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Management of Securities Portfolio Returns with Increasing Accessibility to Information and Communication Technologies (ICT)*

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Abstract

The purpose of the article is to study the approach to managing the profitability of a securities portfolio, taking into account the possibilities of access to modern information and communication technologies. Although the research topic is widely covered in the academic literature, recent trends show some gaps in the study of long-term securities. This is due to the prevalence of short-term investments, the growth of the derivatives market, and changes in market linkages with economic fundamentals. The methodology involves analyzing the market price dynamics of various securities portfolios, incorporating historical behavior data and transaction volumes. Data is evaluated alongside a polynomial curve that illustrates the growth in access to timely information due to advancements in technology between 2001 to 2021. In addition to conventional analysis tools, the research incorporates indicators of information uncertainty and the population's engagement with digital technologies. The results enabled the analysis of portfolios with different structures, considering accessibility to ICT. When comparing Sharp coefficients for the studied market, it was determined that the maximum is observed in the case of hedging a portfolio of stocks and bonds. The hedging is carried out by commodity groups, but the level of uncertainty has approached zero over the past twenty years. The predictive value of the presented model of securities portfolio management is consistent with market indicators. The results were obtained for assets belonging to the group of developed markets. For less developed markets, such a study has a number of significant limitations, as the level of access to ICT for the population of different countries is relatively lower, and information about the markets is rather limited.

Keywords: Capital Market Line (CML), portfolio structure, derivative financial instruments, level of information uncertainty, ICT

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