EKONOMETRIA
ECONOMETRICS

3(57) • 2017

EKONOMETRIA
ECONOMETRICS

3(57) • 2017

Publishing House of Wrocław University of Economics
Wrocław 2017

Copy-editing: Elżbieta Macauley, Tim Macauley
Layout: Barbara Łopusiewicz
Proof-reading: Barbara Cibis, Dorota Pitulec
Typesetting: Małgorzata Myszkowska
Cover design: Beata Dębska

Information on submitting and reviewing papers is available on websites
www.wydawnictwo.ue.wroc.pl
www.econometrics.ue.wroc.pl

ISSN 1507-3866
e-ISSN 2449-9994

The original version: printed

Publication may be ordered in Publishing House:
Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu
ul. Komandorska 118/120, 53-345 Wrocław
tel. 71 36 80 602; e-mail: econbook@ue.wroc.pl
www.ksiegarnia.ue.wroc.pl; ksiegarnienaukowe.pl

Printing: TOTEM

Contents

Preface.. **7**

Marek Walesiak: The application of multidimensional scaling to measure and assess changes in the level of social cohesion of the Lower Silesia region in the period 2005-2015 / Zastosowanie skalowania wielowymiarowego w pomiarze i ocenie zmian poziomu spójności społecznej województwa dolnośląskiego w latach 2005-2015 9

Justyna Brzezińska: Visual techniques for categorical data in R / Metody wizualizacji danych w programie R 26

Ewa Genge: A comparison of dichotomous IRT models based on continuous and discrete latent trait – Polish households' saving skills / Porównanie dychotomicznych modeli IRT o ciągłej i dyskretnej cesze ukrytej – umiejętność oszczędzania wśród polskich gospodarstw domowych................. 37

Adam Sagan, Aneta Rybicka, Justyna Brzezińska: IRT-based conjoint analysis in the optimization of banking products / *Conjoint analysis* oparta na modelach IRT w optymalizacji produktów bankowych 47

Bartłomiej Jefmański: The sensitivity of the SERVQUAL score to the choice of the fuzzy conversion scale / Wrażliwość wskaźnika SERVQUAL na wybór rozmytej skali konwersji.. 59

Justyna Kulik: Technical efficiency and the methods of its measurement / Efektywność techniczna i metody jej pomiaru.. 72

Wiesław Dębski, Ewa Feder-Sempach, Szymon Wójcik: Statistical properties of rates of return of the companies listed on the Warsaw Stock Exchange in the period of 2005-2015 / Własności statystyczne stóp zwrotu spółek notowanych na GPW w Warszawie w latach 2005-2015................ 88

Dominik Krężołek: The use of Value-at-Risk methodology in the assessment of investor's risk attitudes on the precious metals market / Zastosowanie metodologii *Value-at-Risk* w ocenie postaw inwestora wobec ryzyka na rynku metali 101

Preface

Eight articles are published in the fifty-seventh issue of the journal "Econometrics". The first article, by Marek Walesiak, covers many aspects of the application of multidimensional scaling, especially to study changes in the level of social cohesion of the Lower Silesia region in the period 2005-2015. Justyna Brzezińska presents the visual technics for categorical data in R. The comparison of dichotomous IRT models based on continuous and discrete latent trait with applications in the study of Polish households' saving skills is the subject of the article by Ewa Genge. The article by Adam Sagan, Aneta Rybicka and Justyna Brzezińska concerns IRT-based conjoint analysis in the optimization of banking products. Bartłomiej Jefmański, in his article, draws attention to the sensitivity of the SERVQUAL score to the choice of the fuzzy conversion scale. A further paper, by Justyna Kulik, covers the problems of technical efficiency and the methods of its measurement. The authors of the next paper, Wiesław Dębski, Ewa Feder-Sempach and Szymon Wójcik, examined the statistical properties of rates of return of the companies listed on the Warsaw Stock Exchange. The last paper, by Dominik Krężołek, concerns the use of Value-at-Risk methodology in the assessment of investor's risk attitudes on the precious metals market.

Agnieszka Stanimir
Subject Editor