

BOOK OF ABSTRACTS

JOINT INTERNATIONAL SCIENTIFIC CONFERENCE

Global Agribusiness and the Rural Economy

Czech University of Life Sciences Prague
Faculty of Economics and Management
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Book of Abstracts - Global agribusiness and rural economy

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Abstracts in individual sections are sorted by authors' names in alphabetical order.

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Foreword

In connection with the tradition of organizing annual all-faculty international conferences "Agrarian Perspectives", on the days 16th – 18th September the 24th international conference of FEM CULS Prague will take place. The positive difference this year is the mutual organization with ÖGA, a representative Austrian institution in the area of agricultural economics and research (the 25th Annual Conference of the Austrian Society of Agricultural Economics).

The topical scope of this year's conference is Global Agribusiness and the Rural Economy which arose on the basis of the agreement of the Czech and Austrian organizers. A wider framework for the focus of particular sections and other participating employees of affiliated and partner institutions was also created.

At a plenary meeting of conference in the T congress hall (in the CULS Prague premises) on the 16th September 2015 keynote speakers from Czech Republic, Germany and Ireland will present their contributions with the participation of representatives of academic, special, administrative and entrepreneurial sphere from the CR and abroad.

In the afternoon in connection to the plenary session and on the following day negotiations in the framework of topical sections and 26 sub-sections will be held. Besides this, the results of the COMPETE project will be presented with 3 sub-sections.

In the interest of sharing research results and the creation of conditions for cooperation the contribution of the Czech (Agrarian Perspectives XXIV. – 65) and Austrian sides (the 25th Annual Conference of the Austrian Society of Agricultural Economics – 49) will be presented in common topical sections (subsections). The total number of applications amounted to 143 papers from 10 countries.

The reviewed contributions will be published within the common conference summarily in the Collections of Abstracts (114) and in electronic form (Books of Proceedings from AP XXIV. – 60).

At the end I would like to express my belief that the topical scope of the conference and its course will create an inspirational framework for the further direction and development of scientific-research and educational activity of participants and institutions in a longer time framework.

Prof. Ing. Miroslav Svatoš, CSc.
Chairman of Programme Committee of the Conference

KEYNOTE SPEAKERS

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Milena Vicenová (CZECH REPUBLIC)

TOPIC: National or Global Interests?

Agriculture was one of the first sectors of the economy (following coal and steel) in the focus of attention of European policymakers - founding fathers of the future European Union. The Common Agricultural Policy (CAP) was established in the late fifties in hunger and starvation experienced post-war Europe. There were five goals of one of the oldest EU policies: 1) to increase agricultural productivity; 2) to provide certainty in food supplies; 3) to stabilize markets; 4) to ensure a fair standard of living for farmers; 5) to ensure that supplies reach consumers at reasonable prices. The European model of agriculture was based on family farms and private ownership of the land.

The implementation of the CAP required several years, due to reluctance of farmers. Successive reforms of the CAP have, under the pressure of GATT and WTO negotiations, increased the market-orientation of the sector. Also more targeted instruments were formed to support producers in less favourite areas, such as mountain areas, with higher production costs. The last reform of the CAP was agreed in 2013.

Today, in 2015, there are 7.3 billion people living on our globe. The utilised agricultural area in the EU-28 is approximately 176 million hectares (around 40 % of the total land area), an average size reaches 14.4 hectares per agricultural holding. The EU with 28 member states represents common market for 507, 7 million consumers, three times more compared with the Inner Six population in 1957. Contradiction between national interests, traditional relation of farmers to soil, family farm model will be discussed in light of growing world population, impact of crisis, competitiveness and sustainability of Czech and European agriculture in the changing world. Is the European model of agriculture based on family farms still relevant today, in the 21st century? And do the goals of the CAP in the fiftieth - increase of agricultural productivity; food security, stable markets, fair standard of living for farmers; food for consumers at reasonable prices – remain still crucial? What are the challenges of the CAP today?

The global population growth will require 70 % increase of food supply. This can only be accomplished through a combination of technological innovation, improved farming skills and increased capacity of rural institutions (including farmers' organizations) to face the challenges of production, profitability and sustainability. Is there sufficient potential for agricultural production in 2030, or 2050? The answer is in principle positive. Yes, there is sufficient global aggregate food consumption for nearly everyone to be well-fed. But the world's natural resources and the yield growth potential do not guarantee that such increases will be forthcoming. There are too many possible threats and limits - land and soil devastation, climate change, lack of

water, pollution...

Farmers and rural people in general will have to pay greater attention than in the past to the sustainability of production and to the broader environmental impact of their agricultural activities. In the period of global competitiveness fight for purely national interests is a no way. Integration of agricultural education, research and extension – and farmers' 'flexibility and income diversification will be inevitable. And it will require a holistic approach of scientists, as well as policymakers.

Trevor Donnellan (IRELAND)

TOPIC: The Future for European Dairying in the Post-Quota Era

While milk output in the EU has been constrained by milk quotas for 31 years, the quota system ceased as a constraint in April 2015. The new era of milk output without quota constraints will result in both opportunities and challenges for the EU dairy industry. The opportunities will arise from the expanding global dairy market. The challenges will involve the ability of the EU dairy industry to achieve international competitiveness in servicing the increased global demand for dairy products. This paper will explore these issues with a primary focus on the prospects for the EU dairy industry over the next decade.

Declan O'Connor (IRELAND)

TOPIC: The challenges posed by price volatility in the EU dairy sector

It is now accepted that the significant increase in the level of price volatility experienced by the EU dairy sector in recent years is expected to persist, and perhaps even increase, as EU dairy policy continues to become more market focused. The specific challenges which volatility present are numerous. This increase in volatility translates to increased risk for all participants in dairy supply chain. The identification and adoption of suitable risk management tools will help to ensure that the sector remains competitive and profitable in an uncertain future. In this paper the increased levels of volatility are quantified while the challenges associated with these increased levels are presented and possible tools to manage this issue are presented and analysed.

Gertrud Buchenrieder (GERMANY)

TOPIC: Non-farm start-up intentions and corruption perception in transition economies

Corruption is widespread and appears to be still deeply rooted in the cultural norms of many emerging economies. The general perception of corruption is that it increases the transaction costs of doing business, leads to more uncertainty, and misaligns economic incentives, thereby discouraging growth-oriented economic activity. Most of current research on corruption and entrepreneurship focuses on nascent or already established entrepreneurs. Less well-understood is the effect of perceived corruption on the individual's ex-ante entrepreneurial intentions, when opportunities are recognized and a decision has to be made whether to pursue them or not. Depending on the mechanism of association, perceived corruption – and other perceived obstacles – may have a different effect on entrepreneurial intentions. One way to understand the effects of corruption and other obstacles is to link these perceptions to entrepreneurial attitudes, social norms, and perceived behavioral control as outlined in the Theory of Planned Behavior (Ajzen 1991). In a recent study (Traikova et al. 2015), we follow this line of inquiry. We find that corruption perceptions are mediated by entrepreneurial attitudes, but not by social norms or perceived behavioral control. In addition, corruption perceptions exert a significant and positive direct effect on entrepreneurial intentions. This suggests the social acceptance of corruption is widespread and far-reaching, leaving a lasting imprint on entrepreneurial intentions.

ABSTRACTS

Strategic Company Management of Agricultural Main Holdings - a comparative analysis between Baden-Wuerttemberg and Bavaria

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Abstract

The environment in which companies operate has increasingly lost stability and predictability in recent years. This is also true for agriculture, which, compared to the past, is facing ever increasing competitive pressure due to liberalized agricultural markets and more globalized commodity markets. In dealing with these changes, strategic management has become an increasingly important tool to secure the existence of a company in the long term. This study aims to determine the extent to which strategic management is implemented in practice and what strategies are being used by farm managers. Furthermore, a comparative analysis between the southern German states of Baden-Wuerttemberg and Bavaria was performed to determine their similarities and differences, so as to derive recommendations for practical application. To clarify the question, a written survey among 500 agricultural holdings was conducted in Baden-Wuerttemberg in December of 2014. This survey achieved a response rate of 46%. The survey among the Bavarian agricultural holdings will take place in April-May of 2015 by means of a written survey using the same questionnaire. Considering this progressively difficult and complex environment, in particular operational growth resulting from a winning strategy is becoming increasingly important. However, operational growth in the form of pure farmland expansion is only possible to a limited extent in the small-scale agricultural setting of southern Germany. The existing evaluation of the current analysis of farms in Baden-Wuerttemberg indicates that managers mostly attempt to implement operational growth by means of diversification strategies. Further surveys and analysis will show whether this also applies to Bavaria and therefore to the majority of southern Germany.

JEL CODE: Q10, Q12

Measuring concentration of agricultural land use in Germany

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Abstract

Average farm sizes have increased during the last decades in Germany. Nevertheless, the regional characteristics of this process differ significantly between and within the Federal States. Concentration of farmland on large farms as well as farmland prices have become issues of public discussion resulting in the establishment of the German Commission of Farmland Markets and Policies (BLAG). As average farm sizes are not sufficient to describe farmland concentration, further statistical measures are necessary. Different measures derived from welfare economics can give a deeper insight by characterizing disparity and concentration. Hoover Index, Gini coefficient, Lorenz asymmetry coefficient (LAC) and Concentration Rate (CR) are applied to direct payment data of individual farms published under European law and used to compare and interpret the concentration of farmland use in Germany. According to first results, only one measure of concentration seems to be insufficient. Same Gini values can result from distributions with a different mean because of the scale invariance of Gini (e.g. 0,6 for Bavaria and Schleswig-Holstein, average farm size in Schleswig-Holstein is twice as large as in Bavaria). Thus, comparisons between regions or identification of concentration only based on one statistical measure are not sufficient and should be substantiated by further measures. Moreover, LAC indicates that the contribution of larger farms to inequality differs between regions (e.g. 0.9 for Bavaria and 0.8 for Schleswig-Holstein). Different approaches to calculate CR (50 largest farms, 10% largest farms, farms larger than 1000ha) result in different findings on regional level. According to these analyses, the following issues have to be discussed within this study: i) the quality and appropriateness of different data bases; ii) which regional level is appropriate to measure different aspects of farmland concentration and iii) how concentration is defined by the BLAG or in political discussion in general. Using the regional level of the Federal States or districts and, in contrast, the community level or communal districts seems to be inexpedient to describe farmland concentration. At least a combination is more appropriate with regard to negative effects of concentration. Therefore, an analysis on all levels will be conducted focusing on CR. Furthermore, comparisons with other European countries such as Austria, Czech Republic or France can be done. Recommendations for suitable application for political purposes will be derived for single and combinations of measures. Unfortunately, information on distribution of property of agricultural land is scarce. Available data for land owned by farmers will be included to discuss different social and economic consequences of disparity and concentration on different regional levels.

JEL CODE: Q15

Structural Changes in the Slovak Regional Agriculture

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Abstract

Introduction: Integration into the EU single market provided opportunities to the Slovak Republic (SR) for better exploitation of its comparative advantages and led to changes of structure and economic activity reallocation. The goal of our study was to investigate the Slovak regional economy structural changes, development and factors of regional economic specialisation and concentration of sectors with a focus on agriculture.

Methodology and data: Specialization and sector concentration were quantified by Entropy and Herfindahl indices. We estimated specialization, sector concentration trends. Driving forces of concentration and specialisation development by sectors were assessed by modified econometric model (Vogiatzoglou, 2006). Econometric models were applied to investigate the impact of selected factors, including the Common Agricultural Policy (CAP) instruments on regional agriculture specialisation. We used yearly data of sector indicators of the SR, 4 NUTS II, 8 NUTS III and 79 NUTS IV regions over period 1995-2010 (Statistical Office of the Slovak Republic, 2014); selected indicators of agriculture (IL MPaRV SR, 2014) and regional indicators of climatic conditions.

Results and Conclusion: We found that the Slovak economy was relatively specialised already in the period before the SR accession to the EU. Accession of Slovakia to the EU had statistically significant positive effect on sector concentration and negative effect on economy specialization on national level and especially in the lagging Eastern Slovakia region. Significant changes in specialisation have occurred in agriculture. The share of crop production has been steadily growing at the expense of animal production. The concentration of both, crop and animal production has increasing trend. Provision of the most CAP instruments in Slovakia, had positive effects on crop commodity production diversification and animal husbandry commodity specialization of regions.

JEL CODE: R12, R15, Q18, C23

Usability and Accessibility of Czech agrarian portals

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Abstract

Introduction: Nowadays usability and accessibility are one of the key tasks of web portals, especially if these are key information portals of the government. Reasons for increasing the usability and accessibility of web portals are rising especially in the context of the rapid use of alternative devices for browsing the web content. This abstract describes the results of a comprehensive usability and accessibility testing of the two most widely used Czech agrarian portals eAGRI (eagri.cz) and AGRIS (agris.cz). The goal of the testing is to highlight the issues that users may encounter on these portals and to formulate possible remedies.

Data: Comprehensive usability testing was performed once for each portal. The results are presented as a Summary Report. The accessibility data-set consists of identified data with 360 observations on both portals measured from October 2014 to March 2015. On the each portal there were randomly selected 30 pages that were tested repeatedly each month.

Methods: Methodology of the paper is based on applying of common methods of usability and accessibility testing. Usability testing is done based on the methods of the Heuristic analysis of usability as well as by the application and evaluation of the Typical user Scenarios. Accessibility is tested according to the Czech methodological guidelines of Decree no. 64/2008 Coll. (Decree on accessibility). Based on the results of the applied methods there are formulated conclusions and recommendations for possible improvements.

Results: Usability testing showed that the portal agris.cz is at a very good level and its results are far better in comparison with portal eagri.cz. eAGRI portal is not created on the basis of responsive design and navigation on this portal is considerably complicated. Accessibility analysis demonstrated opposite results. At the portal Agris there were found dozens of accessibility errors. On the other hand portal eAGRI is essentially error free.

Conclusion: On the basis of the analysis it was not possible to clearly demonstrate which of the portals is more suitable for users. To meet the goals, both portals should apply detailed recommendations and proposed steps which are presented as the results of the applied analyzes such as: application of the WCAG 2.0 rules with ARIA recommendations, a comprehensive change in navigation, application of responsive design and so on.

Acknowledgements

The knowledge and data presented in the abstract were obtained as a result of the following institutional grant. Internal grant agency of the Faculty of Economics and Management, Czech University of Life Sciences in Prague, grant no. 20151039, "Využití otevřených dat v agrárním sektoru" (The use of open data in agricultural sector).

JEL CODE: Q1, L86, O32

Is farmers' social embeddedness affected by agricultural structures? A comparative analysis on North-East German and Swiss farmers.

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Abstract

This study explores the connection between farms and their rural communities. Switzerland and North-East Germany were chosen as study regions to compare agricultural systems that can be seen as diametrically opposed to each other with respect to their structure and serve in our comparison as blueprints for different phases of agricultural structural change. The former having a small-scaled agriculture which is nearly exclusively run by family farms and the latter having a large-scaled agriculture dominated by non-family farms. Farmers' social embeddedness was captured in a survey among about 1700 farm household members by assessing sense of belonging, social networks, perceived social support, and active involvement. We analyzed differences and commonalities using regression analysis.

The results show that increasing farm size leads to a delocalization of social networks. Also social embeddedness is positively associated with off-farm work in NE-Germany and with the diversification of farm activities in both study regions. This suggests that aiming solely for the enhancement of economies of scale in the agricultural sector can have negative effects for the rural social cohesion and that diversification seems to generally improve social embeddedness of farmers.

Acknowledgements

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JEL CODE: H410, P510, Z130

Comparison of Wages in Czech Agricultural, Industrial and Construction Sector

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Abstract

Introduction: This paper focuses on wage development in the Czech Agriculture Sector prior to the global economic recession, during it and in the period after crisis. Wage development in the Czech Agriculture Sector is here compared with the wage development in the two selected sectors of the national economy, particularly with the development of wages in the Czech Industry and Construction Sectors. These two sectors were selected for the comparison therefore these three sectors together employ almost 40 percent of the employees of all sectors.

Data: Data for these calculations come from the official website of the Czech Statistical Office, namely the “Percentages of employees by the band of gross monthly wages by sector” and an information about the survey sample from “Numbers of employees and their average gross monthly wages by sector and education”. Data on the number of employees in the individual sectors studied come from the table “Employment and Wages”, all for the years 2003-2013. Data from the Czech Statistical Office were completed data from official website of the Eurostat and by individual data from Trexima Company.

Methods: Descriptive characteristics were computed from data and theoretical probability models were constructed. There are three-parametric lognormal curves with parameters estimated using the method of L-moments. Three-parametric lognormal distribution is the most common used probabilistic distribution in modeling the wage and income distributions. Method of L-moments provides a point parameter estimations sometimes even more accurate than those the maximum likelihood method.

Results: The level of gross monthly wage in the Czech Agriculture Sector is statistically significantly lower than in the other two sectors. Differences in the level of gross monthly wage between Industry Sector and Construction Sector are statistically significant, too. In addition, the relationship between the level of gross monthly wage in Industry Sector and the level of gross monthly wage in Construction Sector is not stable throughout the all period researched in the sense that higher wage level is in Industry Sector at certain time and higher wage level is in Construction Sector at other time.

Conclusion: The period of the global economic crisis means big changes in the behavior of the wage distribution, when wage growth has virtually stopped. After subsiding of the economic crisis, wages grow again, but much more slowly than in the period before crisis. The period of economic crisis meant an increase in the concentration and variability especially in Construction Sector. It can be generally stated that behavior of the wage distribution in Agriculture Sector is very different from the behavior of the wage distribution in the remaining two sectors.

Acknowledgements

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JEL CODE: J31, D31, Q14

Labour productivity in agriculture – value known or unknown?

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Abstract

Introduction: Labour productivity has an important role in agriculture, especially in connection with the requirement to increase its competitiveness. If the productivity of agriculture is increasing, its competitiveness is also increasing. This does not mean that productivity is the only factor that affects competitiveness. Some authors suggest that labour productivity in agriculture is largely in line with labour productivity in non-agricultural sectors, and with the level of the overall economic development of the country.

Data: To quantify the time series of indicators, data provided by Eurostat, the Czech Statistical Office, FADN, Ministry of Agriculture and the Austrian "Ministerium für ein Lebenswertes Österreich" were used.

Methods: Traditional indicators, used for the measurement of labour productivity in agriculture, use the contribution of this sector to the gross domestic product on the output side, expressed as "gross value added" (GVA) or "net value added" (NVA), and on the input side "annual work unit" (AWU). Other production factor costs avoidance is possible by eliminating the costs of wages paid, costs of rent and costs of financial capital (interests paid). The final category is that of entrepreneurial income (EAA), or income from agricultural activities (FADN), but items such as received rent and interest income must be excluded as the income from these are unrelated to the production factors used.

Results: If we follow the development of labour productivity using index analysis in agriculture of the CR (GVA/AWU), we can conclude that it shows a significant positive trend. The growth of this indicator is also affected by the development of GVA and AWU, when the AWU decreased faster than increased gross value added. If we evaluate the absolute level of labour productivity measured by GVA/AWU, however, the situation is different. Labour productivity showed no significant increases in the monitored nine years (2004-2012) following the Czech accession into the EU, the annual values are on average around €9.35 million, while for example, in Austria, it is €21.45 million for the same period. It clearly shows that LP in Czech agriculture is on average of 44% of the labour productivity of Austrian agriculture.

Conclusions: Regarding Czech agriculture, from the analysis (using the current method of LP monitoring) it was clearly shown that productivity of Czech agriculture has considerable reserves. It is alarming to see the low value of the Gross value added, suggesting considerably higher cost inputs. Furthermore, according to Eurostat data, over the period of nine years following Czech accession to the EU, GVA has increased in the prices of agricultural producers by only 5% (2012/2004), and the GVA in current prices even decreased by 15% (2012/2004). The result is the low level of labour productivity in comparison to economically developed EU countries.

JEL CODE: Q12, J30

Legal Aspects of Agricultural Land in the Czech Republic

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Abstract

Introduction: The protection of land is an essential part of EU agricultural policy. Currently is underway in the most EU Member States the soil degradation that threatens their sustainable use. The General Assembly of the United Nations declared the year 2015 the International Year of soil and the December 5, 2015 the International Day of the soil. The aim of this event is to increase public awareness and the responsible national authorities about the importance of soil conservation, its sustainable management as the basis of the food system, its importance for the production of fuels and protect of essential ecosystem services upon which the biodiversity depends. The aim of this article, based on an analysis of the loss of agricultural land during the reporting period, is to determine the causes of the reduction of agricultural land and to determine whether the main cause of the seizure of agriculture is insufficient legal regulation. A partial objective will be to seek a balance between social interests of municipalities and regions in order to ensure the development of entrepreneurial activities and the ever increasing use of agricultural land for non-agricultural purposes. This issue will be investigated in relation to the legislation in the Czech Republic and the Slovak Republic in terms of agricultural land protection in these countries.

Methods: to conduct a detailed content-analysis of the legislation on protection of land, especially in public areas in relation to the agricultural policy in both countries by examining the absolute loss of agricultural land, focusing on the areas with the largest absolute decline in farmland. Statistical data are drawn from available resources Statistics and the Ministry of Agriculture. Furthermore, the qualitative research methods in the form of a structured interview, analysis of articles on the issue will be used.

Results: The protection of land that covers most socially and economically usable space, becomes a conflict of interests of different sectors. If there are different entities entitled to space, they are at the same time also entitled to the land. The key measures to protect the land must exercise the owners while maintaining the core values usable. Tenants are trying to use the land for maximum yields, land protection is followed by public standards with a range of sanctions.

Conclusion: International Year of the land gives space to think about how the state has continued to pursue a policy of land protection in the Czech Republic and change long-term building of materialistic relationship to the land, as a means to making a profit. Land is a final and non-renewable natural resource. Its protection primarily is in the interests of each country and its citizens.

JEL CODE: K11, Q18, Q24

Future viability of rural purchasing and marketing cooperatives

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Abstract

Like other companies in the agricultural upstream and downstream value-added segment, rural purchasing and marketing cooperatives are facing major challenges. Just like in agriculture, a distinct structural transformation in rural purchasing and marketing cooperatives has become apparent. This manifests in rural purchasing and marketing cooperatives with the fact that both the number of memberships and the amount of rural purchasing and marketing cooperatives has continuously declined over the past few years. Furthermore, due to the steady growth of agricultural holdings as well as competitors' growth initiatives at this stage and the associated conversion in supply and sales processes within agricultural holdings, the rural purchasing and marketing cooperatives are about to face changes. Farmers are beginning to purchase and market their means of production and goods directly from and to manufacturers and processors themselves. As a result, the agricultural sector gains market power and it is possible that the rural purchasing and marketing cooperatives will increasingly be bypassed; intermediaries may even be eliminated completely. In order to ensure that the rural purchasing and marketing cooperatives have a long term and sustainable market position as well as competitive position, they need to find ways to adapt to these changes.

This study aims to develop strategies that will help the rural purchasing and marketing cooperatives to secure their market position. Within the scope of an exploratory study in the form of guided interviews with experts, general managers of rural purchasing and marketing cooperatives will be asked about the presented topic during the survey period from May to June of 2015. The focal point of the survey will be the relationship towards the remaining members and the consistent implementation of customer relationship management. In this context, improvement of services the cooperatives already offer parallel to their merchandise business could be an option. For example, additional services like consulting and training could be offered. These services are increasingly in demand among agricultural holdings, because the government is progressively reducing its own comparable offers.

JEL CODE: Q10, Q13

Public orientated communications in the case of a food scandal

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Abstract

Over the last 15 years, European agribusiness firms, especially in the meat sector, have had to cope with various food scandals. The BSE-crisis (Bovine spongiform encephalopathy) can be seen as a key event in driving critical public attention to modern agriculture. Mass media sources contributed to this through an increase in reports on various issues. Thus, consumers gained access to information about toxins in feed and animal products. Details regarding the high administration of antibiotics in livestock were shared, as well as details pertaining to out-dated and newly-labeled meat. Frozen beef products containing horsemeat and fraud in organic labeling has also led to a decline of consumers' trust in the sector.

Many agribusiness companies have denied or have avoided allegations by not responding to media inquiries. This reaction contradicts the high transparency demand of consumers in food production, as shown in existing literature. However, studies about the potentially positive effects of open crisis communication on consumers' attitudes towards the agribusiness sector are rare.

Using a quasi-experimental approach, the attitude of German consumers towards a fictitious meat processing company's various reactions to a made-up food scandal was examined via an online survey in 2013 by presenting fabricated newspaper articles to participants (N=314). An open confession resulted in the highest positive attitude of consumers, compared with keeping quiet or denying the accusations.

Women were identified to be more trusting of companies and media sources, despite showing a higher demand for information. Differences between age groups were also evident, revealing that the youngest group (<30 years) demonstrated the highest level of distrust in companies and media sources..

Furthermore, modern society's lack of knowledge about the agribusiness sector was established. Few participants were familiar with details of the sector through either personal or second-hand experience. However, the results indicate that increased education related to the agriculture industry can raise consumer confidence.

The results establish a need for increasing public relations performance in the agribusiness sector. To counteract further damages to reputation, agribusiness companies must rethink their response to food scandals. According to our results, an open crisis communication seems to be a promising concept. Further research on these aspects is needed to develop concrete behavior recommendations for agribusiness companies.

