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Research proposal

Department of Financial Engineering and Risk Management

Validating Risk Estimation Models in Russian Market

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Group 144

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1. Introduction

- Background
- Problem statement
- Professional significance

2. Literature review

3. Methodology

4. Expected outcomes and conclusion

Time required: ≈7 min.

1. Background

- Value at Risk (VaR) and Conditional Value at Risk (CVaR or ES)
- Question is widely discussed
- Lack of researches

2. Problem statement

- VaR is no coherent
- ES is too complicated
- Is it worth it?

3. Professional significance

- Researchers
- Risk-managers
- Everyone who...

4. Delimitations of study

- Russian stock market

1. Beginning

“Investments” (W. Sharp, G. Alexander, J. Bailey)

2. Coherent risk measure

“General properties of backtestable statistics” (C. Acerbi, B. Szekely)

3. Definitions of VaR and CVaR (ES)

“Quantifying market risk with VaR or ES” (R. Kellner, D. Rosch)

1. VaR calculation

- Nonparametric (Historical) VaR
- Parametric (Delta-normal) VaR
- Monte-Carlo simulations

3. VaR backtesting

- Kupiec's coverage test
- Method of Basel Committee
- Christoffersen's independence test
- Kupiec's and Christoffersen's joint test
- Backtesting using Lopez's loss function

2. ES calculation

- Based on VaR

4. ES backtesting

- Wong's saddlepoint technique
- Righi and Ceretta's truncated distribution
- Emmer, Kratz and Tasche's quantile approximation
- Acerbi and Szekely's unparametric models
- The Costanzino & Curran approach

Expected outcomes

VaR or ES?

Conclusion

- 1. Contribution to the line of research on VaR and ES comparison**
 - 2. Is ES(2,5%) better than VaR(1%)?**
 - 3. Should ES to replace VaR forever?**



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Thank you for your attention!

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