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Foreword

Agricultural market developments are at the heart of policy debates, particularly since the onset of increasing food prices and short-term fluctuations of commodity prices. Since agricultural commodity prices peaked in 2007-2008, price volatility has continued to occur and 2011-12 saw comparably high levels of prices. These price increases and price volatility have contributed to insecurity in national and international markets. As the European Union (EU) is the biggest trader in agricultural products globally, both in terms of exports and imports, EU agriculture is clearly interrelated through trade with agriculture in the rest of the world, and influenced by global developments.

However, with the series of enlargements to the EU that have occurred over the years, especially with the accession from 2004 onwards of the post-socialist Member States, intra-EU trade also has an important place on the policy agenda. The EU represents a large, organised but highly competitive market and newly-accessing countries that had suffered from years of under-investment in their agricultural sectors have had to cope not just with competition within the EU but also in their domestic markets.

Beside commodity trade, markets for higher value-added agricultural and food products are developing, both in the EU and elsewhere, as actors in the agri-food value chain seek to enhance their profitability. Examples include organic production and products sold through short supply chains. Furthermore, more attention is being paid to quality attributes such as traceability.

The above topics provide the context for this thematic issue of *Studies in Agricultural Economics*.

Djokoto examines the variations in mean technical efficiency (MTE) estimates in organic agriculture by reviewing 42 studies constituting 109 observations published in the period 2002-2014. His results demonstrate wide fluctuations in MTE with a gentle declining trend, suggesting that there is a need to re-invigorate efforts to increase productivity of organic inputs. More responsive breeding stock and planting materials, alongside more diverse fertilising materials and crop production products are needed.

The first of two papers about Russia is authored by Belyaeva and Hockmann. It examines the grain production potential of 61 regions using a modified approach to stochastic frontier analysis that covers not only production technologies but also region-specific conditions. The authors present evidence that climate in combination with the levels of human and institutional development and infrastructure have

a significant effect on the production structure of the region.

Using the historically large agrarian region of Voronezh *Oblast* as an example, Kharin investigates vertical price transmission along the whole milk supply chain for the period 2002-2014, taking into account seasonality. He demonstrates that price changes are not transmitted efficiently: a change in retail price has a significant effect on the farm gate price, but not vice versa. This shows that Russian retailers have more market power than farmers.

The next two papers deal with the topic of intra-industry trade (IIT) in agri-food products in the EU. The pattern and drivers of horizontal IIT and relative factor endowments between 1999 and 2010 are analysed by Fertő. He concludes that the standard IIT theory finds some support in the data when the sum of capital-labour ratios instead of relative country-size variables is controlled in the estimating equations.

Jámbor analyses country- and industry-specific determinants of horizontal and vertical IIT in the four Visegrad countries (Czech Republic, Hungary, Poland and Slovak Republic). Factor endowments and distance are mainly negatively related to IIT, while product differentiation is not found to foster two-way trade of quality-differentiated goods. All model runs show a negative relationship between productivity as well as foreign direct investment and IIT.

Information asymmetry, bounded rationality and behavioural uncertainty have given rise to incomplete contracts, especially in the agricultural sectors of most developing economies. The moderating effect of traceability is therefore proposed by Kang'ethe W. Gachukia to reduce these uncertainties and is as such a form of assurance to promote both a holistic approach in compliance with standards and a seamless mechanism for product and process integration.

Finally, Szabó and Juhász conducted a consumer and producer survey of direct and short supply chain markets in Hungary. Vendors are found to overestimate their service level above that of the customers' experiences which means that they do not have an accurate understanding of their customers' requirements. There is also a big deficiency between the services expected by customers and those experienced at markets.

The dynamic development of agricultural markets makes this a subject that always merits new research. Hence, I hope that this special issue of *Studies in Agricultural Economics* represents a useful contribution to our pool of knowledge.

Andrew Fieldsend
Budapest, July 2015

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Extended summary

KESZTHELYI Szilárd and MOLNÁR András

Results of Hungarian FADN Farms 2013

The Hungarian Farm Accountancy Data Network (FADN) consists of 1,593 individual and 385 corporate sample farms. These farms are representative (in terms of farm type, economic size and legal form) of close to 110 thousand commercial Hungarian agricultural producers that utilise nearly 95 per cent of the total agricultural area and produce 93 per cent of the total Standard Output in Hungary. The Research Institute of Agricultural Economics (AKI) is responsible for the collection of micro-economic data on the costs and incomes of these. The results are published annually by AKI and may be downloaded in Hungarian or English from the AKI website (www.aki.gov.hu) or requested in printed form from aki@aki.gov.hu.

The publication begins with a short introduction about the general context and its purpose, definitions of the economic terms and indicators used, and a description of the method of deriving the balance sheet and income. The profitability and the change in assets in the agricultural sector as a whole are then described, the factors influencing the income situation of individual and corporate farms are separately highlighted, the effect of subsidies on profitability is discussed, and a comparison is made of the results of individual and corporate farms. Following this the development of land prices and rental fees across the different FADN regions of Hungary are reviewed, and a narrow international comparison limited only to financial indicators is made. Attention is then paid to the application of environmental indicators in the FADN context, and the publication concludes with a short overview on the small farms below the sampling threshold level. The book is supplemented by a comprehensive set of tables that introduce aggregated FADN farm data broken down by legal form, region, type of farming and economic size.

The main findings are as follows. The profitability of agriculture changed only marginally in 2013 compared to the previous year. Profit before taxes of individual farms declined by 1 per cent and that of corporate farms by 16 per cent. As in 2012 the net value added continued to stagnate. Significant income disparities were recorded across the different types of farming in regard to EUR thousand Standard Output per net value added. The highest (49 per cent) increase was achieved by vine growers while the fruit sector, field vegetables and indoor vegetable also witnessed strong (over 30 per cent) growth. The profitability of arable crop production suffered a 23 per cent decrease, while poultry, dairy and mixed farms as well as cattle and sheep rearing saw 14-16 per cent declines. The fall was even stronger in pig farming which recorded a 50 per cent drop in profitability compared to 2012.

