

The World's Largest Open Access Agricultural & Applied Economics Digital Library

# This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<a href="http://ageconsearch.umn.edu">http://ageconsearch.umn.edu</a>
<a href="mailto:aesearch@umn.edu">aesearch@umn.edu</a>

Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.

## **Studies in Agricultural Economics**

## Volume 119, Number 2

And	t <b>or-in-Chief</b> rew F. FIELDSEND grárgazdasági Kutató Intézet, Budapest, Hungary
	air of the Editorial Board IÁSZ Anikó
A	grárgazdasági Kutató Intézet, Budapest, Hungary
Vili	t <b>orial Board</b> ja ALEKNEVIČIENĖ .leksandro Stulginskio universitetas, Kaunas, Lithuania
Jerz	y BAŃSKI nstytut Geografii i PZ PAN, Warszawa, Poland
Sab	ine BAUM
	alle (Salle), Germany an BOJNEC
Į	niverze na Primorskem, Koper, Slovenia nard M. CRUSE
I	owa State University, Ames, USA hia DAVIDOVA
Ĵ	Iniversity of Kent, Canterbury, UK mas DAX
Е	undesanstalt für Bergbauernfragen, Wien, Austria
S	RKASNÉ FEKETE Mária zent István Egyetem, Gödöllő, Hungary
Γ	HÉR Alajos Jebreceni Egyetem, Debrecen, Hungary
	FÖLDI János bebreceni Egyetem, Debrecen, Hungary
FEI	RTŐ Imre
Mat	lagyar Tudományos Akadémia, Budapest, Hungary thew GORTON
	niversity of Newcastle, Newcastle, UK id HARVEY
	Iniversity of Newcastle, Newcastle, UK 1 J.M. HEIJMAN
V	Vageningen University, Wageningen, The Netherlands men HUBBARD
J	niversity of Newcastle, Newcastle, UK
E	MBOR Attila udapesti Corvinus Egyetem, Budapest, Hungary
	FONÁNÉ KOVÁCS Judit Debreceni Egyetem, Debrecen, Hungary
KE	REKES Kinga
	niversitatea Babes-Bolyai, Cluj-Napoca, Romania GDA Róbert
	zent István Egyetem, Gödöllő, Hungary W. OWSIŃSKI
I	nstytut Badań Systemowych, PAN, Warszawa, Poland PP József
N	lagyar Tudományos Akadémia, Budapest, Hungary
V	dzimierz REMBISZ /yższa Szkoła Finansów i Zarządzania w Warszawie, Poland
	dimír SZÉKELY deografický ústav, SAV, Bratislava, Slovakia
TA]	KÁCSNÉ GYÖRGY Katalin budai Egyetem, Budapest, Hungary
ΓÓ	ΓH József
۷Á	udapesti Corvinus Egyetem, Budapest, Hungary SÁRY Viktória
	udapesti Gazdasági Egyetem Budapest, Hungary ka VIHINEN
I	UKE Luonnonvarakeskus, Helsinki, Finland
V	s VROLIJK Vageningen Economics Research, Den Haag, The
N	[etherlands

**Technical Editor** 

BARNAFI László

Agrárgazdasági Kutató Intézet, Budapest, Hungary

## **Contents**

## **FOREWORD**

## **ARTICLES**

Perceptions of climate change and adaptation in Hungarian	
agriculture: results of an interview study JANKÓ Ferenc, NÉMETH Nikoletta, BERTALAN Laura and	55
PAPPNÉ VANCSÓ Judit Sustainability levels in Irish dairy farming: a farm typology	
according to sustainable performance indicators Evgenia MICHA, Kevin HEANUE, John J. HYLAND, Thia HENNESSY, Emma Jane DILLON and Cathal BUCKLEY	62
Analysis of indemnification of income risk at sector level: the case of Slovenia Jaka ZGAJNAR	70
Is there a relationship between the prevailing model of agriculture and the structure of the crop and livestock insurance markets?	
A comparison between the Czech Republic and Poland Michał SOLIWODA, Jindřich ŠPIČKA, Václav VILHELM, Joanna PAWŁOWSKA-TYSZKO and Aleksander GORZELAK	77
The economic effect of Russia imposing a food embargo on the European Union with Hungary as an example SÁGI Judit and Edward Evgenevich NIKULIN	85
Intra-European Union trade of dairy products: insights from network analysis  BENEDEK Zsófia, BAKUCS Zoltán, JAN Fałkowski and FERTŐ Imre	91
Food scares and asymmetric price transmission: the case of the pork market in China Jiawu DAI, Xun LI and Xiuqing WANG	98
Assessing the sensitivity of matching algorithms: The case of a natural resource management programme in Honduras Alexandre N. ALMEIDA and Boris E. BRAVO-URETA	107
INFORMATION FOR AUTHORS	



The cost of printing this issue is supported by the Hungarian Academy of Sciences.

