ratio	67
4.1.2	The Rachev ratio	68
4.1.3	The STARR	68
4.1.4	The Mean absolute semideviation ratio	69
4.2	LP Problem for Active Strategies	70
4.2.1	Active Strategies Maximizing a Performance Measure	71
4.3	Active Management of Stochastic Dominance Constraints . .	76
4.3.1	Maximize the STARR with FSD and SSD constraints	76
4.3.2	Rachev ratio and SD constraints	78
4.3.3	Sharpe ratio and SD constraints	81
4.3.4	Mean Absolute Semideviation ratio and SD constraints	82
4.4	Final Remarks	84
5	Conclusion	85
	List of Figures	87
	Bibliography	89
	Index	105