JEL CODE: Q13

Measuring Energy Efficiency and Shadow Costs of Energy Saving in Agriculture: Application to Wheat Production

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Abstract

Introduction: In the face of human-induced climate change, increasing worldwide energy demand, and diminishing supplies of fossil fuels, the need to move toward more sustainable energy extraction and use has become one of the crucial scientific and societal issues. In the context of agriculture, attention has been predominantly paid to the production of bio-energy. Only a limited number of studies have investigated the energy demand of conventional agricultural production and possible energy savings in production inputs.

Objectives: The objectives of our study are to measure farm-level energy use efficiency and shadow cost of energy saving in conventional crop (wheat) production, and to identify technologies that reduce energy needs.

Data and methods: The analytical framework is built on a decomposition of cost and energy efficiency measures in their technical and allocative components. Comparing allocatively efficient cost and energy optima allows us to derive a measure of shadow costs of minimizing production energy use. The analysis is carried out using Data Envelopment Analysis (DEA) on 2009-cross-sectional data on wheat production from 95 farms obtained by means of a detailed survey. The DEA analysis is preceded by allocating energy coefficients to individual non-renewable inputs and quantifying total energy use in wheat production using the PLANETE methodology. The farm- and technology-specific factors affecting the efficiency scores are analyzed in a second stage using truncated regression.

Results: Results show great energy saving potential in conventional wheat production (ca. 50%) with a slightly higher share attributed to technical efficiency than allocative efficiency. Numerous farm- and technology-specific characteristics were found to have a significant impact on the energy efficiency scores. For example, farms specialized in crop production display lower energy efficiency than farms with no or a lower share of livestock production. Soil-conserving technology, timing optimality of technological operations, management of water and wind-caused soil erosion were found to have a significant positive impact on energy efficiency. Producing wheat in energy optimum would increase costs by 9% (compared to the minimum production costs). The largest potential of energy savings was found in fuel, fertilizers and other chemicals.

Conclusions: This study implies that optimizing current technologies of wheat production by, for example, investing in more fuel-efficient machinery or machinery with other energy-saving technical parameters (e. g., higher utility weight) could bring significant energy savings and thus environmental benefits. This study thus calls for measures that would increase farmers' awareness of negative energy effects of some commonly applied technological practices.

Acknowledgements

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JEL CODE: D21, D24, Q12, Q30, Q40

Rural nonprofit organizations and their functions in communities and local governance

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Abstract

Introduction: Nonprofit organizations (NPOs) have been recognized for their role in forming civil society, providing public goods and services as well as contributing to community-building. The latter two roles can be especially important for geographic areas where the market and state are more limited in providing locally-demanded public goods and services, and where communities' social cohesion has weakened as a consequence of modern developments. Rural areas represent such a case; there, activities of local NPOs such as clubs, associations, or public benefit organizations can be expected to have the potential to significantly contribute to the quality of community life and local development.

Objectives: This paper aims to illuminate the rural NPOs' functions of service providers, community-builders and local advocates, and to contribute to the understanding of the NPOs' role in local governance. Moreover, the study explores how the degree of the communities' rurality is related to the NPOs' functions and roles.

Data and method: The study uses survey data on 699 NPOs from 179 rural municipalities in Vysočina and South Moravian regions of the Czech Republic. To assess the NPOs' functions in rural communities, we used qualitative information (comparative rating scale questions and constant sum questions) from interviews with mayors. In addition, the paper investigates differences in the NPOs' functions between municipalities varying in their degree of rurality (measured by municipality size and distance to district city). Using group mean comparison tests, we analyze if any systematic differences occur between the municipality groups.

Results: The results provide an evidence of an overall positive perception of the NPOs' role for communities and local governance. Although the rural NPOs are predominantly service-oriented (mainly in areas of fire and nature protection, sports, and other leisure activities), they are greatly recognized also for their community-building function. Their advocacy function is found as significantly weaker; nevertheless, the NPOs are quite active in local governmental affairs, and their relationship to local governments is mainly cooperative. More detailed analysis shows a systematic variation among rural municipalities, where municipality size and proximity to district towns are found to matter for the NPOs' potential to serve the community and to play an active role in local governance.

Conclusions: The results imply that more remote and small municipalities that display the weakest nonprofit sector with respect to its community-building role and engagement in local governance could benefit from a support of a more active cooperation and social exchange between NPOs across municipalities.

Acknowledgements

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JEL CODE: L31, R19

Agricultural policy and law as reflected by Websites of Czech organic farmers

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Abstract

Introduction: European integration is inseparably linked to the Common Agricultural Policy (“CAP”) as well as to modern information systems and information technologies (“IS/IT”). The growth strategy Europe 2020 encourages the EU to become a smart, sustainable and inclusive place where innovation supports inclusion, even within the sphere of CAP addresses, farmers. However, what is their perspective? A sample of Czech organic farmers and their Websites were tested in 2014 and in 2015 to assess their commitment to the Agricultural policy and its legal framework.

Data: The foundation data is primary data generated by a questionnaire inquiry of a micro-sample from a homogenous pool of respondents, i.e. Czech organic farmers in 2014 and 2015. The secondary data from the current scientific literature was added, creating a dynamic data interaction between fresh primary and secondary narrowly tailored data.

Methods: The assessment of collected primary data from the micro-sample, gathered in 2014 and 2015, and secondary data was done while focusing on the reflection of agricultural policy and law by Czech organic farmers and by the form, content and use of their Websites. A battery of qualitative and quantitative strategies for the research was employed, along with Meta-Analysis processing. The evaluation was performed relying on quantitative, rather than qualitative, methods, more on induction than deduction, attempting to move to scientific objectification. The selected criteria targeted the attitude of farmers and their Websites’ content and interconnectivity, capacity to carry tasks generated by the agricultural policy and law in the light of trends described by recent literature. Hypotheses about the endorsement (H1) and ongoing improvement (H2) were tested and casuistically glossed.

Results: The result offers new insights in the unjustly underplayed arena, with a strong potential to contribute to a flourishing agribusiness. Although the semi-conclusions are yielded from a micro-sample, their homogeneity and matching with already described trends suggest that Czech organic farmers understand the CAP and IS/IT, but they remain non-committal, reluctant and doubtful. Their Websites do not champion Agricultural policies and projects reportedly targeted for them.

Conclusion: The micro-sample study of Czech organic farmers and their Websites along with the literature overview suggest their reasonable awareness about Agricultural policy and law as well as IS/IT and their low commitment to get actively engaged. A further more extensive search and studies need to be done to analyze this asymmetry and to correct it in order to enhance the efficiency of partnership operation between the EU and its farmers.

JEL CODE: M15, Q13, Q16, R11

Technological Progress in European Pork Production

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Abstract

Introduction: The paper deals with the analysis of technological progress in European pig production. In particular, the paper addresses the following research questions. The first relates to the impacts of technological change and technical efficiency. The aim is to assess whether there is indication that the countries follow a sustainable development path characterized by the development and adoption of innovation and reduced waste of resources due to inefficient input use. The second question concerns country specific development, especially whether the challenges and adjustments are systemic, or whether idiosyncratic developments occurred.

Data and methods: The research questions will be dealt with (1) estimation of country specific multiple output distance function for the pork production using the FADN database for 24 EU countries. (2) Based on the parameters the efficient output level will be calculated. These will be used in a metafrontier approach to determine the TFP level and development and the role of technological component. In order to produce coherent results, all models (the country specific models in (1) as well as the metaproduction models in (2)) will make use of the same procedure: The models are formulated as output distance functions with three outputs and five inputs. In all models it is considered explicitly that agricultural production possibilities are affected by firm heterogeneity which impacts on the level as well as on the shape of the production possibilities.

Results: The results show that technological change had a positive contribution to the production possibilities in almost all countries. Moreover, the biased rather than Hicks neutral technological change was estimated. The direction of biased technological is country specific. Efficiency differences were found to be important reasons for variation in the production. The top 10 % farmers highly exploit their production possibilities. This also holds for average farm. On the other hand, 10 % of the worst farmers waste their resources and may have problems to compete on the market. We can observe a positive trend in TFP in majority of EU member countries. Moreover, we can observe significant differences in TFP levels among EU member countries. In particular, the old member states have on average higher TFP level as compared to the new member states. Technological change was identified as the important factor of TFP development.

Conclusions: The results show that technological change has a significant positive contribution to the production possibilities in the majority of the countries and it is the important factor of TFP development as well. Moreover, technological change may play a crucial role in the productivity convergence between the old and new member states in the upcoming years.

Acknowledgements

This paper was created within the project COMPETE – “International comparisons of product supply chains in the agro-food sectors: Determinants of their competitiveness and performance on EU and international markets”. The project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under grant agreement no 312029 (www.compete-project.eu) and MSM 7E13038.

Risk management of rural municipalities as a limit of their basic self-governing functions

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Abstract

Introduction: The development of local governments is a serious issue. Its significance is reinforced by changes in the nature of governance and the functioning of modern states. In relation to the development of local communities, there are also efforts to characterize successful rural municipalities or successful rural areas. The focus of this paper is in opposite direction – municipalities that can be described as unsuccessful. These are municipalities which are characterized by relatively high debt and risk management, and to this are usually related local problems in the functioning of the local democratic process, the collapse of local government authorities, problematic municipal elections and even the unwillingness of citizens to run for office.

Data: From the municipalities in which a high risk of insolvency was identified according to monitoring of economic activities for 2011, 2012 and 2013, we selected the municipalities of Bublava, Prameny and Turovice for the comparative study. The data and information on individually-selected municipalities was acquired via a study of documents and polling. The studied documents included the budgets of the municipalities, minutes from council meetings, articles from regional newspapers, etc. Additional information was acquired from interviews with representatives of the local governments.

Methods: This paper is methodologically conceived as a comparative case study of three municipalities. The starting point was to select municipalities suitable for research. The primary sources of information used were accessible electronic databases and other public sources. This means information from Ministry of Finance CR: MONITOR. Another basis was information processed by the Ministry of Finance on the development of debts of regional budgets and monitoring of the economic activities of municipalities.

Results and Conclusion: All three municipalities (Bublava, Prameny, and Turovice) became highly indebted and must deal with the related critical financial situation due their failure to handle the investment projects. The stories of municipalities Bublava, Prameny and Turovice indicate that in the Czech Republic there is no mechanism for dealing with insolvent municipalities. The current bankruptcy law does not apply to local governments. It is hard to imagine that an insolvent municipality would not provide long-term public services, or would completely disappear. The most plausible alternative appears to be the adoption of legislative changes for insolvency of municipalities (municipalities, regions). In all of analysed municipalities, citizens and their elected governments are interested in dealing with the unfavourable economic situation of their municipalities. In Bublava the economic problems have prompted citizens to greater participation in public affairs. Enactment of insolvency proceedings would expand the possibilities for local governments to resolve their own potential adverse economic situations.

JEL CODE: H72, H74, H61, G18

Farm evaluation in the case of succession: A comparative study

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Abstract

Many countries in Central Europe promote farm succession within the family by allowing the successor to take over the farm at productive value under certain conditions. Being typically clearly below market value, the productive value should represent the future earning-capacity of the farm, so that the transition can be financed by future farm earnings. On the one hand, if the estimated productive value is too high, the successor may have to sell parts of the farm or increase liabilities or even abandon farming activities in the long-run. On the other hand, if the value is too low, the successor is unfairly privileged compared to the community of former owners, heirs and tax payers.

This paper contributes to knowledge on the determination of farm value by comparing approaches adopted in Switzerland, Germany and Austria for the cause of succession. The methods are analyzed by means of a literature review. It is shown that the concepts for the estimation of productive value differ in the countries considered and how this influences farm values. Furthermore, possible strengths and weaknesses of the methods are presented and values are compared using data from the Swiss Farm Accountancy Data Network (FADN): The productive value obtained using the Swiss method and known for a part of the farms in the accountancy network is compared with the value that would approximately be obtained using the German and Austrian approach. On average, values are highest using Switzerland's estimation method, followed by Austria and Germany. Therefore, if Switzerland were to adopt one of the methods used in its neighboring countries at the upcoming revision of its valuation manual, this would probably lead to lower farm values in most instances. However, more detailed analyses may be needed to confirm this hypothesis.

JEL CODE: Q12, Q18

Positive Disparities in Micro Regions

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Abstract

Introduction: The community led development in the Czech Republic (CR) is focused on the Local Action Groups (LAG) who are the representatives of local public and private interests on the territories of micro regions. In the CR, there are 179 MAS (in 2014) with more than 4000 member communities. According to the decision of the Ministry of Local Development the LAG should now formulate real and reasonable development strategies as a basis for development projects in the period 2014-2020. The evaluation of the quality of life and identification of both positive and negative disparities would assist the communities and the LAGs to depict their state. The general goal of the community led development is to improve the quality of life in the rural areas.

Data: The data cover the year 2013 and were released by the Czech Statistical Office in 2014. After evaluation of relevance, importance and availability on the community level 30 categories of the primary data are chosen.

Methods: The contribution proposes evaluation of the quality of life and comparison between regional subjects (communities and the LAGs) based on direct processing of primary statistical data. The aggregated indicators are calculated and used for identification of the inner disparities in two orientations: economic and environmental.

The aggregated indicators are calculated as relative numbers for each community. The results of a community are compared with the average of the LAG. Comparing the two aggregated indicators of member communities leads to differentiation of the LAGs into 4 clusters: high (low) level of both, economic qualities prevailing, environmental qualities prevailing.

Results: The LAGs with a big difference between the economic and environmental qualities should develop their weaker features, and support the inner disparities between the communities, i.e. the economic activities should not be placed in a close neighbourhood to a high quality nature environment. The result of the study is a methodological proposal of categorization of micro regions (LAGs) based on their inner disparities.

Conclusion: It is beneficiary to remove disparities in the framework of regions and countries. But it is positive to create disparities inside the micro regions, to compensate intensive economic activity with recreation areas, and on the other hand to bring in needful working places. The proposed methodology is able to determine the places where the inner disparities should be supported and the corresponding projects are apposite in the local strategic planes.

JEL CODE: O18

Predictive ability of financial health assessment in agriculture

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Abstract

Introduction: The true representation of reality is a globally recognized accounting principle. It does not mean that the accounting reflects the real situation such as in statements as a basis for assessment of financial health. There is a space for different ways to determine values depending on the choice of methods of a valuation and depreciation but also on way of a evaluation and an interpretation of results, or industry-specific conditions. The freedom of the choice of some methods gives a space for data manipulation in a way which will be beneficial for the company in the moment. Paper is devoted to the identification of risk items of financial statements in relation to a possible collision with an objective detecting and calculation.

Data: At this stage of processing the work is illustrated by data of one variant of the chosen company. At later stages of work the database Albertina gold will be used in.

Methods: The items of financial statements used for the calculation of the financial health, that may distort financial health evaluation, are designed. Later items of the specific firms, that went bankrupt or had these tendencies, are examined.

Aim: The aims in this phase is to get the results of analyses of items of the financial statements, to assess their risk due to their explanatory power and to propose a set of criteria that complement the qualitative indicators characterizing the sector.

Results: Reporting of financial data is now at risk because of the imperfect legislation. At this stage of processing issues monograph confirming the necessity of a sectional approach and a wider scope of issues beyond the assessment of financial health were processed. A few problematic areas can be found here. Main problems given by the legislation are the orientation on historical accounting, the inflation, the choice of accounting depreciation, classifying small assets, inventory valuation methods and inventory consumption, the choice of a method of calculation of the price of their stocks, or a different application of the principles of prudence and of accruals. An overview of risk items in the area of agriculture is prepared. The set of complementary criteria that characterise the sector are designed.

Conclusion: According to initial analysis, there are many factors that lead to different values in the financial statements such as legislative reasons, sector and accidentally or deliberately chosen methods of owners or management. It reduces not only the comparability between companies, but also distorts the financial situation of individual companies, which may have a negative impact on investors. It is essential to monitor these impacts and to evaluate them through standardized forms and qualitative indicators.

Acknowledgements

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JEL CODE: M41

Cooperative action for pest relief – An Austrian case study

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Abstract

Emerging from the south-eastern border of Austria, farmers are increasingly affected by the spread of the invasive western corn rootworm (*Diabrotica virgifera*). The primary habitat of *Diabrotica v.* is maize and intensive maize production facilitates a fast propagation of the pest. Maize is a main feeding crop in livestock production in Austria. High mobility of the pest and limitations in chemical and other pest control procedures have increased the ecological and economic vulnerability of maize-dominant cropping systems in the last years. Diversity in cropping patterns and landscape composition are suggested to effectively control pest pressure, limit yield losses, and maintain an economically viable production. We suggest that single-farm actions restrict the transformation ability of the current practices. Additionally, collective action is one of the new components in agri-environmental programs. According to the concept of resilient farming, we analyze a reduction of pesticide use by modelling alternative crop management systems. The latter are based on recommendations from experts and literature complemented by reports on cooperative action. We select a case study region in South-East Styria to model coordinated management of arable farming to contribute to a pest relief. A multi-farm optimization model is applied to quantify the benefits of cooperative action. Examples of cooperative action include the implementation of crop rotations at the regional scale to account for the mobility of the surveyed pest and the spatio-temporal coordination of chemical and biological crop protection measures. The benefits of restructured crop management systems are quantified by the difference of regional farm gross margins between a single-farm and regional implementation of the most defensive measures. Individual farm benefits are derived from the comparison and indicate the potential of compensation payments among the farms. Additionally, the model gives evidence on potential feed gaps resulting from crop substitution in the case study region. It is concluded that cooperative farmland management has the potential to tackle invasive pest pressures effectively. The management of pest pressure is of crucial importance in avoiding economic damage at farm and regional scales.

Acknowledgements

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JEL CODE: Q15, Q19

Behavioural drivers and the influence of transparency on food businesses compliance - the case of Berlin, Germany

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Abstract

Introduction: The food scandals of the recent past decrease consumers' trust in food safety and the food safety authorities. Offenders may capitalize the fact that information asymmetries exist along the food supply chain. The disclosure of food inspection results removes information asymmetries between buyers and sellers. Thus, transparency may be an appropriate instrument to steer business behaviour. To design effective instruments requires an understanding of which behavioural drivers will be affected. Our research targets at contributions to the understanding of the influence of transparency of food inspection results on (i) material behavioural drivers, and (ii) external and internal protective factors.

Data: We analyze the impact of Berlin's mandatory transparency system on compliance of restaurants and other food businesses. We conducted a pen-and-paper survey among food businesses in three urban districts of Berlin Pankow, Lichtenberg and Marzahn-Hellersdorf in 2014. In total, we received 186 responses.

Methods: Our dependent variable is an ordinal variable that describes three classes (degrees) of compliance that are not separated by equal differences. Because the parallel-line-assumption as prerequisite for standard ordered logistic regressions is violated we use a generalized ordered logistic regression to estimate the influence of selected behavioural drivers on compliance. This model allows the coefficients of the explanatory variables to differ between the thresholds for all variables that violate the parallel-line assumption.

Results: Our results show that among the material drivers costs dependent on compliance influence behaviour of all food businesses. The feeling of fairness of the received smiley as behavioural determinant promotes compliance among all types of businesses and thus can be seen as protective factor. The feelings of shame as protective factor affect only restaurants' compliance behaviour. For the other food businesses the support of the smiley significantly promotes compliance and thus can be evaluated as protective factors.

Conclusions: The results show that there are similarities and differences among the business types and compliance groups. We find evidence that transparency systems have the potential to steer food business behaviour in the desired direction, and thus increase food safety. Against the background of the current discussion about mandatory transparency systems and legal uncertainties in Germany, our findings give significant contributions to the effects and effectivity of such schemes.

Acknowledgements

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JEL CODE: L51, K42, K23

Model AGRO-2014 and problem discrimination of Czech food producers

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Abstract

Introduction: Czech farmers are convinced that domestic food producers are discriminated against foreign producers on Czech markets (hypothesis H). The main argument is that market prices of the Czech food products are higher than the prices of comparable food products from abroad with respect to ownership of the foreign capital. For the proof or rejection of H it was necessary to determine whether trade margins for domestic and imported food products differ.

Methods: Let us denote DP, IP, CP domestic prices (of Czech food producers), import prices (of foreign food producers) and consumer prices, respectively.

Then we define $DM_i = (CPI - DP_i) / CPI$ and $IM_i = (CPI - IP_i) / CPI$ margins on domestic and import food products, respectively, for each food commodity i where all prices DP, IP and CP exist and are comparable.

Further, we denote X_i average consumption of commodity i (per inhabitant) from the set B (consumer basket of all food products in the Czech Republic).

Then we can define food expenditure of the average Czech consumer E_1, E_2, E_3 in DP, IP and CP: $E_1 = \sum (i \in B, DP_i * X_i)$, $E_2 = \sum (i \in B, IP_i * X_i)$, $E_3 = \sum (i \in B, CPI * X_i)$.

From these relations we can compute average domestic and import margins ADM and AIM: $ADM = (E_3 - E_1) / E_3$, $AIM = (E_3 - E_2) / E_3$. If $ADM > AIM$ then H holds, if $ADM \equiv AIM$ then H is rejected. For these calculations we have used the mathematical model AGRO-2014 with the following structure: AGRICULTURE → FOOD INDUSTRY → RETAIL → HUMAN CONSUMPTION.

Data: Prices DP, IP and CP were taken from the CZSO monitoring. CP cover a relatively wide range of products without 15% VAT. DP was calculated as a percentage of revenue sales to volume sales. For fresh fruit, vegetables and potatoes were used agricultural producer prices. IC data were derived from the Custom Tariffs and calculated as the share of import values to import volumes.

Results: Expenditures E_1, E_2 and E_3 and margins ADM and AIM were calculated for such food groups for which there exist all prices DP, IP and CP. For such „market basket“ there were calculated total „fictitious“ expenditures in food producer prices, import prices and consumer prices. From the model calculations we have obtained results $ADM = 35.5\%$ and $AIM = 34.9\%$. We have assessed this result as $ADM \equiv AIM$ and therefore we have rejected hypothesis H.

Conclusions: The obtained results show that trade margins for the Czech and imported food products do not differ significantly. This proves that the access to the Czech market for the Czech and foreign producers is similar so that no discrimination of the Czech food producers exists from the side of food chains.

JEL CODE: Q18, Q15, Q51, C02, C31, C61

Leadership Styles in Agricultural Holdings

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Abstract

The leadership abilities of a manager significantly impact employee satisfaction and thus indirectly the success of a company, because such skills can strongly affect the motivation and performance of employees. In general, there is a multitude of literature available on leadership styles and techniques. With regard to the agricultural sector, however, only few studies have been performed on this topic. Thanks to continuous and ongoing structural transformations in agriculture together with the associated increase in operating units, the number of external workers has steadily risen in recent years. This results in higher demands on the overall management of staff, particularly on the manager's leadership style.

The target of this study is therefore to ascertain and analyze empirical findings on the leadership styles practiced in agriculture. To clarify the question, a written online survey was carried out in January of 2015, for which 2,600 farm managers all over Germany were contacted. Overall, 364 managers answered the questions, representing a response rate of 14%. Existing evaluations of the statistical result suggest that based on the findings, in agriculture, no unambiguous leadership style can be derived. However, a tendency towards a combination of different leadership styles is visible. Further evaluation examines the context in which the practiced leadership style relates to the legal form of the company, the company size, operating form and manager's age, and subsequently the derived recommendation as to which leadership style seems most appropriate in a particular constellation.

JEL CODE: Q10, Q12

Development of Less Favoured Areas in Georgia

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Abstract

In the debate on development theory in recent years a “neoliberal” concept of development and growth has gained acceptance. Welfare-enhancing, world-market integration is seen as the appropriate way for the economic development of developing countries. Related to this, the prevailing opinion is that supports for organisation, structures and activities in industrialised countries should also be adopted and implemented in the agricultural sector of developing countries in order to stimulate positive development. Logically, the EU, FAO and other international organisations support projects through national and international development funds.

This paper discusses the chances of success of adapting the EU LFA scheme to improve competitiveness, based on the example of a project in Georgia in the years 2014/2015, “Consulting services on Less Favourable Area Development”, as part of the broader FAO project “Capacity Development of the Ministry of Agriculture”. The starting point was to analyse the LFA policies in the EU Member States and CEECs. The definition of appropriate LFA areas and the introduction of LFA direct payments were identified as the central challenges for the project, which was carried out by a consortium of three Austrian institutions (the Federal Institute for Less Favoured and Mountainous Areas, the Federal Institute of Agricultural Economics and Agrarmarkt Austria). It comprised a submission phase, a preparation phase, two missions to Georgia, two workshops, numerous interviews, a field trip to one of the mountain areas and four written reports including recommendations for further action to implement policies for LFAs in Georgia. Not surprisingly, the results show that the administrative, technical and financial conditions for an LFA policy implementation similar to those in the EU are currently lacking in Georgia. A workable solution might be to implement LFA policies initially in pilot regions in Georgia and evaluate the results as a next step.

The conclusions of this paper concern the criteria for the success of this project for the development of agriculturally disadvantaged rural areas and recommendations for greater efficiency as well as the usefulness of the underlying global development concepts.