Manuscripts should be prepared in English and sent via e-mail to the

© Agrárgazdasági Kutató Intézet, 2017 1463 Budapest, POB 944, Hungary https://www.aki.gov.hu/studies ISSN 1418 2106 (printed) ISSN 2063 0476 (electronic)

Editor-in-Chief at studies@aki.gov.hu.

Established 1962

## **Foreword**

The European Research Area (ERA) is conceived as a unified research area, open to the world and based on the European Union's (EU) Internal Market. By making national research systems more open, inter-operable and inter-connected, fragmentation of research efforts and barriers to free circulation of researchers can be reduced. The EU's Horizon 2020 Research and Innovation programme for the period 2014-2020 is expected to help to further develop the ERA. However, in the first two years of the programme the 11 post-socialist EU Member States have secured just 3 per cent of the available funding<sup>1</sup>.

There are several, legitimate, reasons for this apparent imbalance. Not least is that researchers from 'western' EU Member States have many more years of experience of the EU's international research programmes. Over time, they have established networks of collaborators that they know and trust, and may be reluctant to work with new and unknown partners. The reality is, however, that the very many, highly competent researchers in the 'eastern' Member States of the EU make specialist, even unique, contributions to the global pool of knowledge. This point is illustrated by this issue of Studies in Agricultural Economics, which includes papers from Czech, Hungarian, Polish and Slovenian contributors alongside those from Brazil, China, Ireland, the Russian Federation and the USA. Publishing in international journals can help researchers from the region to increase their participation in research networks, both at the European level and globally.

Continental climatic regions are expected to be severely affected by climate change. Jankó, Németh, Bertalan and Pappné Vancsó researched perceptions of climate change among farmers in Hungary and identified some significant factors such as the role of extreme weather events. Some farmers are seeking to adapt to climate change, but others seem unwilling to do so.

In the context of the removal of the EU milk quota regime, Emicha, Heanue, Hyland, Hennessy, Dillon and Buckley examined the economic, environmental and social sustainability of dairy farms in Ireland. Using sustainability indicators, they created a typology of farms, composed of three types, which could assist policy makers to formulate more targeted policies.

EU farmers are increasingly exposed to price volatility. Using the IACS database, Zgajnar studied the sustainability of farms in Croatia with respect to income risk and indem-

nification. The approach described can to be of use to policy makers when designing income risk mitigation measures and identifying potential beneficiary groups by either sector or economic farm size.

The topic of farming risk is taken up by Soliwoda, Špička, Vilhelm, Pawłowska-Tyszko and Gorzelak, who explored the relationship between the contrasting models of agriculture in the Czech Republic and Poland, and approaches to agricultural insurance schemes. In both countries, policy options should consider the balance between budget flexibility and the criterion of efficiency.

In the first of three papers related to trade, Sági and Nikulin assessed the effect of the food embargo imposed by Russia on its trade relations with the EU, using Hungary as an example. Hungary has failed to replace exports to Russia effectively and, in turn, Russia has not managed to replace the supply of most agricultural products.

A novel, network analysis based approach was used by Benedek, Bakucs, Fałkowski and Fertő to study changes in the structure of intra-EU milk product trade between 2001 and 2012. Integration of countries that joined the EU in 2004 or 2007 is only partial, and depends on the category of milk product considered.

Three major food scare events in the Chinese pork market, (porcine reproductive and respiratory syndrome, swine influenza and classical swine fever) were shown by Dai, Li and Wang, using monthly data from 2001 to 2014, to impact retail price and price transitions differentially. In addition, shocks from the same incident on price and price transmissions are significantly different.

Finally, Almeida and Bravo-Ureta applied three different types of matching algorithms (optimal, greedy and non-parametric) to the evaluation of the impact of the MARENA programme in Honduras. Optimal matching did not produce better-balanced matches than greedy matching, and programme impact calculated from nonparametric matching regressions, such as kernel or local linear regressions, yielded more consistent outcomes.

By publishing papers contributed by authors based in eastern central and south eastern Europe alongside contributions from other parts of the EU and the rest of the world, *Studies in Agricultural Economics* can contribute to the strengthening of the European Research Area.

