



THE UNIVERSITY OF
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Department of Statistics

MASTER'S THESIS PRESENTATION

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**Estimation of Conditional Value at Risk: A
Comparison of Methods in a Portfolio of Currencies**

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ABSTRACT

Conditional Value at Risk (CVaR) is a risk measure to compute the expected loss exceeding the quantile of the distribution of losses that accumulates a given probability. This quantile, known as Value at Risk (VaR), is used as a requirement to financial institutions in many countries.

CVaR has acquired importance in recent years because it overcomes the weaknesses showed by VaR after the recent financial crises. Particularly, some advantages of CVaR are that it is a coherent measure of risk, is well defined for discrete and continuous probability distributions, considers losses beyond VaR and allows the use of linear programming techniques to estimate VaR and CVaR at once.

This paper gives a brief overview of the theory behind CVaR. In particular, it describes the importance of CVaR over the years, its properties, advantages over VaR and the main estimation methods. Additionally, this paper shows an application of CVaR as a risk measure for Central Banks with portfolios of currencies and assesses the performance of different estimation methods to obtain VaR and CVaR for three different horizons of time.

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