JEL CODE: O18, Q18

Subsidies and Technical Efficiency of Large-Scale Farms in Poland

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Abstract

Efficiency is one of the terms most frequently used to characterize the functioning of the organization. It can be considered that effective organization is the one that achieves its objectives. The efficiency of companies/farms is examined in different ways rated in one of the three groups of methods: classical (eg. financial ratios), parametric (eg. econometric models) or non-parametric (eg. the envelope data).

Analysis of technical efficiency as derivative financial support, reasonably expended in developing large-scale farms, is justified. Farm's development is reflected in the structure of assets. When we invest in newer technologies, machines or increase the agricultural area, we enlarge the production capacity of farm.

Objective: analysis of the relationship between subsidization of large-scale farms and their technical efficiency.

Research includes the following tasks:

1. Identification of the factors that determine the technical efficiency of farms;
2. Comparison of the results obtained by using a parametric method and non-parametric method.

Hypothesis: the impact of subsidies on the technical efficiency of large-scale farms is uncertain/inconsistent.

Author performed research of 78 farms each year (panel data 2007-2011). She estimated technical efficiency indicators by using Stochastic Frontier Analysis and Data Envelopment Analysis. Parametric method was supplemented to non-parametric approach. Then it was made an analysis of a set of determinants of technical efficiency by using panel models (fixed and random effect models).

The impact of the subsidy is uncertain. We can find examples of both positive and negative aspects of their impacts. Subsidies can contribute to an improvement of technical efficiency farm, if a farmer will spend the money on innovation and new technologies. Author found set of other determinants that had an impact on technical efficiency indicators. The set consisted of financial indicators, production indicators, a soil valuation indicator or a location of farms.

JEL CODE: Q15, Q18, Q24, C5, C23, C33, F15

Economic effects of site-related strategies to reduce the concentrate input of organic dairy cattle farms in Austria

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Abstract

The ending of the European state-run milk quota system this year leads to big uncertainties for the dairy cattle farmers concerning the development of the milk price. An economically worthwhile acting is becoming more and more essential for balancing out a volatile milk price. One of the most influenceable factors is a site-related and optimized input of the feeding stuff whereas grazing as the cheapest source of nutrients for dairy cows should be the basis. Especially organic farms aim a management near to nature including a maximized forage intake and a minimization of the external feeding stuff.

The effects of implementing site-adapted strategies (e.g. management of grazing, fertilization, forage preservation, feeding level etc.) to reduce the concentrate input were analyzed in a 3-year participatory on farm research project (2009-2012) with 10 organic dairy farms located in Salzburg and Upper Austria. Because of the differences regarding herd and cost structure, technological infrastructure and site conditions every farm was individually supervised.

All project farmers collected production and economic data according to the methodology of the Austrian organic dairy cattle working group. The participating farmers were given no rigid guidelines regarding the speed and intensity of implementing their strategies.

During the project period the average calculated milk yield from forage increased to 5,386 kg per cow and year (+ 380 kg). On average the milk yield per cow and year increased from 6,383 kg (year 2009) to 6,711 kg (year 2012) and the earnings of milk grew up to 44 Cent per kg of milk. That led to a plus of milk proceeds of 12 % (year 2012: € 2,741 per cow and year). The concentrate input decreased by 11 % per kg of milk and by 5 % per cow and year and brought a clear cost reduction (- 9 % per cow and - 12 % per kg of milk). The average marginal income rose from € 1,736 to € 1,882 per cow and year (+ 8 %) and from 26.4 Cent to 27.7 Cent per kg produced milk.

The economic results of the project demonstrate that site-related strategies of the feeding management including an increase of the basal feeding and a concurrent reduction of purchased feeding stuff could lead to a positive effect on cost effectiveness. Especially for organic farming this could be a chance to improve their competitiveness because of the higher prices of organic concentrates.

JEL CODE: Q 110

Rural initiative development – the example of “Altreier Kaffee” in South Tyrol

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Abstract

In 1999, the regional agricultural production and marketing initiative “Altreier Kaffee” was started as a rural development effort to valorize old local cultural practices of preparing and consuming a coffee surrogate from an old variety of lupin. The overall goal of this study is (i) to analyze the development and selected socio-cultural aspects of the initiative for the period from 1999 to 2014 and (ii) to discuss the findings in the light of paradigms of endogenous and neo-endogenous regional development and of social network analysis. In the focus of the analysis of socio-cultural aspects are the character of important stimuli for the course of the development of the initiative and the role of the regional identity for product marketing and the local population.

In the period between November 2013 and May 2014, qualitative interviews with 11 of the 12 central actors of the development of the initiative were carried out, whereas those actors were considered to be central who introduced important stimuli to the initiative – either bottom-up, top down or from an intermediate level (e. g. from a non-governmental organization). Data analysis combined a qualitative content analysis of the transcripts of the interviews with a quantitative social network analysis of the social structural development of the initiative.

On basis of the analysis of the importance and interaction of bottom-up, intermediate and top-down stimuli directing the course of the initiative, four distinct stages of its development are identified and discussed. Furthermore, basic components of the regional identity of the actors and interactions of regional identity with the development of the production- and marketing initiative are presented. Finally, the development of the initiative is discussed on basis of the paradigms of endogenous and neo-endogenous rural development.

In the last 15 years, the regional production and marketing initiative „Altreier Kaffee“ has productively developed vertically into the agricultural sector and horizontally into the tourism sector. The initiative is especially successful from a cultural perspective by reinforcing old cultural practices of planting and processing a unique local species of lupin and valorizing these practices in product- and market innovations. Another cultural success is the extension of the social network of the initiative over the language-cultural border from South Tyrol to the neighbouring province of Trentino. Furthermore, as a feedback of the use of elements of regional identity for product marketing, important cultural effects of the initiative can be identified in a strengthening of positive elements of regional identity in the local population and in improvements of the image of the region in a wider territorial range.

JEL CODE: O18, Q01, Q13, Z10

Provision of public goods in Czech agriculture

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Abstract

Introduction: Agriculture plays an important role in the provision of a wide range of public goods, such as farmland biodiversity, water quality and availability, soil functionality, air quality, climate stability, resilience to flooding, agricultural landscape, social, economic and cultural viability of rural society, farm animal welfare and food security. This provision of public goods is generally accepted as a justification for public intervention in a market economy. Ever since the reform in 1985, Common Agricultural Policy has been targeted to enhance the provision of public goods. A recent CAP reform introduced the Green Direct Payment – a new policy instrument in Pillar 1 – which remunerates farmers for the provision of environmental public goods. However, there are also instruments in Pillar II that support the provision of environmental goods, including social public goods. The paper addresses these issues and focuses on public goods provided by Czech agriculture. The research question is focused on the possibility of economically valuating all these goods together using one valuation method. The research questions are answered by designating public goods in agriculture and specifying the most used method of their valuation.

Data: Necessary data are gathered through literature survey.

Methods: A precise literature survey is conducted, previous studies and scientific publications are compared, and the results of ecological, biological and economic research are linked.

Results: In the paper, ten public goods that are unequivocally connected with agricultural activities were defined. From the available scientific papers and publications, the most frequently used evaluation methods of defined public goods and services are determined. It was found that the most frequently used valuation technique is contingent valuation.

Conclusion: The final state of art will be used as a basis for calculating a level of subsidy that covers the production of agricultural public goods.

JEL CODE: H41, Q51, Q10

Risks in Austrian agriculture: findings from expert surveys and from a literature review

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Abstract

Risk is a fundamental element in the agricultural sector. According to the literature three particular developments have gained importance in this context within the last few years: the impact of climate change, relatively high price volatilities and a changing agricultural-policy framework. This changing risk environment leads to an adaptation of farmers' risk management strategies. Several studies analysed the farmers' risk perception and their applied strategies in order to manage various risks. Furthermore, some studies indicate distortions between the subjective risk perception of farmers and experts' risks assessment. However, there is a close relation between the risk perception of farmers, their risk behavior and, consequently, their choice of risk management strategies.

The literature on the perception of risks in agriculture and on relevant risk management instruments applied in Austria is rather limited. The Austrian Rural Development Programme (2014-2020) ascertained the need to raise awareness and the level of information of farmers on risk management. Because of the dominance of family farms in Austria with a high share of both (unpaid) family farm labour and equity capital, the relevance of risks and risk management instruments in agriculture may be different compared to other countries in the EU. The objective of the presentation is to compare empirical findings of the literature with the results of expert surveys conducted in Austria in 2014/15. Based on findings from the literature and data analyses, we illustrate the importance, extent and causes of different risks in agriculture. In order to establish advisory information on risks and risk management options in Austrian agriculture, expert surveys are one means to identify information needs on certain risk management issues. The qualitative survey among experts from different agricultural consultancy and extension services and other institutions in Austria considers various farm branches and focuses on the perception of current and future risks, the application of respective risk management instruments, and perceived strengths and weaknesses of the applied instruments. The presentation aims at contributing to a broader picture of the relevance of various risks in Austria and hence, to the understanding of farmers' behaviour and strategies. Additionally, further research needs could be derived by consolidating the results of the expert survey with findings from other surveys and studies.

JEL CODE: Q10, Q12, D81

Balance sheets as empirical base of agricultural policy design – The need for detailed analysis

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Abstract

Low ratios of self-sufficiency in balance sheets are often taken as indicators for low competitiveness of agriculture. This again is often taken as rationale for support and a need for re-structuring of agricultural production. Straightforward as such a conclusion might seem at first sight, a closer look might change it. A more detailed analysis of trade data according to the level of processing of traded goods can show that it is not agriculture as such but the processing industry that is required to re-structure and improve its performance. Different processing stages in balances will show the different self-sufficiency ratios and this will show more exactly the stage on which there is more need for support and/or re-structuring. This paper shows for the example of Kosovo that at least two-stage, in some cases three-stage balance sheets are needed to provide an empirical basis for appropriate policy and business conclusions. These stages will have to follow the level of processing of the respective products. The paper exemplifies this for various crop products, as well as for a selection of animals and animal products. In Kosovo the agriculture sector contributes 12% to the total GDP and taking into consideration that 60% of Kosovo population lives in rural areas agriculture is seen as important sector for economic development. The main crops cultivated are cereals (wheat and maize). In the category of fruit are apples, grapes and plums and in the category of vegetables the most important products are pepper, potatoes, beans and onions. The livestock sector is also seen as an important. Following livestock categories the highest share is covered by cattle followed by sheep and goats. The analysis conducted in this paper is based on elemental trade codes (8-digit) for all agricultural trade chapters. Furthermore, the results are discussed in a cursory way in the context of other information from individual sectors. This allows for deliberative and more appropriate policy options.

JEL CODE: Q1, F1

Decomposition of production costs of crop, forage and livestock production in Austria

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Abstract

In most agricultural models production costs are an important element. Marginal costs of production usually are not observed directly but have to be derived from observed data. Some models estimate them directly assuming specific technologies and functional forms. Others such as LP or PMP models use average production costs which are frequently based on gross margins data sets used in extension services.

Because model results are sensitive to the underlying assumptions, it is crucial to use data of adequate quality and differentiation to facilitate the identification of meaningful model results. The objectives of the presentation are to present the current state of knowledge of production costs of agriculture in Austria and to demonstrate improvements. This is done in three steps; (a) by identifying existing sources and databases of cost-related data of the Austrian agricultural sector; (b) by presenting an approach for a differentiated cost data set which reflects heterogeneous production conditions in Austria, and (c) by demonstrating selected applications using the presented cost data set.

We develop such a cost data set for a wide range of agricultural activities in Austria including gross crops (cash crops, feed), forage (silage, hay, grazing) and livestock products (milk, beef, pork, poultry, wool, eggs, and breeding animals). Various farm types (conventional, organic), farm sizes, land types (cropland, pasture), and tillage systems (standard, reduced, minimum tillage) are accounted for as well. The baseline cost data set is established for a reference period. In order to capture cost development over time, indices of various cost components such as fuel, fertilizer, veterinary services and repair are developed. Various ways to use the data will be discussed in the presentation. The scope of applications spans from their use in quantitative models to analyses of profit volatility and risk.

Acknowledgements

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JEL CODE: Q10, Q12, Q13, Q18

Reversion from organic to conventional agriculture in Germany: An event history analysis

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Abstract

Organic farming has become increasingly important in the last decades and the total number of organic farms shows a positive trend. Recent studies, however, find that there is an underlying counter-trend: farms leave the organic sector and revert to conventional methods. We contribute to this new literature by applying event history analysis in order to examine reversion patterns for Germany for the first time. While looking at newly converted farms between 1999 and 2003 and tracking them over a period of seven years until 2010 we want to answer the questions: Which farms were reverted to conventional agriculture and when did the reversion happen?

Analyses are carried out by using discrete-time event history analysis, which is based on life tables and logit-estimations. The data source is a panel data set that consists of the data of the agricultural censuses 1999 and 2010 as well as farm structure surveys 2003, 2005 and 2007.

In a first step we use a life table to describe the reversion behaviour of the considered organic farms. Results show that 30 percent of the farms returned to conventional agriculture until 2010. Most of the reversions took place between 2003 and 2005 and, thus, shortly after the farms had become organic.

In a second step we analyse whether reversion probabilities differ systematically for different farm types by estimating a fitted discrete-time hazard model with several predictors. We find that a statistically significant higher risk of reversion is associated with part-time farms as well as with a higher number of fattening pigs and poultry on the farm. A statistically significant negative effect on the reversion probability is associated with the degree of conversion, the farm's productivity, the share of vegetable area and the number of dairy and suckler cows on the farm as well as with the average household income in the district.

The sustainability strategy of the German government targets to reach a share of 20 percent organic area on the total agricultural area in the medium term. Measures in order to prevent organic farmers from reverting to conventional methods could contribute to achieve this goal. As our study reveals highest reversion rates in the first period, offering an extended advisory service both before and during conversion as well as continuous support after conversion (such as integration into existing market structures) in order to help farmers to cope better with the challenges of the new production method could be one means to reduce reversions. Particular support for part-time farms and farms with pigs or poultry, which face above-average reversion rates, might contribute to the growth of the organic sector, too.

JEL CODE: Q12, C41

Farmers' understanding of animal welfare: Evidence from an empirical study

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Abstract

In recent years, the issue of animal welfare has received increasing attention from media, politicians and the wider public. Western European consumers are increasingly averse to intensive livestock farming and ethical aspects of meat production have gained in importance. Various surveys estimate a considerable sales potential for products that fulfil higher animal welfare standards. 20 to 30 % of consumers in Western Europe show willingness to pay for these products. However, with few exceptions, animal welfare programs have not attained any importance in the European meat market. Explanations of the limited success in the market can be sought on the demand side. In addition, the acceptance of producers, namely farmers, is crucial for the successful implementation of animal welfare programs. This acceptance depends, among other aspects, on the farmers' understanding of animal welfare. So far, there is hardly any empirical data on farmers' understanding of animal welfare. Therefore, a standardized online survey with 902 farmers from Germany has been executed in summer 2014. The understanding of animal welfare of the farmers surveyed is evaluated in a two-step process. First, the answers of an open question concerning important aspects of animal welfare are interpreted using qualitative content analysis. In a second step, a quantitative evaluation of a closed question is conducted. These evaluations are undertaken for the whole sample and for sub-groups. Thus, the animal welfare understanding of conventional and organic farmers is compared.

The results show that the farmers have a differentiated understanding of animal welfare. They include aspects such as husbandry system, management practice, animal health, animal behavior and animal performance in their animal welfare understanding. These categories are attributed different degrees of importance. Furthermore, while conventional farmers mainly include indirect animal welfare aspects such as husbandry system and management practice in their understanding of animal welfare, the organic farmers additionally consider appropriate animal behavior as an important indicator. The results show important aspects of a topical field of research. The study can help to establish animal welfare programs that are well adapted to different farm types. Additionally, politicians can use the results for developing applicable support schemes for different farm types.

JEL CODE: Q12, Q15, Q18, Q19

Food availability on the Czech market for specific groups of customers and the quality of life

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Abstract

Background: The health of each individual depends on the range of determinants associated with both biological (genetic) and social factors. General determinants which through their impact define and significantly affect the quality of life of a specific group of customers - consumers with diabetes mellitus and consumers with gluten intolerance are as follows:

- Biological and genetic predispositions
- Healthcare system
- Lifestyle including diet
- Influence of the environment

Consumers themselves can affect their lifestyle and particularly their dietary choices in the decision-making process when buying food.

Aims: In terms of the content of the presented article, the determinants concerning the diet, particularly compliance to the diet while suffering from diabetes mellitus and being on a gluten-free diet, are very significant. They can lead to improvements in the quality of life, as well as to a better position in a working team and in social life. Therefore, the aim of this article is to answer the question: "Is there a sufficient offer and availability of food on the market in the Czech Republic for selected groups of consumers with certain health limitations to meet their specific needs?"

Methods: This issue is addressed on the basis of a questionnaire survey in selected operational units in retail and hospitality. The results are analysed, evaluated and compared in terms of availability, supply and prices.

Results: Compliance to the diet represents the purchase of suitable food whose availability in the market is very uneven and in some operational units of retail or hospitality industries this assortment is not available or is attributed to bioproducts and healthy diet supplements.

Conclusions: The current state of the offer including the prices of the investigated assortment is not sufficient. Conclusions and recommendations are part of the solution of three projects and their researchers deserve thanks.

Acknowledgements

The results arose from projects within IGA PEF Life Sciences in Prague:

20111210060 "Developments of food consumer basket for consumers with diabetes mellitus",

20121027 "A survey of suitable food supply for customers with gluten intolerance in retail" and

20141033 "Availability catering for celiacs (gluten free diet) at the premises of catering services in the Czech Republic and their social responsibility towards the monitored group of consumers".

A general appraisal of entrepreneurship and the role of training for rural women in Peru, with case study in Cañete: Condoray and the rural promoters

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Abstract

Introduction: Improving the quality of human resources ranging from women's role in providing education to their children to how women can take care of the economic system in the family reflect female empowerment. "Condoray", a professional training centre that has been working since 1963, was chosen for the analysis. This institution is devoted to promote integrity of more than 1,800 rural women through education and improving their technical and productive formation. The goal of the Condoray program is to consolidate a sustainable economic development for rural families in Cañete. The cornerstone of Condoray's approach are rural promoters. A rural promoter or community development agent is a woman leader who pushes other women to pursue familiar, educational and social improvements in their respective villages. For this purpose, it is important that these rural promoters must develop empowerment in order to inspire other community women to become more autonomous and self-reliant. Therefore, the objective of this paper is to gain a better understanding of the relationships between rural promoters'empowerment indicators and the underlying factors that compose them.

Data and Method: Based on primary data generated from rural promoters (ages between 36 and 60 years old), a survey was developed and administered to a sample of 31 female rural promoters in February 2015 in Cañete province-Lima region, which is a main based agricultural production area. M: A Principal Component Analysis (PCA) was used as a variable reduction procedure to summarize these rural promoters'underlying perceptions towards empowerment through small components.

Results: Three main pathway matrixes of women empowerment were assessed through the collected primary data. These are: Material, relational and perceptual. The material pathway matrix to rural promoters empowerment encapsulates both measureable and non-measureable material elements, possession and/or ownership of which are deemed necessary in the determination of whether a woman is empowered or otherwise. The relational pathway matrix describes the relationship and interaction between women and other members of their household and community. Finally, the perceptual pathway matrix of rural promoter empowerment is based on a woman's own rough assessment of their status in the household, family and community. We acknowledge that these empowerment indicators resulted from this study might not fully capture the phenomenon of women empowerment as a whole. Nevertheless, this research suggests that these indicators fairly approximate the concept of women empowerment in the study of an institution as Condoray.

Conclusion: Training and education are powerful tool to contribute to the development of a rural area as Cañete. Studying these rural promoters reveals that the empowerment these rural promoters have after receiving training and education provided by Condoray is indispensable for the improvement of these women´s knowledge, their family members and their own communities. It is highly recommended to strengthen the rural promoters´ expertise in handicrafts and hand made products using Cañete agricultural resources; reinforce pedagogy issues, and finally, technology/computers usage to improve their skills, in order to disseminate new issues in the rural communities of Cañete province.

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JEL CODE: I25, J16

Wine quality in different organizational forms: Why do cooperatives often perform worse?

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Abstract

In Germany, both the number of wine cooperatives and their aggregate turnover have decreased in the past 20 years. According to the industry magazine *Weinwirtschaft*, wine cooperatives have lost nearly 100 square kilometers of acreage and around 20 percent of the market share within the same period. Pilz (2014) stresses the fact that the acreage did not fall away, but is cultivated apart from the cooperatives. In his opinion, the often low payments for grapes are the main reason. Moreover, he describes the competitive environment as strong because cooperative wines are often placed in the middle price segment.

In the literature, it is hypothesized that product quality especially depends on the organizational form. Numerous empirical findings indicate that this can also be the case in the wine industry. These findings suggest that the quality of cooperative wines is often bounded from above. Dilger (2005) formulates three hypotheses by distinguishing owner-managed wineries, manager-operated wineries and wine cooperatives:

1. Compared to an owner, an employed manager will choose a higher quality and a lower quantity. He will obtain a higher price.
2. Compared to an owner, a wine cooperative will choose a lower quality and a higher quantity. It will obtain a lower price.

In his empirical study, the hypotheses are supported. Frick (2004) also finds empirical evidence for both hypotheses. For Austria, the empirical results are similar (Pennerstorfer and Weiss, 2013). Dilger (2005) presumes a negative quality incentive in wine cooperatives because the winegrowers are paid according to the delivered amount of grapes as long as they meet a minimum quality. As a result, the single winegrower has no incentive to increase quality.

Algnier et al. (2007) criticize these studies in two points: the assumption that winegrowers in cooperatives are paid according to the grape quantity and the conclusion itself. They doubt that winegrowers are paid for the delivered quantities. Besides, they criticize that the conclusion is an assertion rather than a logical deduction. Indeed, a corresponding model with elements of structure, conduct and performance of the markets and organizations is missing. All authors do not provide any detailed description or clear-cut differentiation of the organizational forms they are dealing with.

In view of the uniform empirical results and the absence of a theoretical model, we develop a theoretical model using methods from (new) institutional economics in order to explain the negative effect of wine cooperatives on wine quality. We elaborate the various structures and show the corresponding decision problems.

JEL CODE: C7, D2, L2, M2, Q1

Do Negative Headlines Really Undermine the Credibility of a Quality Label? A Quasi-Natural Experiment

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Abstract

In 2013, Stiftung Warentest tested hazelnut chocolate for the December issue of their leading magazine, called Test. Stiftung Warentest is one of the most important consumer organizations in Germany. Ritter Sport is a high-quality producer of chocolate. Their hazelnut chocolate did not pass the test. It was given the grade of unsatisfactory. Stiftung Warentest accused Ritter Sport of labelling an artificial flavouring as a natural flavouring. Ritter Sport rejected the accusation. They went to court and won. Stiftung Warentest had to withdraw the issue in question of Test magazine. This affair was all over the media in January of 2014. Stiftung Warentest and their quality label, also called Test, made negative headlines.

Using the Ritter Sport versus Stiftung Warentest case, we analyse whether negative headlines really undermine the credibility of a quality label. We examine what can be done to restore or, more generally, increase the credibility of a quality label.

Based on a quasi-natural experiment, we find that the negative headlines on Stiftung Warentest have undermined the credibility of the Test label. The negative headlines on Stiftung Warentest represent negative information in the sense of the theory of source credibility. We also find that the credibility of the Test label can be increased by providing reference values to the tests, strengthening the independence of Stiftung Warentest, and using laboratory methods in the tests. These findings are in line with general findings.

For any quality label, we find that the independence of an awarding organization is essential for trusting in the credibility of a quality label. The same holds true for methodological transparency and laboratory methods. Independence and laboratory methods are found to be essential for the credibility for both the Test label and any quality label. We also find for any quality label that the credibility is determined by two main sources: hard facts concerning the awarding organization and the label (independence, transparency, laboratory, and actuality) and the presence of the label (active presence, passive presence, and presence on the packaging of many products). The importance of the presence of a label is not substantially smaller than the hard facts. Hard facts can be controlled by awarding organizations. The presence of a label cannot be completely controlled by awarding organizations. However, a label can be advertised.

This is good news for awarding organizations and high-quality producers. Awarding organizations should care about their hard facts. They should advertise their quality labels if their labels were seldom used. High-quality producers should use these labels on the packaging of their products. From that, quality-conscious consumers would gain.

JEL CODE: D8, L1, M3

Cost and profitability of sugar beet in production conditions

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Abstract

Introduction: Sugar beet grown in conditions of temperate zone is the only crop which is aimed at production of sugar. The reform of SOT in the EU countries was banned for the years 2006/2007 till 2014/2015 by the act number 318/2006, 319/2006 and 320/2006 in 2006/2007. The main aim of the reform is to reach the same conditions on the sugar market within the EU by the decrease of the total production of sugar in the EU. Because of the reform, the production areas of sugar beet in Slovakia decreased from 35 123 ha in 1989/1990 to 20 000 in 2013/2014. The main aim of the article is to analyze the changes of production and economic indicators after the adoption of the SOT reform in sugar production in the agricultural enterprise TAPOS, Ltd.