**Andrew Fieldsend** Budapest, July 2017

#### Reviewers

Prof. Dr. Vilija ALEKNEVIČIENĖ • Prof. Dr. Štefan BOJNEC • Dr. FEHÉR Alajos • Prof. Dr. FERTŐ Imre Dr. FOGARASI Jószef • Dr. Matthew GORTON • Prof. David HARVEY • Dr. JÁMBOR Attila • Dr. Piotr SULEWSKI Prof. Dr. SZAKÁLY Zoltán • Prof. Dr. TAKÁCS István • Prof. Hilkka VIHINEN • Dr. George VLAHOS • Dr. Hans VROLIJK

### **Editorial Advisory Panel**

CSÁKI Csaba, Budapesti Corvinus Egyetem, Budapest, Hungary • Mária KADLEČÍKOVÁ, Slovenská poľnohospodárska univerzita v Nitre, Slovakia KISS Judit, MTA Világgazdasági Kutatóintézet, Budapest, Hungary • LEHOTA József, Szent István Egyetem, Gödöllő, Hungary POTORI Norbert, Agrárgazdasági Kutató Intézet, Budapest, Hungary • SZAKÁLY Zoltán, Debreceni Egyetem, Debrecen, Hungary SZÉKELY Csaba, Soproni Egyetem, Sopron, Hungary • TAKÁCS István, Óbudai Egyetem, Budapest, Hungary

see: https://ec.europa.eu/research/evaluations/pdf/h2020\_2-years-on\_brochure.pdf

### **Studies in Agricultural Economics**

## Information for authors

Studies in Agricultural Economics publishes original research papers, review papers, policy analyses and book reviews on agricultural economics, rural development and related topics including: agricultural production and competitiveness, environmental resource management, agri-food supply chain management, markets and marketing, international trade, econometrics, rural economic geography, rural economy and sociology, and development of information and knowledge based society in rural areas. Studies in Agricultural Economics is included in the Thomson Reuters<sup>TM</sup> Web of Science<sup>TM</sup> Core Collection.

#### **Audience**

Researchers, academics, policy makers and practitioners in agricultural economics and rural development, especially in eastern central and south eastern Europe.

#### **Submission of manuscripts**

Submission of an article implies that the work described has not been published in English in any other peer-reviewed journal, is not under consideration for publication elsewhere, and that its publication is approved by all authors and tacitly or explicitly by the responsible authorities where the work was carried out. The author will retain the copyright of the article but agrees to identify AKI as the original publisher. Papers will not normally exceed 6000 words including the reference list and figure and table captions. Authors intending to prepare a book review should first consult the Editorin-Chief and such a review should not exceed 2000 words.

Shorter papers and comments, of up to 1500 words, will also be considered for publication. Such notes might deal with the economic aspects of policy, with the results of small research projects that do not justify a full-length article, or comment on articles previously published.

Manuscripts should be submitted in .doc or compatible format. They should be prepared using A4 format, TNR 12 pt text and 1.5 line spacing and be in single-column format with wide margins. Do not hyphenate words and use **bold** face and *italics* only sparingly, but use subscripts and superscripts where appropriate. Avoid the use of single-sentence paragraphs. Tables should be placed at the end of the manuscript and figures should be submitted as separate files, numbered accordingly. Page and line numbering (restart each page) must be used but no reference should be made to page numbers in the text. You should use the 'spell-check' and 'grammar-check' functions of your wordprocessor, which should be set to *English* English, to avoid unnecessary errors.

Manuscripts will be double-blind reviewed by at least two reviewers and may be returned to the author(s) for revision before acceptance for publication. The Editor-in-Chief will normally consider only one re-submission.

### **Article structure**

Divide your article into clearly defined sections but do not use section or subsection numbers. Each heading should appear on its own separate line. For research papers you are urged to consider using the following structure:

 Introduction. State the objectives of the work and provide an adequate background with reference to the

- international literature, but avoiding a detailed literature survey or a summary of the results.
- Methodology. Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.
- Results. Results should be clear and concise.
- Discussion. This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section should normally be avoided. You should show how your results add to existing knowledge but avoid extensive citations and discussion of published literature.

Where it is not appropriate to use the above framework, you should finish the paper with conclusions.

## **Essential title page information**

- **Title.** Concise and informative. Avoid abbreviations and formulae where possible.
- Running title. Please provide an abbreviated title of no more than 60 characters (including spaces) that can be used as a running title on the page header.
- Author names and affiliations. Present the authors' affiliation addresses (where the actual work was done) below their names.
- Corresponding author. Clearly indicate the corresponding author who will handle correspondence at all stages of refereeing and publication, also postpublication. Please provide a telephone and fax number in addition to the e-mail address and the complete postal address.
- Present/permanent address. If an author has moved since the work described in the article was done, or was visiting at the time, a 'Present address' (or 'Permanent address') may be indicated. The address at which the author actually did the work must be retained as the main, affiliation address.