The income per hectare of field crops fell by 3 per cent as the yield gains only partially offset the price drop in the sector. The gross output decreased by 2 per cent as the decline in income was moderately compensated by the increase in direct payments (+11 per cent). In contrast, farming costs rose by 4 per cent. In the dairy sector the output per livestock unit increased by 5 per cent, mostly due to the increasing milk prices. However, the dairy farms reported a 3 per cent

loss in terms of net value added as the result of an 8 per cent growth in farming costs. Pig farming as well as cattle and sheep rearing made similar progress as the increases in their farming costs were stronger than in their output values. Conversely, the poultry producers recorded a decline also in the output value, however the unit cost registered the lowest – 1 per cent – growth in the sector.

Investments per hectare (regarding all farms) amounted to HUF 96.8 thousand while the amount of subsidies attached to investments stood at HUF 7 thousand per hectare. The value of investments grew by 26 per cent and the amount of investment subsidies by 44 per cent in comparison to the previous year. The rise is clearly related to the increased investments in machinery and the uncompleted investments (23 and 28 per cent respectively). The net investment value also showed a significant increase (HUF 27 thousand per hectare), which means that technological development continued. The highest investment intensity was recorded for indoor vegetables, field vegetables, pig farming, cattle and sheep rearing as well as arable crop production. The growth in investments was boosted not only by development subsidies but also by the *Fund for Growth* plan of the Hungarian Central Bank.

The considerable expansion in investments greatly affected the financing structure of the farms and a long term trend came to a halt. Long-term loans expanded by 26 per cent, including the investment and development credits that made favourable progress after rising by 54 per cent (HUF 28.4 thousand per hectare). The expansion in development loans did not undermine the financial conditions of the farms as the result of the declining interest rates. The paid interest dropped by 22 per cent.

The increase in land prices continued in 2013. The price of arable land increased by 7.7 per cent – well above the inflation rate – to HUF 622.2 thousand per hectare. Consequently, the land rental fees also grew, by 4.2 per cent.

This was the second year that farms below the economic threshold were also selected for the purpose of rural development issues. Despite the fact that these households are producing a certain share of their own foodstuffs, a sizeable amount of their incomes are spent on food. The average share spent on food is 30 per cent but, because of the specific nature of the produced foodstuffs, in the case of mixed farms this share is higher (37 per cent).

Abstracts of AKI publications

The results of AKI's research work are presented in detail in a series of Hungarian language publications. English language abstracts are reproduced below. The publications may be downloaded from the AKI website (www.aki.gov.hu) or requested in printed form from aki@aki.gov.hu.

BIRÓ Szabolcs and RÁCZ Katalin (eds)

Agricultural and rural development cooperation in Hungary

Agroeconomic Book, published 2015, <http://dx.doi.org/10.7896/ak.1501>

The publication explores the situation, role, economic performance and development opportunities of cooperation in agriculture and rural development in Hungary. In a market economy, cooperation skills are among the most important tools of competitiveness of economic actors. Regarding cooperation trends in Hungary, similarly to the international situation, signs of concentration, accompanied by an integration of the product line, can be detected. According to the findings of this research, horizontal cooperation plays a significant role in stabilising supplier and marketing relations in reducing transaction costs, improving production levels and in disseminating new technologies. Its role in increasing farm revenues is only moderate. By contrast, cooperation leading to a higher level of vertical integration enables permanently favourable market positions and better results in economic performance to

be achieved. Concerning social cooperation, which brings together rural actors, traditional forms are complemented by social networks, rural development clusters and platforms. A development path for agricultural cooperation might be for actors to make collective investments in order to increase the value-added and utilise economies of scale, and to organise themselves into alliances, associations and networks. Beyond the benefits originating from market concentration, these could stimulate the dissemination of expertise, improve the efficiency of advisory services, and increase innovation capacities. Regarding cooperation in rural development, there is a development potential in short supply chains organised into clusters and embedded into local economic development. The Hungarian Rural Development Programme 2014-2020 provides integrated tools for stimulating organisational investments.

STUMMER Ildikó (ed.)

The market developments of the most important commodities in 2014

Agroeconomic Information, published 2015

This publication discusses the market developments of the most important commodities in 2014, mainly by presenting price trends. The material is based on the price information and data of the Market Price Information System of the Research Institute of Agricultural Economics and of various Hungarian and international sources. The producer price of milling wheat was almost unchanged in 2014 compared to 2013, while it dropped for feed wheat and feed maize by 4 and 13 per cent respectively. The producer price of sunflower seed was HUF 96 thousand/tonne in 2014, close to last year's level. On the contrary, the producer price of rapeseed fell by 9 per cent to HUF 102 thousand/tonne. As in previous years, in 2014 Hungarian pork prices followed the

trends of prices in the European Union. The pig producer prices were 3.4 per cent lower than a year earlier. In Hungary the cattle producer prices decreased by 12 per cent in 2014. The producer prices of slaughter chickens increased by 6.3 per cent and those of light lambs increased by 4 per cent in 2014, while the raw milk price increased by 7 per cent compared to the previous year. The production of vegetables increased in 2014 compared to 2013, and the production of fruit increased because of the higher apple production. The processors' sale prices of wines without geographical indication and wines with protected geographical indication (PGI) decreased by 2 per cent in 2014 compared to the previous year.

Studies in Agricultural Economics

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Audience

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

Submission of manuscripts

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