Data: We used the seven-year results based on cultivation areas, ha yields costs and revenues of sugar beet cultivation in production conditions to analyze the changes of production and economic indicators. Within seven years, the cultivation area of sugar beet in the agricultural enterprise TAPOS reached 111.46 ha, the production of sugar beets reached 55.20 t.ha⁻¹, the costs reached 113 460 €. The sales were 189 970 € and revenues were 259 152 €. The profit was 80 783 €.

Methods: Costs and revenues of sugar beet production in the conventional system of cultivation were observed in the operational conditions from 2007/2008 to 2012/2013 on the black earth of the enterprise TAPOS Ltd. Direct costs and costs were the object of the research. Total costs, sales, revenues and profits were calculated for 1 ha and 1 ton. Efficiency of sugar beet production is expressed by gross profit margin. Inputs and outputs of sugar beet cultivation of the agricultural enterprise TAPOS were used to calculate the costs and revenues. Calculation of final costs and revenues was done by the company Codex Software System. The selected indicators were statistically processed. The polymeric model was used to analyze the costs per 1 ha till 2009 (before the crisis) and from 2009 (after the crisis).

Results: Production potential of the agricultural enterprise TAPOS influenced by soil and climatic factors determines the production of sugar beet. The yield of the sugar beet within the observed period had high gross profit margin 30.05 t.ha⁻¹ in 2001/2012 and 73.11 t.ha⁻¹, in 2010/2011 costs per 1 ha fluctuated from 1247 €.ha⁻¹ in 2009 with maximum 1823 €.ha⁻¹ in 2011.

The equation is: $y = 1995.4 - 320.9 \times t1.25.3.t2 + 673.9 \times D$

Also other economic indicators were evaluated, e.g. sales for 1 ha, revenues for 1 ha, subsidies for 1 ha, yield for 1 ha and profit for 1 ha.

Conclusion: The seven-year analysis is aimed at changes after the SOT reform influenced by the crisis, cultivation areas and costs and revenues. Sugar beet in the given soil and climatic conditions is an effective crop. Gross profit margin of costs without subsidies has got positive values except for the year 2012 (-24.7%) and gross profit margin of costs with subsidies has got also positive values from +9.25 % (2012) to +61.1 % in 2011.

JEL CODE: Q1, Q14

Deterministic Decision Making in Agricultural Production

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Abstract

Introduction: The aggregation of weights in multiple criteria problems is a critical stage of the whole agricultural decision making process. In some decision situations the use of subjective preferences is either difficult or undesirable. This paper proposes a method for the determination of objective weights which is based on the design of experiments (response surface model) and the congruence theory of competence between the means of production and its operator.

Data: Data was provided by the Institute of Agricultural Economics and Information that is an expert in economics institute, food and agriculture. The practical experiment was conducted on Rauch fertilizer spreader Axis.

Methods: In the characterization of experiment, we interested in determining which process variables affect the response (variability in the concentration of industrial fertilizer). For this purpose we used response surface methodology, that is a collection of mathematical techniques for modeling and analysis of problem in which a response of interest is influenced by several variables and the objective is to optimize this response. And further, an equation modeling-based latent congruence model (LCM) was developed for determination of objective weights in agricultural area.

Results: The results of the paper are following: (1) to identify the key industrial fertilization parameters (rotation of the disc, the disc height from the ground, the angle of the fertilization disc) which influence the uniformity of fertilization; (2) to identify the process parameters which influence the variability in the fertilization quality; (3) to determine the optimal settings of the fertilization process parameters which can meet the objectives (1) and (2); (3) to use congruence theory for: subsequent objectification of weights in multiple criteria problems for fertilization process operator's competence..

Conclusion: The purpose of this paper is to use the application of the DOE to the fertilization doing process. The objectives of the experiment in this study were three-fold. The first objective was to identify the critical fertilization doing process parameters which influence the response quality of fertilization (uniformity of fertilization). The second objective is to identify the process parameters that affect the variability in the response. Third objective is to use congruence theory for objectification of weights of competence for operator fertilization process.

JEL CODE: M11, Q16

Rural Community Schools in the Czech Republic and their Activities in Context of Rural Development

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Abstract

Introduction: The paper is focused on the specific activities of Rural Community Schools promoting rural development through various forms of education (in the broadest sense). Rural Community Schools are relatively new phenomenon in the Czech Republic – they have been established since 2005 and mainly since 2010. So, the question is if Rural Community Schools are now firmly rooted within other organisations promoting rural development and which are their key activities. The main aim of the paper is to evaluate various activities of Rural Community Schools in context of rural development, create typology of these activities and mainly answer the research question: whether and to what extent are these activities in accordance with concept of community-led rural development. Attention is also paid on regional perspectives of these activities.

Data: From the general perspective the paper is based on concepts of local endogenous development and community education. Particularly are above mentioned concepts applied on settlements in rural areas and to the concept of community-led rural development which links both of above mentioned concepts.

Methods: The paper consists of the first results of sociological research, which combine techniques of document study and questioning – particular semi-standardized interviews. The semi-standardized interviews were conducted with the main actors (Community Coordinators) of chosen Rural Community Schools in the Czech Republic.

Results: The first results of the sociological research have mainly qualitative character and there is possible to find out three basic types of activities of Rural Community Schools in the Czech Republic – the first are activities focused on the personal growth of participants, the second are activities to increase opportunities on the labour market and the third are activities with the mission of promoting active citizenship. Mainly the third type seems to be most important in context of rural development, but it is still represented least within the Rural Community Schools Activities.

Conclusion: It is possible to conclude that Rural Community School activities are only partly in accordance with the concept of community-led rural development. Activities have a higher significance for community-led rural development where Rural Community Schools were established based on the enthusiasm of a local Community Coordinator using a “bottom-up” approach. Despite the potential which community education has for rural development, Rural Community Schools in the Czech Republic are still on the fringes of the attention of community-led rural development.

JEL CODE: R580, I250

Corn and soy in Russia: the latest fad or a new cash cow?

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Abstract

Introduction: Statistical data shows a considerable development of corn and soy production in Russia: from 2000 to 2013 the acreage of these two crops was increasing by 10.2% per year. One of the highest growth rates, alongside with a significant share in the national output, can be found in the Central Black Soil Region. The question arises whether this change is a temporary occurrence or whether a fundamental shift in cropping patterns is to be expected. To answer this question possible reasons of such a shift in the production pattern have been investigated.

Data: To collect the data a survey was conducted among farmers in the Voronezh region, which is one of the key regions in terms of production of the Central Black Soil Region.

Methods: Because the data to be gathered is delicate (cost, revenue, existence of sufficient infrastructure and etc.) in-depth face-to-face interviews with 15 farmers have been conducted, which have been selected from a list of 89 corn and/or soybean growers. The total acreage of participating farmers is 391 thousand hectares, which represents 15% of the total regional acreage. Only those farmers growing corn and/or soybeans for three years or more have been interviewed to exclude farmers who rather test these crops and have not adjusted the production system yet.

Results: The CBSR is a new hotspot for corn and soybean production. Findings revealed that corn and soy acreage expansion are rooted to economic reasons. Neither administrative levers nor subsidies promote the growing of corn and soybeans. The cost for corn is greater than for winter wheat that puts additional pressure on the financial situation of farmers and in the event of crop failure it would lead to higher losses. It requires farmers to manage risks more carefully. One reason for the crop pattern shift is the existence of infrastructure. However, as is evident from farmers' attitudes, future plans for discussed crops very much depends on the market situation and decisions about current rotation are revised every year. Current factors influencing Russian crop production are ambiguous and future perspectives are difficult to determine.

Conclusion: Introduction to a production pattern of soy requires less finance and can generate higher returns than wheat, which is so far the most important cash crop in this region. Such superior condition of soy stimulates farmers to invest in this crop. In comparison to corn, the likelihood to extend the soybean acreage is higher in this region due to the lower production cost.

JEL CODE: Q130

EU Legal Regulation of State Aid In Agriculture - Selected Issues

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Abstract

Introduction: EU State aid rules in the agriculture sector have been generally applied by the EU Council under Article 36 of the Treaty, together with the extent to which they have been specifically applied under the Council regulations which govern both the common organizations of the market and rural development. However, due to the changes of the general scope and structure of the State aid regulation in the EUL law the revision of legal instruments applicable to the agricultural sector occurred in the course of the years 2013 and 2014. It resulted into adoption of new legislative acts - Agricultural de minimis Regulation, No. 1408/2013, Agricultural Block Exemption Regulation , No. 702/2014 („ABER“) and EU Guidelines for State aid in the agricultural and forestry sectors and in rural areas 2014 to 2020 (Doc 2014/C 204/01).

Analysis: The paper deals with the legal framework of state aid rules in the agriculture sector. As first, it discusses the extent to which the State aid rules have been generally applied in the agriculture sector by the EU Council under Article 36 of the Treaty, together with the extent to which they have been specifically applied under the regulations which govern both the .common organizations of the market and rural development. Following chapter analyses the agriculture de minimis Regulation, which sets out circumstances in which agricultural aid is sufficiently small that Article 107/1 TFEU will be not applied. Thereafter the paper focuses on the provisions of the Agriculture Block Exemption Regulation and, finally, on agricultural aid that falls to be notified to the Commission as being authorized under the Agriculture Guidelines.

Conclusion: as the outcome of the analysis, the present paper evaluates the question to how far the specifics of the agriculture in the EU justify the variety of special tools for State aids to farmers from the point of view of three different principles:

1. general principles of competition policy.
2. coherence with the EU's common agricultural and rural development policies.
3. compatibility with EU international obligations, in particular towards the WTO on-going negotiations

JEL CODE: K21

Life satisfaction of people in rural areas

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Abstract

In 2013, Stiftung Warentest tested hazelnut chocolate for the December issue of their leading magazine, called Test. Stiftung Warentest is one of the most important consumer organizations in Germany. Ritter Sport is a high-quality producer of chocolate. Their hazelnut chocolate did not pass the test. It was given the grade of unsatisfactory. Stiftung Warentest accused Ritter Sport of labelling an artificial flavouring as a natural flavouring. Ritter Sport rejected the accusation. They went to court and won. Stiftung Warentest had to withdraw the issue in question of Test magazine. This affair was all over the media in January of 2014. Stiftung Warentest and their quality label, also called Test, made negative headlines.

Using the Ritter Sport versus Stiftung Warentest case, we analyse whether negative headlines really undermine the credibility of a quality label. We examine what can be done to restore or, more generally, increase the credibility of a quality label.

Based on a quasi-natural experiment, we find that the negative headlines on Stiftung Warentest have undermined the credibility of the Test label. The negative headlines on Stiftung Warentest represent negative information in the sense of the theory of source credibility. We also find that the credibility of the Test label can be increased by providing reference values to the tests, strengthening the independence of Stiftung Warentest, and using laboratory methods in the tests. These findings are in line with general findings.

For any quality label, we find that the independence of an awarding organization is essential for trusting in the credibility of a quality label. The same holds true for methodological transparency and laboratory methods. Independence and laboratory methods are found to be essential for the credibility for both the Test label and any quality label. We also find for any quality label that the credibility is determined by two main sources: hard facts concerning the awarding organization and the label (independence, transparency, laboratory, and actuality) and the presence of the label (active presence, passive presence, and presence on the packaging of many products). The importance of the presence of a label is not substantially smaller than the hard facts. Hard facts can be controlled by awarding organizations. The presence of a label cannot be completely controlled by awarding organizations. However, a label can be advertised.

This is good news for awarding organizations and high-quality producers. Awarding organizations should care about their hard facts. They should advertise their quality labels if their labels were seldom used. High-quality producers should use these labels on the packaging of their products. From that, quality-conscious consumers would gain.

JEL CODE: D8, L1, M3

“Green Care”: Day care on farms for elderly people. A qualitative, comparative feasibility study with special emphasis on female farmers in Upper Austria

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Abstract

Both, the Austrian agricultural sector and the Austrian health care system are facing dramatic challenges in the near future. These challenges are due to developments like the ongoing structural change in agriculture and forestry, decreasing agricultural incomes and competitiveness due to globalization and price volatility of agricultural products, or the demographic shift towards an aging society. “Green Care” day care for elderly people could be one possible approach to the structural and financial challenges of agricultural-, health- and social developments. The aim of the study is to analyse the feasibility of “Green Care” day care for elderly people for farms in Upper Austria by use of a comparative study. The study focuses on female farmers, due to the fact that the social and health care system is still a gendered sector typically dominated by women. Obviously, the role of female farmers has been significantly changing within the agriculture and forestry sector during the last decades; quite often they became the true business leaders as male farmers were forced to earn additional income. “Green Care” day care on farms offers farmers with a solid education in social matters the possibility to start a self-employment career. However, although “Green Care” is communicated as a primarily female occupation which further encourages the feminisation of the care sector, the decline of gender-stereotypes also is highly welcome. As a high-quality niche, a “Green Care” day care is not an appropriate option for all farms. It is rather a useful alternative for some individual agricultural and forestry companies fulfilling specific requirements (like financial and personnel resources, social education, etc.). It will be likely that “Green Care” day care for elderly people will be established as a small structured and highly qualified part in the offered social services located especially in rural areas, nearby urban regions. In order to evaluate the feasibility of “Green Care” for Upper Austria, a triangulation of methods was used to compare findings of reference projects in the Netherlands with local conditions. The main part consists of the implementation of eleven semi-structured interviews with experts in Austria and the Netherlands. The full transcripts of these interviews were computer aided analyzed by using text analyses software and following the guidelines of the qualitative content analysis by Mayring. In particular, a code system summarizing the core requirements and pre-conditions for “Green Care” was developed and compared and discussed with findings from literature.

Acknowledgements

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JEL CODE: Q12, Q18

Challenges and strategies of dairy farms with 50 and more cows in Austria

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Abstract

In comparison to other European countries, Austrian dairy farms are very small structured. Nevertheless, the number of dairy farms in Austria decreased from 78,000 in 1995/96 to 35,000 in 2013/14. The average milk quota per farm increased in the same period from approximately 30 tonnes to 87 tonnes. The aim of the present study is to explore, given this background, which challenges and impacts the farmers of bigger farms faced during the expanding of their holdings. Additionally, it has been tested if the challenges and impacts depend on existing milking robots on the farms. To specify bigger dairy farms in Austria, we selected holdings with 50 or more cows. Additionally, the investigation is also examining future strategies of such farms.

In a first step, the essential characteristics of these farms were analysed by using IACS Data. Altogether, 815 holdings in Austrian kept 50 or more cows in 2014, which amounts to a share of 2.3 percent at all Austrian dairy farms. The average farm of this sample cultivated 65 ha of agricultural land, kept 68 cows and delivered 441 tonnes of milk per year to a dairy plant. In the last ten years, the average number of cows increased by nearly 60 percent (from 43 to 68 cows per farm).

In order to evaluate the impacts and challenges for the farm managers during the expanding period, an online questionnaire was sent to all 815 dairy farms in November 2014. The following results are based on 252 returned questionnaires (response rate of 31 percent).

The answers refer to typical features of farm managers with bigger holdings: high level of education, high participation in special farm training programs or superior technical equipment (for instance 26 percent with milking robot). In respect of the expansion of the holdings the predominant respondents concluded that the development growth was the right step. An explanation of this pattern could be that according to the respondents the incomes of agriculture and forestry increased for most of them in consequence of the expansion. But on the other hand, higher risks as a result of fluctuating prices, less leisure time or increasing psychological stress were also often mentioned by the interviewed persons. In general it turned out for the farm managers that one of the key challenges among others was labour economics. It come out that milking robots may reduce the workload of bigger dairy farms (the difference among farms with and without milking robots was highly significant). Regarding to future performances, the current milk production systems in these farms will continue with even more efficiency and professionalism.

JEL CODE: D24, Q12

Taking the managerial decisions at the enterprise in the age of agriculture globalization in Russian Federation

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Abstract

Purpose: Russia contains 386,1 ha of agricultural lands but their significant part is uncared and unusable for cultivation or belongs to risky agricultural areas. For this reason a problem of agricultural products import is quite actual in Russia. Net cost of some agricultural products produced in Russia may be higher than the cost of the same products purchased abroad. The solution of this problem is getting extra important in the age of economical globalization and Russia being the part of WTO. As for retailers and agricultural holdings it is more profitable to import many kinds of agricultural products than to purchase them from Russian manufacturers. As a result of this situation the products of some agricultural manufacturers are not competitive and the manufacturer goes bankrupt. It makes managers of agricultural organizations take policy decisions concerning deployment of advanced technologies and forms of organization in order to produce and sale competitive products. An important aspect here is taking scientifically based and right managerial decisions concerning revealing of reserves in agricultural products manufacturing efficiency taking into account all internal factors and internal competitive environment.

Methods: The methods contains analysis of condition and development trends of the agriculture, definition of the imported products and estimation of possibility for imported products to be replaced by local ones. It is also needed to estimate efficiency of state-run programs to support agricultural manufacturer and to make benchmarking of efficiency of more successful agricultural companies.

Results: The abovementioned methods results in revealing of risks influencing efficiency of activity and successful operation of agricultural companies in the age of economical globalization and international competition (state-run support program, technology, organization of manufacturing ecologically clean and effective products, manufacturing and sales management, marketing and advertisement etc.). An algorithm of taking decisions and methods of its realization taking into account abovementioned aspects should be developed.

Conclusion: The following method to realize an algorithm of development and taking decisions will help managers of agricultural companies to take right managerial decisions to increase efficiency of agricultural activity in the age of economical globalization and international competition.

JEL CODE: G31, G32, Q12, Q14

Development of Rural Communities and the Factors Forming Local Political Representation

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Abstract

Introduction: The municipal electoral system is relatively complex mechanism. Its complexity is the limit which to some extent prevents the understanding of its effects. The system does give the impression of openness to electing individuals (in relation to the possible variability of granting preferential votes - as mentioned above); in reality, however, the position of candidates on the list of the political party is important and often decisive.

Conference paper examines the factors that influence the formation of councils small rural communities in the Czech Republic. Attention is specifically dedicated to the projection of voter knowledge of local politics in the composition of the municipal council. The aim of the article is to judge the usability of the data on preferential votes for candidates seeking mandates in municipality elections in the Czech Republic while studying the voting behaviour of the electorate.

Data: The thesis was created on the basis of the data on elections into local governments in 2010 and 2014, acquired thanks to the Czech Statistical Office (available at www.volby.cz). The exclusive set that we are working with consists of the small municipalities of district České Budějovice (municipalities that have fewer than 500 voters).

Methods: The data has been subject to an analysis using a simple statistical method (variation coefficient) and mutual comparison. The objects of investigation are preferential votes for candidates. For political subjects with low coefficient of variation is typical that gained the majority of votes on the basis of the support to the entire party list. In the case of high values of coefficients of variation, it is clear that support for the parties arises particularly preferential vote only some candidates.

Results: The analysis of preferential votes to election parties in the small municipalities of the district České Budějovice it appears that the displacement and deformation effects of the electoral system are not as significant as we could first expect. In the cases of the municipalities with a richly structured party system, or with only two or three entities, the prevailing voting support to party lists against the selection of individual candidates across various party lists is apparently normal. This is mainly given by the concentrated, "en bloc" support to the locally relevant parties.

Conclusion: Analysis of preferential votes is a useful tool for understanding voting behavior. Based on the results of this analysis can be argued that the composition of councils small rural municipalities due to real interests of the electorate. Setting the choice of electoral system does not substantially influence political representatives.

JEL CODE: R58, D72

Do networks influence the farmers' intention to apply for rural development program?

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Abstract

Networks play an important role in information dissemination, particularly in the otherwise scarce information flow in rural areas. Informal networks are still the most valuable source of social capital and information exchange. Formal networks, such as cooperatives, remain an unappealing concept for Macedonian farmers, reminiscent to its socialistic definition even after 25 years in the new political and economic system. There is a significant rural area and population in the country, where agriculture is the main source of income with lack of other employment opportunities. Although there is a rural development program (RDP), the budget is not fully utilized and the number of applications is low. The aim of this paper is to determine the factors influencing farmers' intention to apply for RDP, with an emphasis on the influence of social capital and network membership. This assessment is necessary for improvement of the RDP funds' absorption capacity among farmers. The theory of planned behavior and the social capital theory enable deeper understanding of the influencing factors. The theory of planned behavior argues that the attitude, subjective norm and perceived behavioural control affect the intention and consequently the behavior of certain actions, while the social capital theory describes the structure of networks and information flow. A direct survey on 296 family farms was carried out in autumn 2014 in two regions in Macedonia, one having a functioning formal network (cooperative). The questionnaire included a list of TBP statements using Likert-type scale, an extended name generating table for the network analysis, and additional relevant farmer background information. The study was conducted using multivariate techniques and social network analysis. The model explained the intention to use RDP for the farm household in the next 3-5 years. The coefficients were significantly positive for attitudes regarding personal benefits and ease of access and significantly negative coefficients regarding the attitudes for general benefits. Farmers' education levels and investment tendency were positively related to the intention to use RDP. Those participating in networks were more inclined to apply for RDP funds. The policy measures for encouraging farmers' participation in institutionalized networks should be intensified, thus besides their primary aim, to increase the RDP effectiveness.

Acknowledgements

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JEL CODE: Q18, L14

Factors influencing the use by farmers of disaster loans - empirical research

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Abstract

Introduction: Disaster loans are a form of public support funds to mitigate the effects of unfavourable events, such as drought, hail, rain, early spring frosts, floods, hurricanes, lightning, landslides, avalanches, excessive precipitation or destruction by frost, contributing to resumed production on farms. The main objective of the study is to identify links between the use of disaster loans and selected hallmarks of farms in the region of Middle Pomerania.

Data: The study used secondary data sources (public statistics such as Central Statistical Office and the data from the reports of the Agency for Restructuring and Modernization of Agriculture) and primary data obtained in the course of empirical studies. The population consisted of farms in the region of Middle Pomerania. The study includes replay the owners and managers of farms. The time range of research covered years 2004-2012.

Methods: In the research problem process, the authors used a literature analysis and a data analysis – a descriptive and graphical method of data presentation and survey research. The measurement technique was a survey. The research tool was a questionnaire. The purpose of the study is to identify connections between the use of disaster loans and the selected features that characterize arable farms in the Middle Pomerania region. To realize the abovementioned goal, a multidimensional analysis of correspondence was also used. This analysis allows one to obtain an answer to the question: what factors imply the use of disaster preferential loans by farmers in the Middle Pomerania region? Selection factors determining the use of disaster loans resulted from data obtained from a questionnaire.

Results: Based on the results obtained, it can be found that farmers in the Middle Pomerania region do not use very willingly loans with preferential interests (as little as 11% of the respondents used this form of public support). The analysis demonstrated that farmers aged below 45 with secondary or higher education and who run farms which specialize in plant or animal production did not use any disaster loans. Close to 30% of farmers who received funding were of the opinion that the compensation was insufficient to cover the losses caused by natural disasters.

Conclusion: The study presents that the preferential credits help resume production by farmers affected by natural disasters. However, the level of support is not enough to cover all losses and damages caused by natural disasters. Farmers are using other methods of risk reduction.

JEL CODE: F34, H53

What factors influence the willingness of dairy farmers to participate in a program for pasture-raised milk?

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Abstract

The dairy industry in Germany, as well as in other Central European countries, was subject to a structural change in the last decades. In Germany, the average herd size per farm has increased by 32% since 2010. The end of the milk quota has amplified this trend. This development is being accompanied by a reduction in the number of dairy farms with pasturing. Potential reasons may be that pasturing posed major challenges to the management. Furthermore, the growth potential is limited because it is linked to the grassed areas of the farm. But there also advantages of pasturing – above all from the social perspective. There are already some studies that show that consumers attach a high value on the pasturing of dairy cows. The dairy farmers' attitudes towards pasturing have not been investigated to date.

The objective of this study is thus to get an insight into the attitudes towards pasturing and towards the programs that promote pasturing in the dairy industry. Based on the theory of planned behavior by Ajzen and Fishbein a questionnaire was designed to collect data in the area of cognitive attitudes and social norms, such as expectations of society. Furthermore the perceived behavioral control, which is expressed by the difficult to implement pasturing and is influenced by the farms structure, was observed. Therefore, 240 German dairy farmers took part on an online questionnaire. A factor analysis was used to summarize the statements. Next, the influence of these factors to the provision of pasturing for lactating cows and further for the willingness to participate on a program to promote pasturing, were observed by using a regression analysis.

The results show that the existing farm structures, and thus the farmers' perceived behavioral control, especially influences the likelihood of whether dairy farmers provide pasturing for lactating dairy cows. Thus, the probability that a dairy farmer keeps the cows on pasture decreases if a milking robot is used. Furthermore, the probability whether a dairy farmer provides pasturing is influenced by their interpretation of the statement "Cows are more healthy with pasturing.," which is one statement for the cognitive attitude towards pasturing. The willingness to take part in a program to promote pasturing obviously increases when a farmer already implements pasturing. In conclusion, a bonus alone will not convince the dairy farmers to switch their farm structure to pasturing. However, a bonus can support dairy farmers who still have pasture for their dairy cows and thus counteract the structural change. Additionally, the attitude towards labeling of production processes like pasturing influences the willingness to participate, as well as the perception of the social desires towards pasturing of dairy cows.

