CORRELATIONS IN EXTREME SITUATIONS – AN EMPIRICAL ANALYSIS IN THE GERMAN FINANCIAL MARKET WITH THE SPECIAL FOCUS ON THE IRRATIONALITY OF MARKETS

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The classical Markowitz approach of portfolio theory is more than 50 years old. Even though it is often used in practice, the financial crisis in 2007/2008 led to hard criticism of the approach, especially due to the efficiency of correlations. The topic of the presented book, which has been a dissertation at Masaryk University, is highly topical and answers central questions according the usage of portfolio theory. It is published in one of the best German publishing houses: Gabler Research.

The work is structured in six chapters. The formulation of the central theses builds chapter 1. Chapter 2 sums up the status quo of portfolio theory and asset allocation with special respect to aspects of behavioral finance. This chapter shows a high academic level and sums up all relevant aspects of the topic.

Chapter 3 deals with a survey conducted in 1,000 German banks. The return rate of 11.3% can be stated as good and representative. Banks of all banking groups answered a questionnaire. The topic of the questionnaire deals with the status quo of asset allocation in German banks, the used models of allocation and it analyses the bearing of correlations in extreme situations with the focus on irrational behavior. Resulting from the findings of the survey, market data based irrationality indices for a 10 year history are evaluated. The survey convinces by its representativeness, the quality of answers and the new findings which are generated for the first time in this form. The survey is done at a high scientific level.

Chapter 4 deals with the main problem of the book, the bearing and modulation of correlations. The two used computer programs are programmed especially for this purpose. They offer a high level of professionalism; they can be used in practice without any change. Further, the done analysis shows that correlations remain stable especially in times of extreme situations. This result is higher-than-average and proves in theory and practice that the basic ideas of Markowitz are still valid. After that, the definitions of KaC (Korrelation-at-Chance) and KaR (Korrelation-at-Risk) show that correlation risk is separable. Based onto the indices of chapter 3, a tactical optimization approach is modeled that outperforms the Markowitz approach. This model implements the historical extreme correlations. Only by varying the correlations based on the impacts of the irrationality indices, the developed model leads to a better performance with lower risk in 16 year backtesting. In this context, the general efficiency of the Markowitz approach is shown as well. This model can be used in practice, it is interesting e.g. for investment fund managers.

Chapter 5 deals with the modulation of a correlation certificate. A correlation option is modeled. The backtesting of this option shows shown that correlation risk can be hedged. The new findings consist of the definition of a correlation strike and the integration of the investor's individual portfolio into the modulation. This option would lead to interest in the Czech or German financial market.

Chapter 6 sums up all findings of the book. Finally, all four theses of the work can be verified. First, the classical Markowitz approach is still an efficient model as correlations remain stable during a crisis. Second, it is shown by the irrationality indices that phases of irrationality can be identified early. Third, the tactical oriented model shows that the combination of behavioral finance and extreme correlations leads to an absolute and a relative outperformance compared to the classical asset allocation. Fourth and last, the developed correlation certificate makes clear that diversification risk can be hedged and an investor is able to eliminate short term correlation risk by using the certificate.

The book convinces the reader by its high scientific level: 513 cited sources, 1,214 footnotes, a perfect structured annex and figures and tables of high quality support this. The work combines classical portfolio theory and behavioral finance. It offers some new results in this research area, primary done by the survey, the tactical optimization approach and the correlation option.

"Correlations in extreme Situations" is very interesting for those who deal with asset allocation in practice. But even for further scientific research it is recommendable without any restrictions as it is a good basis for the integration of classical portfolio theory and behavioral finance. The work is worth to be distributed widely in the Czech Republic and in Germany.

Reviewed by:

Eric Frère

Hochschule für Oekonomie und Management (FOM)
Dean for international studies
Professorship for Finance and Entrepreneurship