ELSEVIER

European Journal of Operational Research 134 (2001) 481–492

EUROPEAN JOURNAL OF OPERATIONAL RESEARCH

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Theory and Methodology

Linear and nonlinear dependence in Turkish equity returns and its consequences for financial risk management ☆

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Received 28 January 2000; accepted 3 October 2000

Abstract

This paper investigates the dynamic behaviour of daily aggregate returns of one of Europe's largest and fastest growing emerging equity markets, the Istanbul Stock Exchange (ISE). It is found that ISE returns exhibit significant linear and nonlinear dependence. We investigate the nature and source of the nonlinear dependence and find that it is due primarily to linear dependence in the conditional variance of returns, rather than nonlinear dependence in the conditional mean. We analyse the implications of our findings for financial risk management. We show that by exploiting the nonlinear dependence in ISE returns, the average capital required to cover against unexpected portfolio losses can be considerably reduced. In contrast, exploiting the linear dependence in ISE returns has only a negligible impact on capital requirements. © 2001 Elsevier Science B.V. All rights reserved.

Keywords: Risk management; Conditional return distribution; Nonlinear dependence; Value-at-risk; Istanbul Stock Exchange