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Technical Efficiency of Para-Agriculture - the Case of Organic Farms in Switzerland, Austria and Southern Germany

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Abstract

Introduction: Farm diversification is one answer to the problem of shrinking agricultural sectors: In Switzerland, Austria and Southern Germany, farms are creating income by using activities like direct marketing (farm-shops), wine-marketing, rural tourism and other rural services (e.g. renting machinery). In Switzerland, agricultural policy is using the term 'para-agriculture' for describing this type of diversification. In organic farming, the trend towards farm-diversification is more pronounced than in conventional farming. The paper therefore investigates the impact of para-agriculture on the technical efficiency of organic farms in Switzerland (CH), Austria (AT) and Southern Germany (GER).

Data: The data-set consists of bookkeeping data with 1,704 observations in the years 2003 to 2005. We adjusted the different bookkeeping-systems and created output-variables for agriculture and para-agriculture. The data were deflated to the year 2000, the Swiss farm-data were price-adjusted to the EU-level by using single price-indicators for organic farming.

Methods: Technical efficiency is modelled using a stochastic output-distance-function in the three countries in combination with a metafrontier, which envelopes the joint group-frontiers of the three countries. We use revenues from agriculture (y_1) and para-agriculture (y_2) as two outputs and variable costs (x_1), capital (x_2), labour (x_3) and land (x_4) as inputs. Productivity is in that context defined as the relation of multiple outputs to multiple inputs. As technical efficiency we define the relation of observed output to the theoretical maximum output. We also model determinants of technical efficiency by a heteroscedasticity model.

Results: The results show just small efficiency differences among the farms in the three countries. Para-agriculture strongly contributes to farm productivity in Austria, and to a smaller extent in CH and GER. The share of para-agriculture shows a strong negative impact on farm's efficiency in CH and GER. On the other hand, we find that specialization contributes to the farms technical efficiency in AT and GER. The results also document a strong negative impact of agricultural subsidies on technical efficiency. Lower efficiencies of subsidies might be explained by wrong allocation decisions of the farmers (direct-payments) and additional production restrictions (environmental payments) leading to lower outputs.

Conclusion: The study shows that para-agriculture contributes to the revenue of organic farms in all the three countries. But due to missing specialization, diversified farms have to cope with a lower technical efficiency. Therefore, farmers before diversifying have to take into account a reduced level of technical efficiency.

JEL CODE: Q12, Q18, D24, C54

Risk Perception, Assessment, and Management in Austrian Agriculture

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Abstract

Facing, assessing and managing risk is a fundamental part of the entrepreneurial activities of farmers all over the world. While farmers have always been forced to react to risks like adverse weather conditions, changes in prices, availability of agricultural inputs and outputs, and changing family relations, today further risks gain importance, such as climate change, terroristic threats and social instability, frequent agricultural policy reforms, highly volatile markets and dynamic consumer trends. The awareness of risks as well as education and efficient risk management have become more important at the farm level but also for extension services. Due to the limited empirical knowledge of risk perception and risk management of European farmers some studies were conducted in the last few years. We build on this previous work and present results for Austrian agriculture.

In January and February 2015 a stratified sample of 2000 Austrian farmers was surveyed with a postal questionnaire. Farmers were asked to assess the probability of occurrence of various risk sources on their farms and the impact in case of occurrence on 5-point scales (occurrence: 1 = very low, 5 = very high; impact: -2 = very negative, 2 = very positive). It resulted in a response rate of 25%.

Preliminary results show that political changes are perceived to be among the most important risk sources. Within the next ten years 47% of the responding farmers very likely expect a hike in social security contributions, 42% increasing land taxes and 41% further changes in financial public support of agricultural businesses. Asked for the possible impacts in case of occurrence of a particular risk source, 61% of the respondents assess expropriation of farm land most negative, and 20% of the respondents assess changing consumer behavior towards regional food to be most positive.

Further analyses of the sample include statistical tests on the perceptions and behavior of different farming groups and options for future risk management. Thus, our results can support design of effective policies to support risk management in European agriculture.

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JEL CODE: Q12, Q19

Future development strategies for small scaled dairy farms in Baden-Württemberg after phasing out of the milk quota system

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Abstract

The termination of the EU milk quota system in April 2015 confronts European dairy farmers with new challenges. This research project analyzes the relative effects of the abolishment of the system on small-scale dairy farms in Baden-Württemberg (Germany), considering their different natural conditions. Relevant data were collected from a written survey conducted in Baden-Württemberg in 2014, with a response rate of 35.4% (1.050 questionnaires were sent out; 372 evaluable questionnaires returned). The high participation of the dairy farmers in the survey indicates the actuality and seriousness of the topic. In a first step, univariate evaluations were made. The survey revealed that more than 60% of the farmers are skeptical about the phasing out of the milk quota. Farmers are now forced to develop adaption strategies to this new situation in the milk market. Almost half of respondents considered optimizing the production costs, although almost a third contemplated pulling out of the dairy farming as an option to react to the phasing out of the milk quota system (Lavèn, P., Janas, C., Doluschitz, R. (ÖGA 2014)). Based on these results, the wide and representative database was analyzed by multivariate statistical methods. This includes regression analyses to model relationships between a dependent and one to more independent variables, in order to describe quantitative correlations or to forecast values of the independent variable. Aims of the research project are to analyze the influencing factors and determinates, which affect the different adaptation strategies, depending on regional circumstances as well as on operational level of single farms. Within the regression analysis the explanatory variables are e.g. socioeconomic parameters like the age of the farm manager, educational level, size of the company and number of dairy cows. It is of particular interest to consider not only the dataset as one cross-sectional sample, but to look at the local differences of strategies as well as the strategies of single dairy farms. A further aim of the investigation is to identify the various inter-relationships between the variables. The main objective of the statistical data analysis is to allow predictions on the development of dairy farming in Baden-Württemberg in the long term. The statistical analysis is ongoing and will be finished in June 2015. It can be expected, that there is a significant correlation between the positive assessment of the farmers regarding the end of the milk quota system and the size of the companies and the educational level of the farm manager. Further it can be assumed that both the number of the cows and the number of workforce are influencing the adaption strategies of the dairy farms.

JEL CODE: Q10, Q13

Bio-based Plastics from Agricultural Feedstocks: A Comparative Scenario Analysis Approach

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Abstract

Nowadays we are surrounded by plastics, regardless if considering consumer products, building materials, medical applications or the field of agriculture. Due to these circumstances, the amount of plastics and plastic waste has become a serious concern. Bio-based plastics have the potential to overcome some drawbacks of conventional plastics. Polylactic Acid (PLA) and Polyhydroxyalkanoates (PHA) are currently the most promising bio-based plastics in terms of market volume. Both of them are based on an agricultural feedstock and are therefore a potential trigger for future demand of agricultural raw materials.

This study aims at investigating possible future developments, in consideration of the interdependencies between agriculture, technology and economy. The complexity of possible interactions leads to versatile challenges and calls for adapted methods. A comparative scenario analysis displays how the production of PLA and PHA are affected by various technological and economical factors. The scenario analysis in this study is based on two different methodical approaches. The first method, an effects analysis based on the MICMAC method, leads to key factors, which are chosen due to their influence on the field of study, depending on their active sum and their passive sum. These key factors are further used for a scenario generation based on a cross impact analysis. The cross impact analysis is conducted as a normative scenario, which describes how a specific target can be reached. In order to be competitive in long term a price reduction and a growth in sales volume of bioplastic products is crucial and are therefore the target status to be reached.

The results show that the development of PLA and PHA is mainly influenced by following factors: Price of bioplastic products, sales volume of bioplastic products, process cost, technological innovations, investment costs and marketing activities. With regard to the targets "price reduction" and "increase of the sales volume" recommendations for actions can be derived from the cross impact analysis. Although the value chain between PLA and PHA differs considerably similar influences and recommendations for further development can be determined.

Acknowledgements

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JEL CODE: O13, O31, Q16, Q55

Break Even Point in Circular Economy of Biofuels

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Abstract

Introduction: Only crop with the best price is grown and distributed to global markets. Investments into processing a first generation biofuels are high and can be lost. Biobutanol, ethanol and acetone are produced directly from all lignocellulosic materials, starch and simple sugars using microorganisms, e.g. *Clostridium acetobutylicum*. Butanol properties outperform bioethanol properties in fuel blends. Therefore, research question arises how to reuse investments producing first generation biofuels for second generation biofuels? The objective is to revise production possibility for secondary generation of fuels in Czech Republic. Further to decrease fixed costs by reuse of investments of first generation of biofuels through biofuel of secondary generation improving compliance with norms for fuels.

Data: The data were obtained from laboratory analyses of fractions of biofuel processing from waste biomass including of animal fats.

Methods: Volume and accessibility of raw materials, lubricity, oxidation stability, hygroscopic properties and behavior of biofuels under low temperature were compared with these properties of first generation biofuels and standards for fuels and fuel blends.

Results: Secondary biofuel generation, especially biobutanol, increases revenues by longer life expectancy of engines if biobutanol oppose to bioethanol is used. It was shown on data from experiments. Small scale processing is competitive with global scale processing due to high transport costs of waste biomass. Further, historical data about imports of feed proteins from 80% to 50 % to Europe also decrease emissions of transport from overseas. EU support of investments into waste processing can be decreased due to reuse of investments, which are already done for first generation biofuels. Precision of low costs gas chromatography on 10% failure shows level of compliance with EU fuel standards if fuel blends are used.

Conclusion: Volume of waste biomass from industrial processing of decreased number of high yielding crops in crop rotation is increasing. Southern sorts for production of vegetable oils and northern model of wood processing into biofuels will increasingly impact territory of Czech Republic. It was shown that recycling of wastes and refurbishing technologies into improved biofuels may remove this negative impact of globalization from Nature and biodiversity. Properties of biobutanol are more suitable than bioethanol. Also reuse of investments of first generation of biofuels while a break event point for investments into second generation biofuels is decreasing is positive. Investments into first generation of biofuels can be repaid and European subsidies for waste biomass processing decreased if used for high quality renewable fuel - biobutanol.

JEL CODE: Q42, Q57

The impact of the operational life on life cycle costs of a tractor

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Abstract

A farm survey about agricultural machines in Switzerland brings to light that the degree of utilization is generally low. For instance, the 529 four-wheel-drive tractors had an average annual utilization of 313 hours; to reach the estimated service life for tractors of 10'000 hours, a tractor must be in service for 32 years. Accordingly, most tractors tie up capital and must be maintained for several decades. The question arises what impact the operational life, also named mechanical life or length of service, has on the machinery costs. In detail, the overall costs of a tractor, also called life cycle costs (LCC) are of interest. In a LCC-analysis, all costs arising from owning, operating, maintaining and ultimately disposing are considered.

This paper aims to analyze the LCC for an 82 kW (111 horsepower) tractor in Switzerland with a cost price of Swiss Francs (CHF) 111'000 in order to assess the impact of the operational life under the assumption of a complete exhaustion of the estimated service life. Assuming that the estimated service life of 10'000 hours is completely exhausted, six operating versions are compared. For them annual utilizations of 1000, 667, 500, 400, 333 and 286 hours are used leading to operational life durations between 10 and 35 years. The machinery LCC are organized in the four cost positions capital costs, buildings and fees, repair and maintenance, and fuel. All operating versions are calculated with four different discounting factors (1% to 4%). The results show a tremendous impact of operational life on LCC. For a discount rate of 1% they are between CHF 353'000 (10 years) and CHF 470'000 (35 years). Doubling the operational life (e.g., 20 years instead of 10 years) increases LCC by at least 14%. A reduction from 30 to 25 years, meaning an increase in the annual utilization from 333 hours to 400 hours, leads to a reduction in LCC of CHF 23'000. This corresponds to around half (51%) of the annual work income of a fulltime family work force in Swiss agriculture in the years 2011 to 2013.

As a further result, the larger the discount factors, the smaller are the cost increases due to a longer operational life. In absolute terms for all used discount factors, the additional costs for extending the operational life by 5 years amount to at least CHF 20'000.

As a core conclusion, high annual utilization coupled with a short operational life has the effect of substantially reducing LCC for tractors. Accordingly, Swiss farmers could substantially save money by shortening the operational life of their tractors. In addition, we recommend highlighting the importance of operational life for LCC in planning material for farm management.

JEL CODE: D24, Q12

Exchange rate: CHF = 0.96 Euro (<http://fxtop.com>, accessed 2 April 2015)

The Significance of Domain Names for Agribusiness – Czech and Austrian comparative study

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Abstract

Introduction: The second half of the 20th century saw a new era in the perception of the business of agricultural production, an emergence and bustling development of information systems and information technologies ("IS-IT") and a modern stage of European integration. The synergy of these three phenomena is a hallmark of the first two decades of the 21st century. It is highly stimulating and instructive to consider various aspects and elements of probably the most important IS-IT representative, the Internet, and its importance for business par excellence of the EU, namely the Internet domain names and their significance for Agribusiness. Domain names are able to perform a myriad of functions and can definitely impact the Agribusiness, especially in the central Europe. How real is this potential and to what extent and with which intensity is it realized and projected in the practical Business life in the Czech Republic and Austria? A study of this IS-IT economic and legal sphere is completed by the investigation and comparison of selection, employment and attitude regarding various types of domain names registered and used by Czech and Austrian Agribusiness subjects.

Data: Three sets of data were researched and explored. Firstly, secondary data generated by academic and scientific sources about domain names and agribusiness were identified and scrutinized. Secondly, a search of TLDs databases of Registry Operators, Whois, etc. was performed in order to yield data about Czech and Austrian domain names linked to Agribusiness. Thirdly, the manifest inconsistencies between these data were pro-actively addressed by direct inquiries, including questionnaires.

Methods: The first set of data assists in understanding the Agribusiness and domains names and its critical qualitative analysis proves beyond any doubt the potential functions and importance of domain names for Agribusiness in general. Then, a forensic and target quantitative assessment of Czech and Austrian Agribusiness domain names was conducted along with partial qualitative multi-disciplinary remarks from linguistic, economics, etc. Their comparison and evaluation relied on induction and on feedback earned based on direct inquiries of selected subjects. Ad hoc hypotheses were presented and rejected or confirmed, suggesting further case studies.

Results: A new perspectives regarding underestimated meaning and potential of domain names and Agribusiness is offered. EU, Czech and Austrian policies share the same conceptual tenor. However, the comparison regarding the ultimate outcome for Czech and Austrian Agribusiness varies dramatically. Contextual and multidisciplinary analysis along with complementary inquiry and ad hoc investigations suggests a large information and commitment gap.

JEL CODE: M15, Q13, Q16, R11

Factors influencing costs of milk production in the EU –importance of herd size

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Abstract

Introduction: Milk quota abolition has forced many companies to reconsider the factors that will limit milk production into the future. Factors other than milk quota such as land, labour, capital, stock, etc. are going to become the limiting factors for many in a post-EU milk quota scenarios now. If the release of quotas could increase the volatility of milk prices, it is very important for milk producers to, while maintaining quality and keeping milk yield, minimize their production costs. This raises the question of economies of scale. Many of studies confirmed that high levels of production result in low cost per unit of output, in an increase of the effective size of the farm business, and in an increased effectiveness of labour and machinery. The paper deals with the problem of milk production, and evaluates the factors that may significantly affect the costs of production, especially the importance of herd size.

Data: Data in this research was obtained from questionnaires from the European Dairy Farmers association (EDF) among dairy farmers (producers) from 19 European countries (only two were not the EU members – Switzerland and Ukraine). This unbalanced panel includes data from 2006 to 2014 and contains 2596 entries in total. The average number of farmers provided data was 288 per year. A substitution of the sample during these years is about 40%.

Methods: After data sorting and evaluation of the basic characteristics, methods of testing of statistical hypotheses were used. The hypotheses have focused on the determination of compliance or differences in the specified parameters for the files. Appropriate statistical tests for the verification of these hypotheses were used, e.g. tests of hypotheses about the value of the mean.

Results: Total costs varied significantly in 3 groups: up to 100, from 101 to 350 and herds with more than 350 heads of dairy cows. This roughly corresponds to the cost of feed, which is one of the most important items of direct costs. It is proved that, with larger farms, these costs have risen significantly in the same groups as was recorded in the growth of concentrate intake. Concentrated fodders are far more used on the large farms (around 8 kg per cow and day), suggesting efforts for greater intensification of production. However, it is obvious that especially on small family farms (up to 50 heads) are used rather extensive production methods and it corresponds to both the intake of concentrate (about 5 kg per cow) and lower total milk yield (up to 7.500 kg ECM/cow/year). On the other hand, we can see here a better treatment of cows on these small (family) farms, which can be seen through the indicators as culling rate or total lifelong milk yield.

Conclusion: From the data analysed in the context of investigating the factors that affect the milk production and the costs of production revealed, that, irrespective of the origin country and year of observation, there are economies of scale. In case of the total cost, there has been clearly demonstrated that the costs of milk production decrease with increasing herd size.

JEL CODE: Q12, D24

Relation Between Excise Tax and Beer Consumption in Chosen EU States

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Abstract

Excise tax is one of the most important financial restrict instrument in frame of the whole agri food sector and European Union is in many aspects very heterogeneous block. One of these aspects is various beer excise tax in every member state; in the EU is harmonized only minimum level of the excise tax (0.748 EUR per ht/degree Plato).

The aim of the topic, respectively the research question is to confirm or to disprove the general significance of the relation between excise tax level and beer consumption level (per capita) in the EU member states. In the paper will be used econometrical methods. The source of the data is the Eurostat and the Brewers of Europe. The discussion will be focused on latest development of excise tax in the United Kingdom and its actual impact on beer consumption. The beer excise tax is automatically increased by 2% above inflation every single year, so it means that in United Kingdom is very high economical pressure to the beer consumption.

The excise tax like economical instrument is connected to the regional development; in last couple of years in almost every EU states has increased number of microbreweries/craft breweries, many of them have been reopened and revitalized. This wave started in the end of 70s in United States and step by step was enlarged into many areas. Breweries reopening and revitalizing is very important for rural development, in the Czech Republic all the small breweries were closed by the communists after the Second World War. The rural areas lost many job opportunities. If this didn't happened we can be sure that the beer market structure situation in the Czech Republic is similar as in Bavaria and Austria, where the beer market has kept quite heterogeneous. So the second aim of the paper is to analyze the relation of beer excise tax degressivity and microbreweries/craft breweries growing in the selected EU members states.

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JEL CODE: D12

Performance of Czech Dairy Farms

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Abstract

Introduction: Czech dairy sector past through a dramatic changes after the accession of the Czech Republic to the European Union. The development after the year 2004 can be characterized by a reduction of cows, a growth of a milk yield, capital market imperfections, a high dependency of local farm price on world market price development, an increase of share of milk produced on specialized dairy farms and the strong dependency of farm performance on policy measurement, namely quotas and subsidies. The agricultural policy started to be important factor of efficiency, profitability and overall competitiveness of dairy farms.

The aim of the paper is to evaluate the profitability and efficiency of Czech dairy farms in the regional issue and with respect to the policy measurements changes. The paper addresses following research questions: How did policies measurements contribute to the profitability and efficiency of dairy farms? Are there the regional differences in profitability and efficiency of dairy farms and their development?

Data: The analysis uses unbalanced panel data of Czech dairy farms-local entities drawn from the Registr32 database and the State Agricultural Intervention Fund database. The data set covers the period from 2004 to 2013 and consists of 470 cases. Used prices were deflated by price indices (2010 = 100) according to the Czech Statistical Office database.

Methods: Two main methods were used in this research, namely stochastic frontier estimation and Spearman correlation coefficient computation. Profitability change was decomposed to seven components: (i) the output growth component, (ii) the output price change component, (iii) the input price change component, (iv) the technical change component TC, (v) the scale component, (vi) the mark-up component and the technical efficiency change (vii). Those components were computed directly from the observed data (i-iii) and the rest of them was based on estimation of cost function.

Results: According to the results there are significant differences between dairy farms in most of researched components. The results also reflected the absence of innovations in milk production connected with capital market imperfections. Positive correlation between other subsidies change and technical changes was observed – moreover, the increase of SAPS and LFA was connected with the increased technical change. Positive contribution to the profitability increase was pronounced by mark-up component and also the output change. Conversely the scale component contributed negatively to the profitability change, but we observed also negative correlation among scale component and the LFA and other subsidies.

Conclusion: The study shows that producers in all analysed regions extensively exploited their production possibilities. However, the profitability tendency was not the same in the analysed regions. The worst situation was in the Královéhradecký region where the decrease of profitability was caused by the decrease of output and by the loss of market power. Whereas the profitability increased the most in the Moravskoslezský region and it was especially due to technical change.

Acknowledgements

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JEL CODE: Q12, Q18

Are farmland prices in Germany beyond value?

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Abstract

The question whether farmland prices in Germany have reached such a level that a further development of a societal desirable agricultural structure could be disturbed resulted in an intensive public discussion between stakeholders of land markets and legislature. As one result, an intervention to limit prices in farmland markets is proposed. However, for detection of prices beyond the (real) value, it is necessary to define a system of reference prices or values. Additionally, an absolute or relative difference to the reference price as a threshold is required. If governmental interventions are based on non-objectively reasoned decisions or on relatively or absolutely low reference values, disadvantages for (single) farms and also the national economy can be induced. In this study different methods of determining the value of farmland (standard farmland value, market value and (capitalized) ground rent) are presented. Further, their applicability as a reference is discussed focusing on the ground rent as an economic measure for the willingness to pay for farmland. Data of the farm accountancy network of Germany are used to calculate ground rents per hectare for agricultural land of different farm types. The best third of pig and poultry farms was able to realize a ground rent of more than 900 €/ha on average for the financial years 2008 to 2013. Arable farmers and forage farmers of the best third generated average ground rents of more than 700 €/ha and 500 €/ha, respectively. Capitalization of ground rents leads to a willingness to pay of more than 12,000 €/ha up to 45,000 €/ha depending on interest rate (2 % to 4 %) and on farm type. If farms with biogas production, farms specialized in horticulture and permanent crops or the 10 % economically most successful farms are taken into account the derived willingness to pay is significantly higher.

Defining prices above a fixed threshold of 20 % beyond standard farmland value as overpriced, as in Baden-Wuerttemberg, seems to ignore the uncertainty in determining this reference value and disregards underlying economic conditions on a regional or individual farm level. Thus, more economically successful farmers will be constrained in business development. Likewise, using market value as a reference value is problematic if the threshold is as low as 20 %. Therefore, this practice could result in legal and economic difficulties in the long run. These explanations underline the importance of an appropriate identification of prices beyond value. For further research, farm accountancy network data will be analyzed with focus on different quantiles (33 %, 10 % or 5 %) of the most successful farms. Additionally, surveys will be conducted with respect to the willingness to pay for farmland by questioning farmers. The current reference system for prices beyond value as well as the relevant threshold should be discussed with a focus on regional and temporal appropriateness (spatio-temporal) and also (volatile) market trends.

JEL CODE: Q15

Lithuanian agriculture after 10 years in the EU: Analysis of Impacts and Prospects

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Abstract

Introduction: As with most countries joining the EU in 2004, Lithuania was faced with uncertainty regarding how well they would compete in the single market and how the sector would evolve under a very different set of policy and market conditions. Many analyses were done before and after 2004 to assess potential costs and benefits to the food and agriculture sector of EU accession. Now there is an opportunity to look back at what actually did happen, how reality may have differed from expectations and what this may all mean for the next decade of growth and change in the EU market.

Data: The data consists of annual data on area and yield of crops, production and prices of crop and livestock commodities, domestic and foreign sales of food and agricultural products, value of imports and exports, number and area of farms by size category, gross profit and subsidies.

Methods: The basis for transformation is evaluated by assessing the institutional reforms and policy changes that set the stage for the sector to be competitive within the EU market. Analysis of farm structure is conducted by evaluating the evolution of structural change over time from 2004 to 2014 and constructing Lorenz curves to compare these changes. Past sector performance is analyzed by comparing relative performance of different product groups and market performance in domestic relative to export markets. Analysis of future prospects is conducted by using a non-spatial, partial-equilibrium model developed in the AGMEMOD framework.

Results: Farm structure has shifted gradually over time toward fewer and larger farms, but that should be expected under normal market conditions. Crop production and value has grown more than livestock products, and that was strengthened by the rise in crop prices in the last 8 years. All products suffered during the financial crisis and most recovered somewhat in recent years until the trade disruptions with Russia.

Conclusion: Without the sanctions and trade restrictions, the post-recession recovery would be expected to continue during the next financial framework, but under present circumstances this depends mostly on political conditions and trade relations with Russia.

JEL CODE: Q11, Q15, Q17, Q18

Establishing food security for Bangladesh's rural poor through sustainable collective farming practices

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Abstract

Introduction: Food security is a condition in which all people at all times have both physical and economic access to sufficient food to meet their dietary needs for a productive and healthy life. Bangladesh, as one of the most densely populated countries in the world, with over 150 million inhabitants, is particularly vulnerable to issues related to food security. As country's population is expected to rise to almost 200 million by 2050, according to UN projections, the need for sustainable intensification of food production becomes even more pressing. Aware of the gravity of the situation and country's uncertain future, the paper makes an attempt at assessing the potential of collective farming in establishing food security for Bangladesh's rural poor by contrasting individual and collective farming practices.

Data: Bangladesh demographic and health survey sample of 1,778 households from within Rangpur division is used in constructing the village model, together with information about production, yields, and land area, taken from the Yearbook of agricultural statistics of Bangladesh, Bangladesh Agricultural Research Institute, and Bangladesh Institute of Nuclear Agriculture, and required for estimating village production under various scenarios.

