

## Value-at-Risk and Extreme Value Distributions for Financial Returns of French Firms

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### ABSTRACT

The ability of the Generalised Extreme Value, Generalised Logistic and Generalised Pareto distributions to fit extreme financial returns in the French stock market is assessed. The results indicate that the GEV is not the most appropriate model for the data since the fatter tailed GL is found to provide better descriptions of the extreme minima. Extreme Value Theory based VaR estimates are then derived and compared to those generated by traditional methods. The results show that when the focus is on the really ruinous events which are located deep into the tails of the returns distribution, the Extreme Value Theory methods used in this study can be particularly useful since they produce estimates that outperform those derived by traditional methods at high confidence levels. However, these estimates were found to be considerably higher than those derived by traditional VaR models; consequently leading to higher Minimum Capital Requirements.

**Keywords:** Extreme Value Theory, Value-at-Risk, L-moments, Probability Weighted Moments, Anderson-Darling goodness of fit test, Generalised Extreme Value distribution, Generalised Logistic distribution.

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