



Contents

List of Figures	xiii
List of Tables.....	xviii
Variables.....	xx
Abbreviations	xxiii
1 Introduction.....	1
1.1 Problem Definition and Objectives of this Thesis.....	1
1.2 Course of Investigation.....	3
2 Capital Market Models	5
2.1 The Capital Asset Pricing Model (CAPM).....	5
2.2 Empirical Evidence and Relevance of the CAPM.....	6
2.3 The Beta Factor in the CAPM	8
2.4 The Fama French Model.....	9
3 Methodological Background.....	14
3.1 CAPM and the Market Model	14
3.2 Ordinary Least Squares Estimation	16
3.3 Presuppositions of OLS Regression	17
3.3.1 Model Specification and Linearity	17
3.3.2 Absence of Perfect Collinearity	18
3.3.3 Zero Mean	19
3.3.4 Homoskedasticity	20
3.3.5 Absence of Serial Correlation	21
3.4 Robust Regression Methods	22
3.4.1 Newey-West Regression	22
3.4.2 Prais-Winsten Regression	23
3.4.3 Errors-in-Variables Regression	24
3.5 Characteristics of Input Parameters in Capital Models	26

3.5.1	Return Calculation.....	26
3.5.2	Length of Regression Period	27
3.5.3	The Return Interval	28
3.5.4	The Market Proxy.....	30
3.6	Appendix to Chapter 3.....	34
3.6.1	Equality of Market Model and CAPM.....	34
3.6.2	The Wald Test	35
3.6.3	The Breusch-Pagan Test.....	37
3.6.4	The Breusch-Godfrey Test	37
3.6.5	The Cochrane-Orcutt Procedure.....	38
3.6.6	The Huber-White Sandwich Estimator	38
3.6.7	The Cluster-Robust Estimator.....	39
3.6.8	Summation of Betas per Market.....	40
4	Weekday Effects in Beta Factors of the CAPM	43
4.1	Fundamentals and Research Questions	43
4.2	Literature Review	45
4.3	Data Preparation	46
4.3.1	Overview of Data Preparation Steps	46
4.3.2	Original Data Set.....	47
4.3.3	Presupposition-Fulfilling Data Set	51
4.3.4	Pre-Crisis Data Set	54
4.4	Beta Estimation.....	55
4.5	Characteristics of Beta Factors	58
4.5.1	Original Data Set.....	58
4.5.2	Pre-Crisis Data Set	61
4.6	Analysis of Weekday Betas – Methodology	63
4.6.1	General Analysis – Beta Spans	63
4.6.2	Stable Size Relations	65

4.6.3	Course of Investigation in the Empirical Analysis – Stable Size Relations.....	70
4.7	Analysis of Weekday Betas - Empirical Results	75
4.7.1	General Analysis	75
4.7.2	Stable Size Relations	78
4.7.3	Pre-Crisis Data Set	86
4.8	Interim Result	91
4.9	Appendix to Chapter 4.....	93
4.9.1	Stable Size Relations in OLS Betas	93
4.9.2	Stable Size Relations in OLS Limited Betas.....	94
4.9.3	Stable Size Relations in Prais-Winsten Betas	96
4.9.4	Stable Size Relations in Errors-in-Variables Betas.....	97
4.9.5	Beta Spans for existing Stable Size Relations in the Original Data Set.....	99
4.9.6	Beta Spans for existing Stable Size Relations in the Pre-Crisis Data Set	100
4.9.7	Stable Size Relations in the Pre-Crisis Data Set	101
5	Weekday Effects in the Fama-French Three-Factor Model	108
5.1	Research Questions.....	109
5.2	Literature Review	111
5.3	Data Preparation	111
5.3.1	Original Data Set.....	111
5.3.2	Presupposition-Fulfilling Data Set	113
5.3.3	Pre-Crisis Data Set	113
5.3.4	Comparing CAPM and Fama-French Model – The US CAPM Data Set.....	114
5.4	Factor Estimation.....	115
5.5	Characteristics of Fama-French Factors	116
5.5.1	Original Data Set.....	116
5.5.2	Pre-Crisis Data Set	119
5.5.3	Characteristics of CAPM-Betas in US Stock Portfolios	122
5.6	Analysis of Weekday Factors – Methodology	124

5.6.1	General Analysis	124
5.6.2	Stable Size Relations	124
5.6.3	Comparison of CAPM and Fama-French Model	126
5.7	Analysis of Weekday Factors – Empirical Results	127
5.7.1	General Analysis for the Fama-French Model – the Original Data Set	127
5.7.2	Stable Size Relations in the Fama-French Model – the Original Data Set	133
5.7.3	Comparing CAPM and Fama-French Model – the Original Data Set	142
5.7.4	Analysis in the Fama-French Model – the Pre-Crisis Data Set.....	146
5.7.5	Comparing CAPM and Fama-French Model – the Pre-Crisis Data Set	155
5.8	Interim Result	161
5.9	Appendix to Chapter 5.....	162
5.9.1	The Variance Inflation Factor	162
5.9.2	Factor Spans for existing Stable Size Relations in the Original Data Set.....	163
5.9.3	Stable Size Relations in the Pre-Crisis Data Set	166
6	Conclusion	172
	References	176