Methods: Village model is constructed by dividing the average number of households within a village (232) by survey's sample of 1,765 rural households for which land ownership information is available. The resulting quotient of 0.1314 is then used to scale back the number of household members reported in the sample (7,840) and the total amount of land (1,369.26 acres) to 1,030 and 179.97, respectively, resulting in a village model with 232 households, 1,030 household members, and a combined land area of 179.97 acres. Production figures for all four scenarios are then calculated by multiplying land area by the corresponding yields, with third scenario being an exception as corresponding improvements are simply added to second scenario totals.

Results: The paper reveals potential boosts in rice production ranging from 32.38% in case of land aggregation, a further 41.55% if selected improvements are introduced, and an additional 31.18% should high-yielding varieties be grown under optimal conditions, for a total increase of 145.81% compared to current production. An even more drastic expansion of 611.35% is to be expected for the remaining three crops (potato, mustard, and lentil) in case of land aggregation, and an astonishing 916.2% for potato, 1,254.96% for mustard, and 1,417.36% for lentil, if high-yielding varieties are used.

Conclusion: As of now, the future of collective farming in Bangladesh is dependent on government assistance and guidance. However, once the potential benefits are considered, collective farming clearly outshines any other known attempt at improving food security. The good news is that the much needed research is already on the way, with field tests and interviews scheduled for the fourth quarter of 2015, which if proven successful, will be extended to a real life simulation in one of the villages within Rangpur division, bringing sustainable future closer and making it noticeably brighter for Bangladesh's rural poor.

Acknowledgements

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JEL CODE: Q01, Q15, Q18, J11

Analyzing climate change vulnerability of crop management practices in Austrian production regions

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Abstract

Agricultural vulnerability to climate change varies considerably between agro-environmental zones. We aim at comparing agricultural vulnerabilities between Austrian crop production regions and a number of crop management practices that can be used by farmers in response to changes in climatic conditions. Crop gross margins serve as a vulnerability indicator. The bio-physical process model EPIC is applied to simulate annual crop yields at 1 km grid level for five climate change scenarios until 2040 and various crop management practices. The climate change scenarios consist of a rising temperature trend of ~ 0.05 °C per year and varying assumptions on precipitation sums and seasonal distributions. Crop management practices include crop rotations, tillage operations, as well as fertilization and irrigation intensities. Mean annual crop gross margins are calculated by crop management practice and climate change scenario and are defined as revenues minus variable production costs. A vulnerability surface approach is used to assess vulnerability implications of crop management practices. It is conceptualized by a two-dimensional diagram, whereby an indicator of sensitivity and exposure of the system is presented on the horizontal axis (coefficient of variation of gross margins) and the systems state (mean gross margins) on the vertical axis. In general, vulnerability increases with higher sensitivity and exposure, and unfavorable states. Additionally, contour lines of 'equal vulnerability' are defined in order to improve the comparability of investigated systems. Robust adaptation measures can be identified for different crop production regions by illustrating their relative position on the vulnerability surface. Results indicate that the effectiveness of adaptation measures differs by crop production region. For instance, the application of winter cover crops is attractive in regions with moderate and high mean annual precipitation sums since current agricultural policy premiums can almost offset reduced net-revenues due to crop yield losses and additional variable production costs. Irrigation has been identified as an effective adaptation measure in the semi-arid eastern parts of Austria. Thus, the presented approach may contribute to the development of viable climate change adaptation measures in different crop production regions.

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JEL CODE: Q54

Dairy farmers' Acceptance of Sustainability standards

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Abstract

Due to various reasons such as climate change, globalization and increasing media attention, the economic, environmental and social aspects of companies' activities have become more important in societal debates. The various facets of this discussion are often referred to as 'sustainability', which has developed into a guiding principle for global social development. An industry subsector within agribusiness, which has paid increasingly consideration to sustainability, is the dairy sector. Within European agribusiness, milk production has a central position. In recent years, the dairy sector has faced increasing media interest but also political decisions of which the future impact cannot be foreseen. Due to this increased social interest and strategic considerations, dairy companies have expanded their sustainability management in recent years. In the dairy supply chain, chain-wide sustainability mechanisms have already been implemented.

However, there has been little research done on sustainability approaches on dairy farms and no specific sustainability standard yet exists for the German dairy industry. Studies on the acceptance of new technologies reveal that the success of innovations is highly correlated with farmers' willingness to participate in sustainability innovations. Hence, research on sustainability is needed, especially from the farmers' perspective in order to gain insights into the future opportunities for sustainability in dairy farming. Building on existing literature, this paper focuses on farmers' acceptance of the implementation of sustainability standards on dairy farms. Specifically, it focuses on whether factors such as farm size or quantity of dairy cows influence farmers' acceptance.

To answer this research question, dairy farmers in Germany answered a questionnaire, which was disseminated online in March 2015. To measure the correlation between certain factors and degrees of acceptance, a linear regression was carried out. Empirical results show that farm size or the degree of innovation of farms are the most influential factors in shaping a farmer's acceptance of sustainability standards. A high incentive for farmers to accept a sustainability standard is the ability to generate a higher milk price in the market. This is especially relevant in light of current events, such as the end of the milk quota and the arising need for a more differentiated dairy-farming sector.

JEL CODE: Q01, Q12, Q13

Structural and economic performance of the meat processing industry in the Central Europe

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Abstract

Introduction: The food industry is one of the world's most important industries with significant impacts on the world economy. So far, some research papers have been done to cover this issue and to deal with the specifics and problems of this sector. Branch "Processing and preserving of meat and production of meat products", NACE Rev. 2 (Code C101) is the key branch of the food industry in the Czech Republic. The problem of this branch in the Czech Republic is the low competitiveness in the market. The aim of the paper is to evaluate the development of key structural and economic indicators of the meat processing industry in all Central European countries. Moreover, Germany and Austria, as the main trade partners of the Czech Republic, are also compared with the Central European region. The paper is one of the initial outputs of the internal research project of the Institute of Agricultural Economics and Information "MEAT – Strategy analysis of the meat processing industry in the Czech Republic" (1294/2015).

Data: The paper is based on the comparative analysis of structural indicators (number of enterprises, number of persons employed per enterprise), economic features (investment, production value, gross value added) and personnel costs analysis. The evaluation covers the time period 2008 – 2012. The main data source for the analysis is the database of the Eurostat structural business statistics. For a better comparability and relevance of the result, most indicators in branch "Processing and preserving of meat and production of meat products" are calculated per person employed.

Methods: The indicators are evaluated over time through horizontal analysis and indexes.

Results: The descriptive analysis of Eurostat data shows significant differences between the Czech Republic and the rest of selected countries. First, the meat processing industry in the Czech Republic has been strongly fragmenting unlike other Central European countries. Especially Poland, Austria and Germany concentrate their production capacities. Although the production value per one person employed in the Czech Republic has increased since 2010, the gross value added per person employed has decreased. It indicates some problems with cost management like in Germany. On the other hand, Poland has the most dynamic growth of labor productivity, good cost management and strong concentration efforts.

Conclusion: Overall, the results indicate not very optimistic outlook for the Czech meat processing industry when comparing with our main competitors. Alternatively, the public support of small and medium meat processors together with changing consumer preferences towards local products should enhance the local markets of regional products and employment in the rural areas.

JEL CODE: M21, L66

Is the African swine fever an economic threat to the EU?

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Abstract

The African swine fever (ASF) is one of the most dangerous animal epidemics which requires declaration (OIE 2014). It has already entered the EU member states of Lithuania and Poland via the Ukraine and Belarus, with proven occurrences found in (both) domestic and wild pig populations (Blome & Beer 2013). The probability of an introduction into other European countries is great, which possibly would bring catastrophic economic consequences with it, one reason being that there is currently no vaccination available (SUS 2014). With this in mind, the goal of this project is to determine for a pork producing and exporting country such as Germany which portions of the pork producing supply chain would experience losses as a consequence of an ASF outbreak and calculate the estimated amount of economic losses that an ASF outbreak would cause. Five cost categories (CC) were used for this determination: (CC_1: costs for governmental control; CC_2: costs of farms directly affected; CC_3: costs for farms indirectly affected; CC_4: other costs in agribusiness; CC_5: effects on foreign trade) using 61 validated types of costs. Using these types of costs in combination with the relational database system TEUS (Tierseuchen-Entscheidungs-Unterstützungs-System = Animal-Disease-Decision-Support-System), it is possible to research various scenarios to calculate the financial impact under different conditions (regional animal density, number and geographic locations of subsequent outbreaks, size of the restriction areas, etc.). According to TEUS, a single outbreak of ASF in a German region with an animal density of 800 animals/km² would result in a total loss of over € 696 million (CC_1: € 564,000; CC_2: € 353,000; CC_3: € 2,647,000; CC_4: € 226,857,000; CC_5: € 466,225,000). With a second outbreak the total loss would rise to approx. € 737 million. These high losses are primarily the result of the expected drop in price for pork on the domestic market, the reduction of intra-EU deliveries as well as the reduction of exports to third countries. TEUS thus provides a unique instrument which can facilitate quick decision-making appropriate to the current situation in case of an ASF outbreak and enables the economic evaluation of available courses of action.

Acknowledgements

We wish to thank QS Wissenschaftsfonds for its financial support of this project.

JEL CODE: I19, Q19

Consumer preferences and attitudes of the young generation to the business concept of Fair Trade in the Czech Republic

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Abstract

Introduction: The business concept of Fair Trade is a trading method that does not emphasise commonly compared price parameters of products. Its aim is to support the opportunity of manufacturers from third world countries to obtain a fair proportion of the profit and sources for a dignified life. The idea of Fair Trade includes a wide range of social and labour regulations, environmental standards and certification systems, which are based on the principles of voluntariness, ethical consumption and solidarity. In 2013, the retail turnover of Fair Trade products increased by 80% in the Czech Republic compared to the previous year. Goods sold under the Fair Trade brand in the Czech Republic are usually of a durable character, which distinguishes their assortment from other developed countries, where the sale of fresh products is obvious. The aim of this article is to discuss consumer preferences and attitudes of young people from the age of 15 to 35 years.

Data: The data were obtained by quantitative research using a questionnaire survey among respondents (n = 614) from the age of 15 to 35. This age range was chosen on the basis of existing international research results. Data for this purpose were collected in 2014.

Methods: To evaluate the outcomes of the survey methods of descriptive statistics (absolute and relative frequency, testing of independency between set qualitative characteristics and power dependency measures) have been applied, The Pearson's Chi-square test and Cramer's V have been applied. If the p-value calculated by means of the χ^2 test was lower than the selected level of significance $\alpha = 0,05$, null hypothesis about independency was rejected. To evaluate the data, statistical software SPSS 21 and the Microsoft Excel 2013 were used.

Results: The research results show the high awareness about Fair Trade business concept among respondents in the age group 15 to 35 years. The most common communication channels through which respondents obtained information about Fair Trade is the Internet and the school (with respect to the age of the respondents). Television and internet advertising are the most important tools which have the biggest influence on the changes of consumer's buying behavior. Higher price of Fair Trade products impacts negatively on consumer's choice and their buying behavior.

Conclusion: The contribution of this paper is the presentation of current research results in the field of Fair Trade, which is, in the current competitive environment, very important for consumers, organisations and the whole society. The results show that the main problem among the young people is lack of awareness about the differences between traditional trading and business concept of Fair Trade. A positive finding of the research is growing consumer's demand for Fair Trade and Fair Trade products.

JEL CODE: F13, F18

Assessment of Young People's Expectations of Agritourism in the Czech Republic

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Abstract

Introduction: Czech agritourism farms are characterized by specialization on animals, agricultural crops and holiday-related activities. Young people are important potential customers and may create a future customer base. The aim of the paper is to assess the awareness of agritourism services amongst young people in the Czech republic and their expectations as potential customers. Research questions mainly focus on the preferred type of accommodation in rural settings, expected services and their importance, accommodation of pets and accompanying animals, depending on the respondent's sex, region of origin and study field. The practical benefit of the paper is to form recommendations for the providers of services in agritourism based on the findings

Data: The findings will be based on the results gained from a questionnaire and their statistical evaluation. Young people in this paper are represented by full-time university students. The questionnaire in paper form was distributed to students of different study fields at CULS and CU. The survey is being carried out in a period of 6 months, ending on 30.4.2015.

Methods: The results will be processed using the methods and tools of descriptive and inferential statistics. A contingency table will be used to test the mutual degree of association of (usually) a pair of variables that can only take a small final number of values. The tested criterion will be the sum of normalized differences of the marginal frequencies and their translated values, which in the case of independency will have an asymptotic distribution of χ^2 . The calculated value will be then compared to the critical value $\chi^2(\alpha)$ with $(r-1)(s-1)$ degrees of freedom, where α = required probability level of the test, r = number of rows of the table (particular questions about the expected services), s = number of columns (specifics of respondents) of the table. The potential correlation (or absence thereof) will be tested by way of contingency tables, with an χ^2 test at the 0.05 level. To measure the strength of correlation, Cramér's V method will be used.

Results: The preliminary results confirm awareness of agritourism as a form of general tourism amongst young people in the Czech Republic and their positive attitude to rural environment and the interest in spending their holidays in this type of setting. Local food products, accommodation of pets and accompanying animals and local festivals are amongst the preferred criteria.

Conclusion: One of the recommended strategies for the providers of services in agritourism, based on the preliminary results, is to take into account the study plans of Universities with agricultural focus and co-operate with them and offer material and services related to the particular study courses and diploma thesis, thus attract more young people.

JEL CODE: F18, Q10

Should we differentiate systems of own revenues in rural and urban local self-governments' budgets? Example from Lower

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Abstract

Introduction: The main purpose of this article is a presentation, analysis and comparison of their own revenues system in all rural (78) and urban(32) local self-governments (LSG) from Lower Silesian voivodeship in changing economic conditions during 2006-2014 period. The aim of this article is also to attempt to show how a present system of their own revenues in these two types of local self-governments have responded to crisis. LSG budgets need relatively stable revenues to sustain their responsibilities. Their revenues should be also fairly resistant to crisis and should not overreact to economic fluctuations. The present system of LSG own revenues have evolved since 1992 and it is universal for all types of LSG.

Data: The analysis of accessible financial budget data proved that the most vital revenues in the case of investigated types of municipalities are shares from PIT, CIT, real estate tax, tax on transportation vehicles, agricultural and forest taxes and revenues from LSG property. The estimates come from financial reports from The Regional Chamber of Audit.

Methods: To compare the meaning and importance of these revenues a comparative analysis has been carried out. Maximum, minimum and medians estimates,, but also the first and the third quartiles separately for all urban and all rural LSG in 2006-2014 have been taken into consideration. There are presented: a share of own revenues in total revenues in the consequent years, changes in total revenues in urban and rural LSG, differences between growth rate of own-median and total-median LSG revenues (percent points, $y/(y-1)$), a share of PIT and CIT shares' in own revenues, growth rate of LSGs shares in PIT and CIT revenues ($y/(y-1)$), share of local taxes and fees in their own revenues, differences in growth rate of LSGs local taxes and fees ($y/(y-1)$) and other main revenues share in own revenues of LSG.

Results: As it can be observed, shares of their own revenues in total revenues between 2006 and 2014 were changing more in urban LSG than in rural ones. The average growth of their own revenues was slower than the average growth of total revenues in 2008–2010 mostly in urban LSG. We can suppose that the main reason of it was a big share in revenues of urban LSG shares in PIT and CIT. This suggests that shares in income taxes are not a stable and efficient source of their own revenues during a crisis time.

Conclusion: The answer for the title question is not simple and obvious. Firstly there is a relatively low acceptance of sharing other than direct taxes between central and local government. Secondly – there is no space for new sources of revenue for local government – taxpayers will definitely not accept new taxes and charges. And thirdly, tax base of different types of LSG is also different between each type. So it may be more appropriate to find an alternative to urban/rural division of LSGs and next to adapt the system of their own revenues to their specifics.

Performance measurement for pig production by the use of the Balanced Scorecard

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Abstract

In recent years there are increasing management requirements in pig production due to volatile markets, increasing operating costs, administrative burdens and competitive pressure. Farmers are challenged to force their management skills and there is a demand for them to improve strategic farm management. However, in daily management practice there are numerous instruments such as sow planner and crop field card integrated in farm management, but so far there are no instruments exploited which are able to give an overview of all areas of farm business. The Balanced Scorecard (BSC) is a management tool that is able to close this gap and compensate deficiencies of already used instruments by providing information about performance and management activities on the farm. Additionally to the traditional financial indicators the BSC implements also customer requirements, operational processes and factors for farm development. Up to now the BSC concept is not adapted particularly to pig production and in general to farming in Germany.

The purpose of this study is to transfer the BSC concept to pig production and to get more information about the use of strategies and indicators by pig fatteners and breeders. From mid-September to mid-November 2014 farmers (N=78) were asked in a standardized online survey about what they consider most relevant for the strategic and operational success of pig production. The statistic software IBM SPSS 22 was used for evaluation of the questionnaire using uni- and bivariate methods. Descriptive analysis showed variations in farm structures of pig producers. Based on their specialization in pig production they were differentiated in three groups: breeders, pig fatteners and closed-system pig production. Appropriate indicators are identified for each group and analyzed by the use of mean comparisons and correlations. The results show that pig breeders and pig fatteners evaluate indicators and strategies differently because of their different focuses on how to achieve their goal — maximization of farm performance. Closed-system pig producers represent a mixture of both.

The concept of BSC focuses vision and long-term strategy with the intent to increase farm performance, whereby implementation of the BSC to pig production may result in a big benefit for management practice.

Acknowledgements

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JEL CODE: Q12

Income taxation in agriculture vs. competitiveness. International perspective and evidence from Poland

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Abstract

Competitiveness of agricultural production depends on a set of various factors, both at macro and micro level. Numerous studies indicated, inter alia, monetary policy tools, fiscal policy tools (OECD, 2006), agricultural EU and state subsidies, social security systems at the macro level. Various taxation solutions, including exemptions, deductions and reliefs, can affect farmers' decision on production and socio-economic mobility in rural areas (Glauben et al., 2012). In contrast, at the micro level organisational factors and socio-demographic characteristics may be significant. The main aim of the paper is to discuss the role of income taxation in agriculture from the perspective of competitiveness of this sector. The research goals are as follows (1) to evaluate income taxation systems in selected EU and non-EU countries (U.S. and Canada), given the criteria associated with competitiveness; (2) to present Polish farmers' opinion concerning transition to agricultural tax ('podatek rolny') to income burden. Our paper concludes with proposals and recommendations on the aforesaid process for policymakers. Our research framework base on critical overview and element of heuristic methods (including an expert evaluation method). In 2014, Department of Agricultural Finance at IAFE-NRI in cooperation with the Agricultural Advisory Center (ODR) Minikowo in Kujawsko-Pomorskie Region collected primary data through survey method. The research sample (98 farmers grouped according two criterion: farm area, sources of income, age of farm operator) was deliberately chosen. A detailed analysis of primary data included statistic description and econometric modeling (binary models). The expert evaluation method (a panel of agricultural economists -PhDs) leads to a detailed assessment of the impact of income taxation on competitiveness of agricultural production in analysed countries through obtained averaged weights for partial elements of agricultural taxation.

Factors, inter alia, types of tax deductions and exemptions, the method of the income estimation, the span between tax and financial income, tax education, as well as clarity and certainty of tax legislation decided on competitiveness of the sector. The particular attention should be paid to countries with preferences in farm income estimation (e.g. flat-rate methods, coefficients). Farm size, the type of agricultural production and off-farm income diversification affects farmers' opinion on the current taxation. The transition from the 'agricultural tax' to income tax was accepted by farm operators representing smaller entities (<20 hectares). Introducing income taxation in agriculture may lead to greater opportunities concerning tax optimization.

Determining taxable base, and, consequently, preferences, may significantly decide on competitive advantages of agricultural sector in international perspective. However, Polish policymakers should reasonably develop the concept of determining the estimated income in agriculture, taking into account the structural changes and the sustainability of public finances.

JEL CODE: Q14, H25, H87

Are there any differences in efficiency between Czech agricultural holdings managed by male or female farmers?

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Abstract

Czech society has experienced a boom in the number of university-educated females in the last 10 to 15 years. Consequently the business reflects those changes and the positions in the management (or even top management) are now more often taken by females. There are differences in the management style of both genders which might lead to different performance of the companies. Therefore, the aim of the paper is to examine the efficiency of holdings controlled by females in comparison with males with focus on agricultural firms. On one hand, the farms managed by females can be less efficient as women may be using traditional technologies either due to lack of knowledge, lack of access to modern inputs associated with new technologies or higher costs to adopt the new technologies. Also discrimination against women in the allocation of credit might weaken their bargaining position. On the other hand, this is truer for developing countries than for developed ones. Most estimates of male-female differences in technical efficiency from production function studies show that male and female farmers are equally efficient farm managers, controlling for levels of inputs and human capital.

In this article we apply Stochastic Frontier Analysis on the Czech farms' accounting data gathered from Albertina database and business register. An unbalanced panel contains information about 117 agricultural holdings for years 2007 to 2012. Altogether there are 526 observations. Traditional inputs (material, services and capital – adjusted for price changes, labor, and land – adjusted for soil quality) are used as explanatory variables in production function in Cobb-Douglas form. A "true" fixed effect model with truncated normal distribution of inefficiency term is estimated. The results are statistically tested and discussed in the context of previous researches. On average, the agricultural holdings are efficient from 57.29%, which shows that there is a space for improvement. The sample is then divided on males and females and the differences in technical efficiency of their farms are tested. We may conclude that there are no statistically significant differences between efficiency of agricultural holdings managed by males and females.

Acknowledgements

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JEL CODE: J16, C10

Socio-economic characteristics of households run by farmers and by entrepreneurs in Poland's rural areas

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Abstract

Both farmers and entrepreneurs from rural areas are distinguished from other professional groups in terms of socio-economic characteristics. It should be emphasized that this difference does not only concern individual features, but multifaceted individuality.

Comparing the features of farmers with those of entrepreneurs is essential due to the determination of the factors affecting the choice of a profession, or the offer of products directed to these professional groups. Adequate understanding of the specifics of these groups affects the proper fit of their durable goods, financial products, or government programs. Features of farmers or entrepreneurs also affect the prospects for the development of the sectors in which they work.

Firstly, the article presents a summary of the socio-economic characteristics of entrepreneurs and farmers as individuals. Secondly, it also shows the characteristics of households whose main source of income is agriculture or own business activity.

The objective of the article is to present the socio-economic characteristics of farmers and rural entrepreneurs within Poland's rural areas.

In the paper the authors researched the hypothesis: a farmers household is very distinguishable from an entrepreneurs household when we look at socio-economic factors.

The work was based on statistical data and a representative nationwide study – 'Social Diagnosis' (the number of respondents in 2013 amounted to 12.3 thousand). In the article the dependence of the characteristics was determined with the use of the chi-square test of independence (χ^2 test). Due to the research area of the paper, it is also based on a literature research methodology.

JEL CODE: Q12, R12

Animal welfare as a differentiation strategy for butchers

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Abstract

The sales structures of meat products have undergone significant changes in many European countries in recent years. Within a few years after the introduction of self-service meat in retail outlets, these stores have often overtaken the traditional butcher shops in terms of meat sales. Accordingly the service counters in butcher shops and supermarkets have lost importance among consumers. However, surveys show that in particular premium buyers with a higher willingness to pay still prefer the counter. At the same time a very critical discussion on intensive livestock farming can be observed in Western Europe. Consumer studies have shown that a high percentage of consumers evaluate the welfare of farm animals as deficient. About 20% of meat buyers in Germany, for instance, could be identified as a core target group for so-called animal welfare products. This target group is willing to pay more for higher animal welfare standards. In particular, service counters appear very suitable to successfully market animal welfare products to these consumers.

In this study we examine to what extent the topic „animal welfare“ offers a differentiation potential for butchers in the market for fresh and cold meat. Therefore, the “service counter customer” is analyzed through a consumer survey in order to accurately describe this target group. It is intended to survey 400 meat consumers who buy more than 50% of their fresh and cold meat at a service counter. The “service counter customers” surveyed in the empirical study are analyzed in terms of their purchasing behavior, health consciousness, cooking and eating habits as well as their attitudes towards the topics “organic” “regional” and “animal welfare”. Besides uni- and bivariate analyses, a factor and a cluster analysis are conducted. Based on the findings of this survey, it is to be checked in a second step, to what extent butchers meet the needs and expectations of the different target groups differentiated by the consumer survey. The aim of this study is to analyze which differentiation potential animal welfare issues offer for butchers in order to ensure the long-term loyalty of their regular customers as well as to win new or win back lost customers.

JEL CODE: Q13

Long-term changes in production and structure of Czech agriculture and the devices for modeling of future development of these

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Abstract

The paper deals with an analysis of the most important natural indicators that can offer a more detailed information on the long-term development and current position of Czech agriculture. The paper analyzes the long-term development tendencies and it is assessing the current situation of agriculture in CR. Analyzed are the land resources structure, the crop areas of farm plants, and crop yields of these, the livestock numbers and livestock production. It is based on the historical development of Czech agriculture's efficiency and it mentions changes in farm products consumption, too. The solution connects to accessible data sources (Czech Statistical Office, Czech Office for Surveying, Mapping and Cadastre, CR Ministry of Agriculture). Therefore, the time series are not explicitly limited. Data are analyzed and modeled by means of the time series analysis methods.