#### **Additional information**

- **Abstract.** A single paragraph of 100-250 words should state the purpose of the research, the principal results and major conclusions.
- Keywords. Please provide a maximum of six keywords.
- Abbreviations. If necessary, define abbreviations that are not standard in this field on the first page of the article.

- Acknowledgements. If applicable, collate acknowledgements in a separate section at the end of the article before the references. List here those individuals and/or organisations that provided help, including financial support, during the research.
- Nomenclature and units. Follow internationally accepted rules and conventions: use the international system of units (SI) i.e. metre, second, kilogramme etc. or accepted alternatives e.g. day, litre, tonne.
- Math formulae. Present simple formulae in the line of normal text where possible. Number consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text). For simple fractions use the solidus (/) instead of a horizontal line. Powers of e are often more conveniently denoted by exp. Give the meaning of all symbols immediately after the equation in which they are first used. Levels of statistical significance which can be mentioned without further explanation are: \*P <0.05, \*\*P <0.01 and \*\*\*P <0.001.
- **Footnotes.** Footnotes should be used sparingly. Number them consecutively throughout the article, using superscript Arabic numbers. Indicate each footnote in a table with a superscript lowercase letter.

## **Tables and figures**

- Tables. Number tables consecutively in accordance with their appearance in the text. Each table should be accompanied by a title and fully descriptive caption. Column headings should be brief but sufficiently explanatory and standard abbreviations of units of measurement should be included between parentheses. Do not use vertical rules to separate columns. Large tables should be avoided. If many data are to be presented, you should consider dividing them over two or more tables. Reversing columns and rows will often reduce the dimensions of a table.
- Figures. Graphs, drawings or photographs should be supplied in digital format in monochrome and be of sufficient contrast. Figures prepared with Excel® software (or compatible format) are preferred. Captions should be included in the main manuscript, not attached to the figure, and should explain all symbols and abbreviations used. The text should include references to all figures. The use of figures from other publications is discouraged but, if used, permission of the author(s) or the copyright owner is necessary.

## References

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically. For example: 'as demonstrated (Allan, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer *et al.* (2000) have recently shown ...' Citation of a reference as 'in press' implies that the item has been accepted for publication.

In the reference list, references should be arranged first

alphabetically and then further sorted chronologically if necessary. They should not be numbered. More than one reference from the same author(s) in the same year must be identified by the letters 'a', 'b', etc. placed after the year of publication. The title of a non-English publication should be followed by the English translation in square brackets. Journal titles should not be abbreviated. Examples:

- **Reference to a journal publication.** Van der Geer, J., Hanraads, J.A.J. and Lupton, R.A. (2000): The art of writing a scientific article. Journal of Science Communication **163**, 51-59.
- Reference to a book. Strunk Jr., W. and White, E.B. (1979): The Elements of Style (3rd edition). New York: Macmillan.
- Reference to a chapter in an edited book. Mettam, G.R. and Adams, L.B. (1999): How to prepare an electronic version of your article, in Jones, B.S and Smith, R.Z. (eds), Introduction to the Electronic Age. New York: E-Publishing, 281–304.

For Web references, as a minimum, the full URL should be given and the date when the reference was last accessed. Any further information, if known (DOI, author names, dates etc.), should also be given. Web sources should be included in the reference list alphabetically according to the author's surname or organisation's name.

#### **Publication ethics**

Studies in Agricultural Economics aims to comply with the standards outlined in the COPE Codes of Conduct for Journal Editors and Publishers. These can be accessed at www.publicationethics.org/resources/code-conduct.

## After acceptance

The corresponding author will be provided, at no cost, with a PDF file of the article via e-mail. The PDF file includes a cover sheet with the journal cover image and a disclaimer outlining the terms and conditions of use. *Studies in Agricultural Economics* has no page charges or submission fees.

Complete full-text articles may be published on the AKI website in advance of their publication in a printed issue. These do not yet have volume, issue or page numbers, so cannot be cited in the traditional way. They are therefore given a Digital Object Identifier (DOI), which allows the article to be cited before it appears in printed form.

Studies in Agricultural Economics is accessible online at https://ageconsearch.umn.edu/search?ln=en&cc=1316 and at www.aki.gov.hu/studies. It is listed in EconLit, the Index Copernicus Journals Master List and the Directory of Open Access Journals (www.doaj.org), as a Commendable Journal in the Cabell's Directory of Publishing Opportunities in Economics and Finance, and is included in the Citations in Economics database (http://ideas.repec.org/s/ags/stagec.html). Papers are abstracted in the CABI Agricultural Economics Database (www.cabi.org) and indexed by Google Scholar.

The printed version of *Studies in Agricultural Economics* is designated by the publisher as the original version of the journal.