The farm crop areas have been diminishing permanently. The crop species diversity has been changing. The crop yields have been increasing following the more intensive application of spraying, crop improvement and modernization of the machinery and technology. Also the allocation of crops into more suitable soil and climate conditions for the given type of culture has contributed to higher yields. From the long-term viewpoint, significant changes are appearing in the structure and use of the plants grown. Growing of cereals (rye and barley, mostly) is giving way to the technical plants areas. The long-term decrease of livestock numbers in the CR is reflected negatively in the production of fattened cattle heads. In spite of the cattle slaughter performance increasing we are not self-sufficient in livestock production. Based on long-term time series, stability in the domestic livestock production can be really expected. As it concerns the future prospect, the considerable improvement of investments into agriculture using multi-resource financing offers positive expectations.

JEL CODE: Q10

Societal Perceptions of Forestry in Austria

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Abstract

Considering its versatile use and environmental profile, wood is a promising resource to contribute to the ambitious goals of a bio-economy. Despite consumers' positive attitude towards the use of wood products, studies have shown that the Austrian population has a vague picture of forestry as a business and is worried about its impact on the environment.

The sensitivity for environmental issues concerning wood supply poses a risk for the political agenda of increased wood use and no recent study on the societal perception of the sustainability of forestry exists. At the same time, private forest owners hold 80% or 2.6 million ha of the forestland and in the majority of cases the forest holdings are a part of farm enterprises. To provide suggestions for the future communication of wood supply, it is crucial to investigate sustainability communication of the Austrian forest-based sector and how the provided information is perceived.

To identify sustainability issues in wood supply, the online communication of Austrian forest sector companies and associations was analysed using a qualitative content analysis. The selection of companies and associations considered company size as well as the main field of business operation. To investigate the societal perception, concerning the previously identified issues, convenience sampling and an online questionnaire were used. Respondents were divided according to their relationship to the forest-based sector (e.g. profession, education or family) or their environmental awareness (by the New Environmental Paradigm).

The results illustrate a positive attitude towards selected items concerning forest management in Austria such as forest health and size of forest cover. However, the majority of respondents was indecisive, whether domestic wood comes from ecologically sound sources and whether forest regulations are sufficient to protect the forest. This indicates that forestry is positively perceived when it is communicated as a caretaker of forests, however this is not the case when it comes to forestry as a business. Surprisingly, the positive perception of forest management is linked to a higher environmental awareness, independent from respondents' relationship to the forest-based sector. Thus it is suggested that people with higher environmental awareness are more receptive to the sustainability communication of the forest-based sector, than people with lower environmental awareness.

Acknowledgements

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JEL CODE: L73, M31, A13, Q13

Demand behavior during a food scandal and the role of the media: The Case of Dioxin Contaminated Meat in Germany

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Abstract

In the last decade Germany and other European countries (e.g. Austria, the Netherlands) have repeatedly experienced severe food scandals. One of them was the discovery of contaminated feed leading to high dioxin levels in pork and poultry in Germany in 2011. This incident (known as the Dioxin scandal) attracted significant media attention. As usually in the case of food scandals, the Dioxin scandal was an unforeseen and temporary event whereas the origin or source of the contamination was initially not known. Although there were only negligible adverse effects for human health, a substantial impact on consumption patterns of consumers could have been observed. However, little is known about the influencing factors for the changes in consumers' buying behavior during the dioxin scandal and about the reasons for consumers' risk perception. Several studies show that the media coverage can significantly affect consumers' demand patterns during food scandals.

Thus, this study investigates possible changes in demand for pork, poultry and beef in the course of the German dioxin scandal in 2011 focusing on the effect of media coverage on the consumer demand. The response of German households is estimated with a dynamic correlated random effect Tobit model based on weekly panel data provided by the GfK. Our dataset contains detailed information on purchasing transactions and socio-economic characteristics of 16,023 consumer households from 2010 to 2011. Given that individual risk perception is a key factor in understanding consumer behavior in times of a food scandal, our approach allows for the analysis of individual specific characteristics, reducing an important research gap. Further, data on media coverage provided by Lexis Nexis and additional news archives is used to develop a media index. This media index accounts for the dynamics of the media coverage during the dioxin scandal and considers both the print media and the online news taking into account the decay effect of information as well as the estimated impact level of the considered newspapers and online news.

The empirical results show that unobserved heterogeneity is important to consider when analyzing the determinants of demand in times of a scandal. For pork and poultry meat products, the media had a significant negative effect on the propensity to consume as well as the quantity purchased in contrast to demand for beef products. Here the media coverage had a positive effect, which seems plausible because beef was not contaminated with dioxin resulting in no negative media coverage. These results provide implications for the development of adequate crisis and risk management strategies due to a better understanding of consumer behavior and the according determinants during food scandals.

JEL CODE: D12

The calculation of the minimum area of agricultural land required to self-sufficiency of average Slovak farm family

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Abstract

Introduction: Year 2014 was declared as the World year of the family farms. Also the new Rural Development Programme of the Slovak Republic for the years 2014-2020 focuses on issue of small farmers, young farmers, as well as family farmers. The paper is based on underlying data of the Research Institute of Agricultural and Food Economics of the Slovak Republic.

Methods: The aim of the article is to calculate the acreage of small farm, which will be self-sufficient for one average Slovak farm family. Average farm family represents four members. The model of small family farm consists from plant and also from animal production. The paper specifies farm size, which is the minimum area of agricultural land required for existing one farm respectively for one farm family. The paper is based on national Slovak statistics and EUROSTAT data. Data related to Slovak agriculture and farm development are analyzed through the set of basic statistical methods and also through the linear regression.

Results: Calculation in the article is in the theoretical way. On this model is possible to solve issue of minimum area with respect to farm specialization. The model in this paper is based on the assumption that the farmer is engaged in the production of all basic commodities of plant production and animal production. This model is very hard realized in practice but on other side there are small farmers who usually specialize in certain special commodities. In the calculation of agricultural land area are calculated total household expenditures per year without food expenditure because the food will be produced on farm and will be consumed by the members of family.

Conclusion: The Slovak average family expenditures are in amount 25 872.91 Euro per year and they have to be covered by farming activities. They need to have 88.66 hectares of arable land for covering family expenditures. In this amount of area is not included area of agricultural land required for the production of basic essential commodities - crops needed for human nutrition, calculated on the basis of average consumption per person per year. Area of agricultural land needed for planting and livestock consumption for family food production is in the size of 0.845 hectares. The result size of agricultural land required for the farm family life with 4 members is 89.503 ha.

JEL CODE: Q12

The Pork Consumption of “Generation Y” – A Means-End Analysis by Laddering-Technique

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Abstract

With a share of about 60% in the total meat consumption of Austria, pork plays a major role in the dietary habits of the austrian population. However, it has always done poorly in image analyses, because most people say that it is “fat”, “unhealthy”, and “not for special occasions” (vgl. AMA, 2013). The aim of this study is to find out, why members of the “Generation Y” (i.e. people born between 1979 and 1994) still buy pork. In fact, this target group has a reputation of living healthier and more quality-orientated, and to set high value on ethical aspects, like animal welfare and environment. Moreover, some studies attest these young people lower price sensitivity as compared to preceding generations. In order to elicit/identify motives for the consumption of pork, 25 persons of the “Generation Y” were interviewed by means of the laddering-technique, which is based on the means-end theory. “Wellbeing”, “healthiness”, and “increased life quality” were the most frequently mentioned motives, as well as “convention” and “enjoyment”. Moreover, the interviewees were asked, which prejudices against pork they were familiar with and for what personal reasons they would reduce their consumption. Both questions were most frequently answered with “bad husbandry conditions” and the excessive “use of drugs”. “Wasting of resources and the pollution of the environment” and the price being “too cheap”, were mentioned as other relevant reasons to avoid pork, as well as “inferior quality” as a common prejudice.

Additionally, the interviewees were asked about the role of possible alternatives to meat consumption, e.g. meat substitutes and in vitro meat. The most popular motives to buy meat substitute were “healthiness”, “the protection of animals and the environment”, and “variety”. Regarding the question of in vitro meat, more than half (n=13) of the interviewed persons indicated having heard of the topic. In this context, few participants mentioned ethical concerns, and the majority (n=9) found it disgusting. Hence, it was (at that time) for almost nobody a serious alternative to the consumption of real meat.

Acknowledgements

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JEL CODE: Q13, Q02

Integrated landscape modelling of climate change impacts, mitigation and adaptation policies in Austrian

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Abstract

Climate change will likely trigger autonomous farm adaptation as well as regional to national mitigation and adaptation policy processes. We present an integrated modelling framework (IMF) combining a bio-physical process model, data from a forest growth model, and a bio-economic multi-farm model at field, farm and landscape level. The novel feature compared to other IMFs is the spatially explicit representation of the field-farm-landscape nexus. This improves the representation of opportunity costs of mitigation and adaptation measures, yield impacts, and scalability of abiotic and biotic effects. The vector-based landscape data in the IMF enables analysis of landscape structure and biodiversity developments. The IMF is applied on two contrasting grassland and cropland dominated landscapes in Austria to analyze impacts of climate change and policy scenarios on farm production as well as on the abiotic and biotic environment. Three climate change scenarios until 2040, which vary in precipitation assumptions (0%, +20%, -20% change from observed annual precipitation sums) are combined with an impact, mitigation, adaptation, as well as a joined mitigation and adaptation policy scenario. Assumed climate change impacts and CO₂ fertilization effects are beneficial on average to most farms in both landscapes in the IMF with larger impacts from climate scenarios in the northern than in the southern landscape. Aggregated total farm gross margins range between +1% and +5% among the three climate change scenarios without policy intervention. They increase to +6% to +9% in the mitigation policy scenario, which for example provides financial incentives to adopt soil protection measures and less intensive land use. Adaptation policies increase flexibility in land management, triggering, for instance, conversion of grasslands to cropland. Higher crop productivity from climate change leads to deteriorating environmental conditions in the northern landscape, while higher grassland forage yields allow for more extensive and environmentally friendly land use in the southern landscape. However, this result is subject to the options for marketing forage products in the model. Autonomous adaptation by farmers as well as mitigation and adaptation policies are effective in maintaining or even increasing farm gross margins, but likely lead to trade-offs between farm profits, budgetary spending, and environmental outcomes.

Acknowledgements

This work was supported by the project "Analysing climate change mitigation and adaptation strategies for sustainable rural land use and landscape developments in Austria" (CC-ILA) funded by the Austrian Academy of Sciences as well as within the FACCE-JPI MACSUR project supported by the BMLFUW. The computations have been achieved (in part) using the Vienna Scientific Cluster (VSC). We are grateful to Hermine Mitter for her support in processing EPIC outputs and to Franz Sinabell for providing economic scenario parameters. Georg Kindermann provided forest growth data based on the ACRP project CAFE.

Are V4 countries competitive in production of main oil-bearing crops in the perspective of production self-sufficiency and foreign trade development?

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Abstract

Introduction: National level of self-sufficiency of EU member states is not from the perspective national agricultural policies as important as in countries outside the EU as Common Agriculture Policy (CAP) and single market exists. But still the national food self-sufficiency belongs to the internal factors of national security and therefore some governments pay special attention to food self-sufficiency rates. In some countries food self-sufficiency belongs among strategic security factors and therefore governments tends to apply different policies to ensure increase in domestic food supply. Existence of the single market does not allow member countries to introduce internal tariffs or quotas and therefore national self-sufficiency should be increased by support and growth of production efficiency. In the framework of European Environmental Policy, specifically due to the European Bio Fuels Policy, significance of oil-bearing crops increased. Although usage of 1st generation biofuel will be limited by the EU directive, support will be aimed at 2nd generation fuels. Production of oil bearing commodities will remain important. Based on the strategic and policy reasons, article analyses self-sufficiency and competitiveness of selected V4 countries with respect to production of most widely cultivated oil-bearing crops in the region – oil seed rape and sunflower.

Data and Methods: Commodities were evaluated between years 2000 and 2013, for the trade coverage analyses calculations were based on data between 2002 and 2013. Trade cover is evaluated for years between 2002 and 2013. Because Eurostat does not publish commodity balance sheets (except wine), authors need to derive necessary information from national competent authorities (Ministries of Agriculture, National Statistical Offices, Eurostat, FAOstat, etc.). Information about foreign trade have been collected from the Market Access Database of the European in the form of the harmonised system (HS4 and HS6). The self-sufficiency rate index was calculated, where consumption is accounted as the sum of individual national consumptions (human consumption, industrial consumption, etc.) and production was derived from commodity balance sheets.

Results and Conclusions: Slovakia and Hungary has positive trade balance in both oil crops, while Czech has negative trade balance in sunflower products. Czech Republic has lower values of trade coverage in trade values for sunflower, it means that Czech Republic imports rather higher value-added items (e.g. oil) while exporting seeds and oilcake. Based on the results it can be expected, that production area will not change significantly in the near future. All member states of the EU were obliged to introduce certain level of bio-substance into transportation fuels, this level was observed by all analysed countries. As it is expected, no further increase in amount of compulsory bio-component, there is no reason to increase significantly production of oil-bearing crops, *cateris paribus*.

JEL CODE: Q17, Q18

Agricultural market of post-Soviet countries and its comparison with selected group of countries

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Abstract

Introduction: Agricultural trade is growing within and also between individual regional markets. An example of such a trend is evident in the Commonwealth of Independent States. A special position of agriculture is the main reason for limited trade cooperation among the countries. None of the countries want to lose its self-sufficiency and control over its agriculture and foodstuff market.

Objectives and Methods: The objective of this paper is to identify the main changes and trends related to agricultural market development. The paper focuses on changes related to agricultural trade value development realised by the CIS countries. The agricultural trade is analysed using the Lafay index. The whole analysis is conducted according to the harmonised system (SITC 3 rev.) in current USD.

Results: During the nineties, former Soviet Union countries lost a significant portion of their agriculture and foodstuff production capacities. The result was a significant reduction in export and massive growth of imports. The low level of self-sufficiency as well as the increasing negative agricultural trade balance was a stimulus for the government to reconsider their policies related to agricultural market development. The results show that the agriculture and foodstuff production capacity of Russia and all the CIS countries has increased over the last decade; self-sufficiency is improving especially at CIS level. Individual countries encourage their mutual cooperation – they have already established an entity similar to a free-trade zone and in the future they would like to establish a custom union or common market. The level of protection of their market is increasing – especially in the Russian Federation. An effort to provide enough space for growth of domestic production capacities is especially visible with respect to the applied ban on selected foodstuff imports.

Conclusion: The most significant changes over the analysed period are:

- Strengthening of CIS/analysed countries' agricultural production.
- Strengthening of CIS/analysed countries' agricultural trade performance – especially export performance.
- Strengthening of the comparative advantages of CIS/analysed countries' agricultural export.
- Strengthening of CIS/analysed countries' mutual agrarian trade cooperation.
- The value of CIS countries agrarian trade is increasing especially because of their commodity structure restructuring

Acknowledgements

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JEL CODE: Q13, Q17, F15

The Czech agrarian foreign trade – ten years after the EU accession

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Abstract

The EU accession influenced both territorial and commodity structure of the Czech foreign agrarian trade. Czech agrarian foreign trade is dominated by EU market. The share of non-EU countries in Czech export and import activities is marginal. While in the past Czech exports were dominated by raw commodities, nowadays Czech exports are based on semi-finalized or already finalized agricultural and foodstuff products. Czech agrarian imports are dominated by non-competitive products. Despite of decreasing share of agricultural trade in total Czech Foreign trade activities, the values of agrarian exports and imports are constantly increasing. Only in period 2005 – 2013 the value of agrarian exports increased from CZK 62 billion to more than CZK 179 billion and imports rose from CZK 93 billion to more than CZK 198 billion. The aim of the article is to identify the main tendencies and trends in territorial and commodity (Value and also volume) structure of the Czech foreign agrarian trade and paper is also identifying changes which have occurred in period after the EU accession (separately are identified those changes which affected trade relations between the Czech Republic and the European Union and the special attention is devoted to changes affecting Czech agrarian trade in relation to so called "Third countries"). The article is based on data of the Institute of the Agricultural Economics and Information (IAEI) in Prague, the Czech Statistical Office (CZSO) and Eurostat. An analysis of the commodity structure is based on the international tariff nomenclature for the classification of product HS2. Elementary statistical and mathematical methods are used to fulfil the aims of the article. Time series are complemented by calculation of the annual growth rate, respectively, the growth index is calculated (through the chain index). Next indicator used is the export-import coverage ratio. The article evaluates also comparative advantages of the Czech agricultural exports, both in relation to EU-Member States and third countries. To identify comparative advantages, the Lafay index is applied. The main results coming from the paper are the following one. The EU share in the Czech agricultural trade reaches about 90% in the long-term. Within the EU, the Czech Republic is oriented strongly on trade with new member states. In relation to the third countries, the CIS, EFTA and OECD countries belong to the most important export territories. Imports to the Czech Republic from third countries come mostly from developing countries. The commodity structure is profiling significantly in recent years. The Czech agricultural exports are based on a relatively small number of commodity aggregations, which represent a substantial part of the export value. The share of processed and semi-processed products increases and exceeded already 70%. Another positive aspect is also increasing export-import coverage. The key aspect of the Czech agricultural trade is its competitiveness, which is continuously profiling. The Czech agricultural market still does not have any profiled structure of comparative advantages and thus it misses a definitively defined commodity structure, especially in relation to the EU-Member States.

JEL CODE: Q17, Q13

Economic Effectiveness of Agricultural Holdings in the Czech Republic

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Abstract

Agricultural companies constantly face new challenges and they have to adapt with those challenges in this dynamic world. According to Law on agriculture, the purpose of this law is to create conditions ensuring ability of Czech agriculture to provide basic nutrition, food safety and needed non-food raw materials, to protect components of the environment like land, water and the atmosphere, and to maintenance of population and cultural landscape, to create conditions for carrying out of the common agricultural policy of the European Union, to create conditions for development of economic activities and improvement of quality of life in rural areas. The economic results of agricultural companies are influenced by many factors which are inside or outside of enterprises. Internal factor is for example a level of reached production intensity. External factor is for example an amount of financial support. The aim of this paper is to analyze and evaluate development of economic effectiveness of agricultural enterprises.

Data: Data were obtained from the database Albertina for a period of six years from 2007 to 2013. There were analyzed selected enterprises in agricultural sector. In this research there is studied the effect of different variables of financial analysis such as profitability ratios (especially return on sales, return on assets and return on equity), activity ratios (especially inventory turnover, days cost of sales in inventory, accounts receivable turnover and days sales in receivables), liquidity ratios (especially liquid ratio, quick ratio and current ratio) and leverage ratios (especially the level of debt and the creditors' risk indicator).

Methods: The methodology in this paper consists of the calculation of the variables above (especially profitability ratios, activity ratios, liquidity ratios and leverage ratios).

Results: The results show that the year 2008 was very risky for enterprises. Prices of agricultural commodities went down but prices of purchased material increased. The main reason of this situation was the low realization prices. The values of profit before taxation were negative before the year of 2008.

Conclusion: According given results can be stated that the indicators show satisfactory level of economic efficiency of the Czech farmers. There is obvious the impact of the financial crisis which is date for the years 2007 and 2008 in the most of the calculated ratios, but the influence of the crises can be observed with the lag and it is most significant in 2009, except the DER and DR ratios, where the worst values were calculated for the year 2008. In spite of that there were still very good results for some used ratios (e.g. liquidity ratios) in 2008, resp. 2009. But for the rest of used indicators the years 2008 and 2009 caused worse values.

JEL CODE: N50, O13

Open data and rural development

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Abstract

Introduction: Open data is a well-supported agenda within the government administration, public or national institutions in the Czech Republic and other European countries. Open data is free data available on the Internet in structured and machine-readable form. The structure and format of open data should allow its mass processing provided a legal permission by the data owner. This enables further data processing using software applications. Publication of open data is important tendency.

Methods: The main aim of the paper is analysis of collection of open data in the fields of agriculture, forestry, water management, food industry and countryside and their importance for rural development. The methodical approach consists of primary analysis of current state of open data usable for regions development including selection of model data. The research questions addressed in the research are such as: "Are open data crucial for rural development?"

Results: Open data is one of the key tasks in the Governmental Strategy of fight against corruption. The Department of Information Technologies FEM CULS in Prague has started cooperation with Czech Ministry of Agriculture on the research of open data in agriculture and rural regions. The generality of this paper is due to the fact that this article is an initial study on the issue and the results of the study will be used for further related research.

Conclusion: The paper presents that the benefits of open data consist mainly in supporting the economy and transparency of public administration. The published data is the source of innovation, business opportunities and job offers.

Acknowledgements

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JEL CODE: Q1, P25, L86

Personnel structures and incentive schemes in big and expanding dairy farms

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Abstract

Since decades changes in agricultural policy and ongoing structural changes have made family-run farms develop into bigger operations. These expanding operations increasingly employ non-family labour (MÖLLER 2002; SCHAPER 2011). Henke et al. (2012) state that because of structural changes and gaining access to bigger farm sizes as common in Middle and Eastern Europe after the revolution, personnel management has become more and more important in agriculture since the late 1980s.

Particularly, with regards to the liberalisation of the EU milk market the structural changes of dairy farms will go on (Latacz-Lohmann 2012). Furthermore, Hadley et al. 2002 specify that especially expanding dairy farms often are challenged by personnel management. Hence it is the question how to solve personnel management issues of big and expanding dairy farms. The aim of this study is to give an in-depth view of successful personnel management practices of big and expanding dairy farms, to define personnel structures and to describe incentive schemes of such expanding dairy farms. With the anticipated increase of knowledge current personnel management strategies of dairy farms could be changed to be more successful in terms of personnel management.

This study relies on the qualitative approach of expert interviews with farm managers of big and expanding dairy farms from different regions of Germany. The approach of expert interviews has been chosen to generate rich and descriptive information about personnel structures and successfully used incentive schemes of expanding dairy farms. The analysis of the interviews was done according to the qualitative content analysis. First, every expert interview has been word for word transcribed and paraphrased. As a next step the coding was done manually assisted by the program Atlas.ti.

The results of this qualitative research approach show interesting differences between dairy farms in terms of using incentives. Furthermore, a wide range of immaterial incentives is used by the interview partners. Surprisingly, there are no big discrepancies in the amount of wages for employers on the same level of hierarchy between different regions of Germany.

In the area of personnel structures slight differences between dairy farms are found due to different regions. All in all the managers of the dairy farms are aware of the increasing importance of fully developed incentive schemes and well adapted personnel structures of dairy farms for the future.

JEL CODE: M12, M52, M54, Q19

Does a high share of organic farms contribute to alternative rural development pathways?

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Abstract

With 19.7% of its utilized agricultural area (UAA) being certified organic, Austria has the highest share of organic farmland in the EU. Within Austria, the province of Salzburg takes a leading role, as almost 50% of its UAA is certified organic. This makes it an interesting case-study: what does 'organic' mean for the farmers in a region where almost one in two farmers is certified organic? What opportunities are perceived by farmers? Are there differences in perception between farmers? In a research project 30 semi-structured interviews with farmers (16 organic/14 conventional farms in Salzburg) and 13 semi-structured interviews with regional actors were held. Issues linked to farm development, to the attitude to one's own production method and to the high share of organic farming were discussed with respondents. The interviews were recorded and transcribed in full. The analysis is based on qualitative content analysis, and both deductive and inductive coding were used. The results show that both the conventional and organic farmers describe the high share of organic farming as 'not that hard' to implement. Farming in Salzburg is generally perceived as 'almost organic anyway' as it is dominated by extensive grassland-based dairying, in a mountainous, less favored area. While this has promoted the conversion to organic farming, it has also made it difficult to distinguish between (extensive) conventional farms and organic farms, especially since requirements for environmental protection and animal welfare in conventional farming are quite high. Within the organic farmers, the respondents identified a broad variety, ranging from 'full speed ahead' farmers who maximize production, to 'value-based' farmers for whom organic farming goes beyond the letter of the regulation. Consequently, there are two broad views of the desirable future for organic farming in Salzburg: (1) maintain current requirements and welcome a broad diversity of farmers into organic farming, thus securing high quantities of organic milk for the dairy industry; (2) ensure that organic farming does have a 'unique selling proposition' and identify value-added elements that sets it apart from (extensive) conventional farming. Farmers in the latter group are engaged in linking organic farming with local artisan processing, with traditional production methods (e.g. hay-making, spending summers on the alps), and with social innovations (e.g. CSA, cooperations with SME and schools). The case study shows that a high share of organic farming in a region increases the diversity of development pathways, both for individual farms and for collaborations and joint (marketing) initiatives. The high share thus opens up new opportunities, enables social innovation and safeguards diversity.

Acknowledgements

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Changes in the Assessment of Conditions of Living in Regions of the Czech Republic

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Abstract

Introduction: Population's conditions of living, the state and development of these, represent a very important indicator of the entire economic situation and first of all of the perspectives of further development of the given territory. Recording and assessment of trends in this domain offers an important information as the strategical management and decision making about regional development are concerned.

Attention must be paid on areas endangered by high unemployment, inadequate infrastructure and last but not least inappropriate age structure of the population, which does not guarantee availability of human resources for future. Most of these problems are confronting the regions with higher proportion of small municipalities and higher share of agricultural production.

Data: For the evaluation of living conditions, data was selected from a survey of the Czech Statistical Office (Statistics of family accounts), which besides objective quantitative data, includes also subjective opinions on the living standards of households. Due to the assessment of trends, an analysis was carried out for the years 2005 and 2012, respectively 2013.

Methods: Taking into account that they set up a multi-dimensional (multivariate) quantity including on one side indicators determined objectively that are, as a rule, of quantitative nature, and on the other side indicators representing the subjective assessment of the conditions of living by the given respondent, methods that are up to the complexity of the analysis have to be chosen for the assessment. As a proper device for selection of the relevant indicators and assessment of their mutual effect, the multivariate statistical methods seem to be applicable, here, first of all the principal component analysis and the cluster analysis.

Results: The aim of the performed analysis was to determine factors, which hold fundamental importance in the evaluation of the living conditions in the regions and what changes have occurred. Followed by determining the ranking of regions in terms of evaluation of objective (quantitative) indicators and in accordance with subjective assessment of respondents.

Conclusion: From the performed analysis it is apparent that quantitative indicators still have the highest weight in the household income and the unemployment rate, in terms of subjective assessment of living conditions and changes which occur. Evaluation of income situation is indeed in the forefront but nowadays the attention is paid mainly to the state of the environment, vandalism and crime in region. Then from this perspective, it clearly shows higher satisfaction of respondents in regions

JEL CODE: C38, Q51, R11

Pilot analysis of key factors in honey consumption

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Abstract

Introduction: The beekeeping is very important element for agricultural mass production and nature. The predominated group in the Czech Republic is group of hobby beekeepers. The knowing of honey consumer behaviour is one necessary way to change economic situation of the Czech beekeepers. In this year the internal grant project No. 20151030 on FEM CULS Prague has been started. Before the main survey of the project a pilot study of consumer behaviour key factors was conducted. The aim of the paper is identify to consumer's perception of honey quality in connection of his/her purchasing behaviour in the pilot study.

Data: Data are from a questionnaire survey. The questionnaires were distributed within the Czech Republic from the beginning of August 2014 till the end of September. Their return was about 80 - 90 %. The questionnaire was answered by 258 respondents.

Methods: The used method of the pilot study is a questionnaire survey. Subsequently dependences are determined and tested in SPSS programme. The dependence of consumption of honey is determined on the factors: gender, age, residence. The dependence of current price of honey is determined on the factors: gender, age, residence and household income. The dependence of willingness of consumers to pay a higher price for honey without any change of purchased quantity is determined on gender, age, residence and household income. The same factors are tested for consumption of mead and willingness of consumer to pay ticked purchase price of one bottle of mead (0.5 l).

Results: The results identify basic dependence of factors of honey consumption (without a view of sensory aspects). Consumers still not have enough information about typical colours of honey. There is an association between kind and colour of honey, but the association is medium strong and honey consumers know relatively the relation between kind and colour of honey. It has been founded out that honey consumption is not dependent on factor gender and permanent residence, but age is a factor that influences the honey consumption. The (current purchase) price of honey is not dependent on some other factors (gender, age, permanent residence and income of household). Gender and permanent residence seem to be factors that influence the preparedness of a consumer to pay a higher price for honey without any change of purchased quantity, but both dependences are weak (low Cramer's V).

Conclusion: On the base of the results from statistic testing the recommendation for the following research activity is following: To find a honey product with optimal trade characteristic combinations for consumer by a multicriterial analysis, because honey is not a typical good with the typical economic behaviour.

JEL CODE: Q13

ICT Influence on Supporting Agribusiness Development

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Abstract

Introduction: One of the most prominent factors in nowadays economic environment is the company's ability to process data, information and knowledge at the highest possible precision rate. If a company strives to retain or increase its competitive edge, its data and information processing requires a decent use of technological innovations. The significance of farm management information systems is indisputable. Lewis (1998), for example, stated that, „innovative tools for computer and database administration have the potential to increase both the quantity and quality of information available for decision-making.“ In the Czech Republic, information and data mining for managerial purposes in the agrarian sector has been on a very low level in the long-term. Taking the above-mentioned facts into consideration, a survey in agricultural enterprises has been carried out.

Data: The present paper is aimed at two hypotheses:

H1 – decision-making software in agricultural enterprises – the survey is expected to assess the percentage of enterprises using Business Intelligence software results in their decision-making processes
H2 – influence of both the information acquired and management skills on the quality of the decision-making processes.

Methods: A survey based on the hypotheses has been carried out in primary production agricultural enterprises. The hypotheses related to management outputs and outputs enhancing multifunctionality in agriculture were determined on the basis of knowledge and experience of agrarian specialists. The objectives of the research were the following:

- to create an appropriate environment and a database enabling decision-making simulations in all enterprise units/departments
- to create a suitable environment promoting multifunctional activities – processing activities, agrotourism etc.

Results: The survey showed that agricultural enterprises do not use Business Intelligence software at all – actually, the decision-making processes are driven by Excel software outputs at the most. The survey has been therefore complemented by direct enquiries – it has been found out that supply of suitable software is limited and agribusiness management requirements relatively high.

Conclusion: In the conclusion, the paper brings a concrete solution stemming from the survey results. It provides an outline of outputs that might considerably facilitate managerial decision-making in agricultural enterprises.

Acknowledgements

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Increase in work efficiency with information sources in areas of agriculture and rural development using UX

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Abstract

Introduction: The UX (user experience) approach in software development and web or mobile application development has seen a significant increase in usage. However there is no uniform agreement or methodology for efficient UX solutions on general level. There are many studies about this topic, but always based on specific scenario and those studies often present contradictory results. The same is true for the area of countryside development, agriculture and similar fields of study. Apart from those issues, UX is lacking norms which could serve as tools for guidance in the design and development processes.

Data: There are many UX techniques being widely used, for instance the five-second test involves displaying visual render of web page for five seconds, after which the respondent is given a series of questions asking about aspects of presented web. Other methods include eye tracking, which is commonly used in usability tests, analyzing user satisfaction levels during and after interactions with digital content and analysis of efficiency of experience and knowledge transmission from the source to the user.

Methods: Basic scientific method of analysis and synthesis was used for solution of given issue, along with experimental pilot verification. Analyzed methods were eye-tracking, visual five-second test and usability test. The latter two were followed by a questionnaire. The tested application was new mobile version of agricultural WWW portal Agris. Users were divided into two groups – those with previous experience with the portal and those without it.

Results: Users that had previous experience with the portal did not have any trouble completing the usability test. The five-second test however did not yield any significant results. The second group of users took a much longer time to complete the usability test, and the five-second test did not bring any results at all for this group. The eye-tracking method had positive results for both groups.

Conclusion: The test runs and their results have proved that the five-second test is not suitable for the issue of web information sources UX in agricultural sector and rural development. Conversely tests of usability and eye-tracking tests are very adequate and beneficial in this area.

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JEL CODE: P25, L86, O32

Mobile accessibility of information sources in the areas of agriculture, forestry, water management, food industry and rural development

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Abstract

Introduction: Present-day society offers growing range of information sources as well many new ways to access them from various client devices and platforms. The greatest upsurge of novelty technology is concentrated in the area of dedicated and multipurpose mobile devices. There is a huge variety of mobile machines using several platforms, through which users connect to server-based information sources.

Data: Server operators have to decide whether they want to create expensive, but thanks to optimization fast native applications with difficultly implemented data synchronization, or to resort to responsive content output, which can possibly also raise the expenditure due to the specific user habits on each of supported platforms. At this time there is no uniform practice on how to allow access to server information sources in general, let alone in agriculture and similar areas.

Methods: Basic methods of analysis and synthesis were used for the solution of this topic, as well as rudimentary experimental verification and final evaluation. Submitted paper addresses the analysis of creating native mobile applications, hybrid applications for multiplatform environment and responsive design embedded in web application. Experimental verification is performed on agricultural WWW portal Agris, which is one the most commonly used information source in Czech Republic in areas of agriculture, forestry, water management, food industry and rural development, with approximately 30 thousand visits each month.

Results: For users in the agricultural sector it is most suitable to create native application for Android platform. Users can have such an application with them at all times and thanks to synchronization it will have offline capabilities as well. From developer perspective it is however much easier and faster to create responsive web application which can effectively and ergonomically display output into mobile device browser.

Conclusion: An added value of the agrarian WWW portal is a significant improvement of availability and efficiency of presented information on mobile devices too. The target group are business managers, government administration, local governing bodies, students, food consumers and countryside residents.

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JEL CODE: Q13, L86, O32

Projection of Czech agricultural workers' gender structure

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Abstract

Considerable number of researches related to the gender issues in agriculture shows the importance of this topic. Especially in the agriculture of developing countries a various global organizations (FAO, World Bank, UN etc.) highlight the importance of women empowerment, but the knowing the age-and-sex structure of the agricultural workers population is also important in developed countries.

The current age-and-sex structure of the population and of the workers in agriculture, fishery and forestry is surveyed by Czech Statistical Office in periodic Census. While, the future population development is a subject of many studies, the number of males and females agricultural workers is still mild. It is due to the obstacles in methodology of projection of particular population group. For both above stated reasons, the aim of the paper is to project the age-and-sex structure of Czech agricultural economically active workers. The calculations use cohort-component method with certain assumptions. Mortality development of the population, expressed by life expectancy and total fertility rate expectations are taken from Eurostat. Net migration balance is expected to be equalled to zero in long-term period. The data from 2011 Census (by Czech Statistical Office) are used and the calculations for following 35 years (i. e. until 2046) in 5 years interval. Despite that the share of agricultural workers on the total population is assumed to be constant, the relations between males and females develop. There have always been more males than females workers. There were only 30% of women working in agriculture, forestry or fishery in 2011, but in 2046 only 28.6%. It is due to the fact that the age-and-sex structure changes in time not only by strong and weak generations, but also according to the motivation, (e.g. by parents and teachers), or by personal preferences to study, work and remain in a particular sector. The development of important statistics arising from our projection shows not only the changes in the proportions of male and female workers, but also the changes in average ages, female longevity and deterioration of social dependence indices.

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JEL CODE: J11, J16, Q01

Methodology of usability testing of the next generation of editors for agricultural web portals

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Abstract

Introduction: Information technology progress allowed people without knowledge of web technologies (HTML, CSS, etc.) to create websites via content management systems. WYSIWYG (What You See Is What You Get) editors are used in these systems for inserting and updating content of web pages. The editors are optimized for simple tasks like text modification, addition of pictures or other media, etc. The simplicity of these editors can lead to different kinds of problems like inconsistency of generated HTML code or problems during more complicated tasks. From the point of view of end user, problems in usability are the most serious. Users perceive difference in usability, because the interface of the editors for more complex tasks is not optimized for users without knowledge of the needed technologies. The user interface in current editors can appear to a user as unintuitive or with illogical structure of steps to accomplish an advanced task. These factors make work with current editors difficult for users. Usability testing is required in all stages of development of the editors to improve the user experience and usability of the next generation of these editors.

Methods: Expert evaluation of the usability testing methods was used to choose the optimal methods for the testing of the next generation of editors used in agricultural online magazines and agricultural web portals. Testing methods were compared according to: number of participants, stage of use, cost of equipment needed for the performance of testing and type of collected data.

Results: Full methodology for the usability testing of the next generation of editors was created. The methods and number of participants for the each stage of testing were chosen according to a situation, where the full usability testing is performed by smallest possible team with no specialized equipment. The focus was to choose and to modify the selected methods and reduce testing expenses without any impact on the quality of results.

Conclusion: Web content management systems are used by people with no knowledge of web technologies. Users from agricultural area and agribusiness mostly belongs in this group. Better editors for creating web pages can help improve their competitiveness. For this improvement the usability testing is necessary. On the other hand, usability testing in the full scale is very expensive. The optimal relation between the expenses of the testing and quality of the test results helps implementing usability testing at a bigger rate.

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JEL CODE: D83, L86, Q13

Making monopoly profits and price discrimination on food commodity markets

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Abstract

Introduction: A model of monopoly in the food sector assumes a single firm on the market, which produces and offers a unique (homogeneous) product, for which there are no close substitutes. The fact that a monopoly firm has a certain monopoly power allows it to use a pricing strategy called price discrimination. The essence of price discrimination is to gain consumer surplus and convert it into additional profit for the company without having to take the costs into consideration. Second-degree price discrimination consists of setting different prices for different cumulative quantities of a commodity. By this discrimination a monopoly may obtain a part of the consumer surplus (but not all of it). The aim of this paper is to express a rate of exploitation of consumer surpluses in the second degree price discrimination in relation to selected food products of monopolistic character.

Data: We will compare the price of a bottle of Coca-Cola with the price of one bottle of Coca-Cola in a bulk in the selected store at a particular time. Following two tables show prices of Coca-Cola at different stores at different times.

Methods: The problem concerns the surplus of consumers purchasing individual food products in comparison with the bulk (cumulated) buying of a given product. The result of the paper will be answering a research question: How is second degree price discrimination done in practise? The methodology of scientific research will be based on monitoring prices of selected food products in retail chains and comparative analysis of collected data and its evaluation.

Results: The comparison of the price of a liter of Coca Cola in bulk (four two-liter bottles) and the price of single bottle (two-liter bottle) done on 11th May 2015 in Tesco shows that the price of one liter of beverage in the case of buying larger packages is by 7.09 CZK lower. The relative price difference is minus 37.41%. The consumer surplus which the company draws in the context of second-degree price discrimination when buying one bottle Coca-Cola versus buying large packs of four bottles in May 2015 was 7.09 CZK per liter of beverage. Thus, the seller receives the consumer surplus totaling 37.41% of the beverage.

Conclusion: Agriculture or food companies with an absolute monopoly determine their offer of specific food products according to the function of the expected total market demand and the expected profit at the given function of total cost, based on the effects of various combinations of planned levels of market prices and quantities to supply the expected demand, regardless of the existence of possible competition from other companies.

JEL CODE: D42, Q02

Non-agricultural investors in German agricultural companies

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Abstract

While the purchase of agricultural land in Germany is subject to administrative approval, capital shares in agricultural companies can be bought without equivalent control. Non-agricultural investors might use this as a way to indirectly obtain property rights over farmland. Law amendments are discussed, though there is little evidence about the actual relevance of non-agricultural investors. The aim of this research is to assess the extent of non-agricultural investors' activities in agricultural companies, as well as their effects on agricultural structures and rural areas. With the help of expert interviews, characteristics were found which are essential for the assessment as "non-agricultural" investors. For this investigation, "share ownership" was defined as capital shares in companies which are obliged to reveal their ownership structure in public registers. In regional case studies, commercial farms which have these legal forms were examined with respect to the kind of shareholders and changes in their composition since 2007. Since then data have been registered in the Electronic Trade Register and are accessible on-line. Further research was made in the DAFNE database of commercial enterprises, by which further activities of the shareholders could be examined.

Results show that "non-agricultural investors" are not a homogeneous group. Essential characteristics are the industrial background of the investor, their place of residence, the extent of their overall investment in the agricultural sector, and majority ratios in the share capital. With these criteria, expressed in terms of binary attributes, examined companies were classified into eight different case groups.

Case studies show that activities of non-agricultural investors are mostly confined to the East-German, new federal states. In three East-German case study regions, only 48 percent of 63 companies belong solely to local agricultural shareholders; 38 percent are the property of investors with non-agricultural commercial activities. Most of these investments have been established before 2007, but in one third, investment started after 2007.

Expert interviews revealed that external investors have both positive and negative effects. While the farms regularly gain competitiveness, their product range and job numbers are often reduced. Effects on the rural region depend much on the behaviour of the individual investor. Further research is necessary on the effects of super-regional agricultural holdings which have increased recently.

JEL CODE: Q15

Measuring Agency Costs in Agriculture

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Abstract

Agency costs can be defined as the sum of the monitoring expenditures by the principal, the bonding expenditures by the agent and the residual loss (see Jensen, Meckling 1976). To minimize agency costs in a firm is beneficial for stakeholders.

The few studies that have attempted to directly measure agency costs have analysed US and UK firms. For example, (see Ang et al. 2000) analysed small unquoted US companies and (see Singh, Davidson 2003) examined quoted US companies. So far, to our best knowledge, no study dealt with agency costs in the agribusinesses in the transition economies. We analyse the unquoted agricultural farms in Slovakia. The main contribution to the theme of agency costs, apart from the analysis of the agency cost in the transition agriculture, is the verification of assumption that the legal form of a farm determinates the level of its agency costs.

Our analysis is based on a database of primary agricultural production in Slovakia with individual company data over the period of 2000 – 2011. The data are collected by the Slovak Ministry of Agriculture. We split the farms into two basic legal forms: cooperatives and companies - JSC, Ltd.. We analysed a panel consisting of 409 farms; each farm was economically active during the period 2000 – 2011.

To measure agency costs of the farm, we used three alternative efficiency ratios: the expense ratio, which is operating expenses to annual sales (AC1) and the asset utilization ratio, which is annual sales divided by total assets (AC2). The first ratio is a measure of how effectively the firm's management controls operating costs, including excessive perquisite consumption, and other direct agency costs. The second ratio is a measure of how effectively the firm's management deploys its assets. In contrast to the expense ratio, agency costs are inversely related to the sales-to-asset ratio. The third indicator is return on equity ROE (AC3). This indicator can be considered a firm's measure of decision making process efficiency which is influenced by managerial structure and legal form.

The results confirmed the significant difference based on the legal form in indicators AC2 and AC3. However, based on results, we conclude that the indicator AC1 has limitations in measuring agency costs in agricultural enterprises. Any public funding needs to be included into the calculation. The ratio compares expenses to sales which stand for the market revenues only. But in the industry like agriculture a part of the yearly revenues is in form of subsidies which are not generated by market. It results in situation that the ratio is higher than 1 in the long term. We recommend to use this ratio in its basic form only in industries in which its mean value in long term is lower than 1.

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Measuring Risk in Agriculture: The case of Slovakia

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Abstract

Introduction: Farmers are faced with variety of risks that originate from different sources. These risks are very rarely completely independent from each other, particularly when measured in terms of their impact on the income variability. Concern on increasing farm income volatility in the EU has induced wide range of research in this area. Only a few studies paid attention to the issue of risk in agriculture in Slovakia, therefore we decided to focus our research on this area. The main objective of the paper is to estimate the development of market risk and return of Slovak agricultural companies in the period 2000 – 2013. Meeting the objective leads to finding out whether the CAP policy impacts Slovak agriculture in the way of decreasing the risk and increasing the return.

Data: The data used for the analysis was obtained from the Ministry of Agriculture and Rural Development of the SR. The data set consists of information from financial statements about farms operating during each year of the period 2000 – 2013. For calculation are used 5-years moving averages, in order to avoid trend of data. The portfolios are created for two legal forms in Slovak agriculture: cooperatives and companies (JSC., Ltd.), as well as for two types of production orientations: crop farms and animal farms.

Methods: Total risk is standardly measured, according to the Markowitz portfolio theory, by the mean-variance model and standard deviation of stock return. However, not all businesses provide the ability to raise their capital in the form of stocks. These businesses represent so called unquoted companies, to which the majority of agricultural companies belong. Stocks represent the equity securities, and the return on stock reflects simply the return on equity invested into the business. Therefore, it might be assumed that to measure the risk of agricultural companies, the deviation of return on equity could be considered, as well. The paper uses the alternative Markowitz portfolio theory approach, by replacing the stock return with return on equity (ROE), to estimate the riskiness of unquoted agricultural farms.

Results: The profitability of capital companies is generally higher in comparison to cooperatives, which in average generated loss over observed periods. The portfolio risk of companies is in particular periods lower than in the case of cooperatives, which is a result of more negative covariance between the returns of companies. From the comparison of crop and animal farms is obvious that the differences of return in individual periods are smaller. However, the return of crop farms is in each period positive, while the animal farms are suffering loss. The crop farms record higher risk in comparison to the animal farms. It agrees with the general opinion that the crop production is riskier, because of its dependence on climate, and shorter production cycle than the animal production.

Conclusions: The companies (Ltd, JSC) are more effective legal form with higher level of return and lower risk. Therefore, it is expected that the amount of low profitable cooperatives will continue to decrease in the future in favour of companies. Similarly, there has been a gradual increase of the amount of crop oriented farms and decrease of the animal farms. One of the reasons of this development is also the CAP single payments system that makes the Slovak farms planting on relatively large acreage more favourable. We expect that in the future the structure of Slovak agriculture will change in the way of increasing percentage share of crop oriented private companies.

JEL CODE: Q13, Q14, Q18

Current state of the art of ICT and information needs among Czech farms in the context of agribusiness

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Abstract

Introduction: Farms do not reach full production potential and technical efficiency according to previous studies. There is a strong necessity to improve economic performance of farms in the Czech Republic. Moreover, the need for introduction of new Information and Communication Technologies (ICT) in farming and farm management has rapidly increased nowadays. ICT is also one of the key enablers for agribusiness. In farming, ICT directly supports operational agricultural activities and it can also serve as an interactive and flexible tool for monitoring the progress of the farm economic performance. This paper aims to evaluate the current state of the art of ICT and information needs and their impacts on farms in the context of agribusiness in the Czech Republic.

Data: The analysis of current state of ICT and information needs among Czech farms was based on questionnaire survey conducted by the Department of Information Technologies and by the Department of Software Engineering at the Faculty of Economics and Management at Czech University of Life Sciences in Prague in 2015. There were over 1000 respondents asked to fill the survey by e-mail or via online form at <http://dotaznik.czu.cz>. We obtained 165 correctly filled answers from agricultural producers.

Methods: The research questions are addressed through analysis of empirical data. There was a survey among agricultural entrepreneurs from various regions in the Czech Republic conducted in the beginning of 2015 that provided relevant data sample. Survey results are presented with descriptive statistics, frequency tables and regression analysis at the given level of significance $\alpha=0.05$.

Results: The results show that with 95 % probability: 1) The level of information needs is not related to current state of the art of ICT at the farm, 2) Czech farms on average use advanced ICT and information systems, and 3) The farmer's decision making is not strongly facilitated through ICT.

Conclusion: The study shows that superior management of information processing and communication, advanced use of business information systems together with well-identified information needs can strengthen production potential and technical efficiency of farms due to the direct support to managerial, analytical, planning, and decision-making activities of managers and agricultural specialists.

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Promoting regional foods as a factor for sustainable development

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Abstract

For consumers the regional food denotation should represent the synonym of quality, freshness and regional origin, for particular local producers an efficient marketing tool for communication with potential customers. In order to maintain sustainable development at the level of regional economies it is necessary to use all internal potential of individual regions with respect to human capital, tangible and nontangible wealth as well as natural resources. Every region is unique. The combination of such aspects results in a unique partnership which brings competitiveness as well as self-sufficiency and existence. The paper is a part of a below mentioned project and its aim is to propose activities and practical outputs which could support regional foods and products in promotion and sustainability of development in different regions. Regional foods or products not only promote regions; they also create new work places, they are significant potentials in the development of tourist industry (in particular gastro-tourism) and, last but not least, they give local citizens a sense of belonging to a region. The research focused on the awareness of selected region citizens about regional foods in relation to quality, origin, trademark, price and impact on sustainable development in the promotion of the region. Taking into account regional development actors' view, the paper analyses whether the producers of regional foods experienced changes in economic profitability after receiving the mark and what significance the regional food mark has on the development of promotion in the region. Based on wider research questions, a general hypothesis and several work hypotheses were stated. The field survey was carried out with the help of a quantitative approach using techniques of questioning. The collated data were analysed using mathematical-statistic methods. The role of a quantitative survey using semi-standardised interviews with producers of awarded regional foods was to find out benefits and contribution of regional foods to the development of entrepreneurial activity both from a perspective of regional development and tourism. The elicited findings were analysed and discussed to draw conclusions.

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JEL CODE: Z18

Information Tools of Cost Controlling in Entities of Agricultural Primary Produce in Slovakia

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Abstract

Introduction: The actual problem of primary agricultural production is represented by the continued growth in costs and the high proportion of overhead costs in total production cost structure. The significant attention must be paid to economic cost management, currently presented by cost controlling. Information support of cost controlling constitutes accounting, calculations and budgeting of costs. The main goal of the paper is to review the utilization level of these basic information tools in cost controlling in entities of agricultural primary produce in Slovakia.

Data and Methods: We derived from the analysis of intra-organizational environment of selected file of entities of agricultural primary produce. Questionnaire survey was used for the purpose of acquiring the initial data. It was realized by means of structured questionnaire in period 2012 - 2013. The basic file is presented by entities of agricultural primary produce classified by the legal form. 250 entities were selected from the basic file by random selection. The representativeness of selected file classified by legal form was tested and confirmed by Chi-square goodness of fit test. The existence of dependence between qualitative features identified in questionnaire survey was tested by means of Chi-square contingency test.

Results: The results show that intra-organizational accounting is applied by 73 % of analysed entities. The small entities with the number of employees less than 50 persons do not compile cost calculations. Insufficient attention is turned to preliminary calculations. It might be predicated by specifics of agricultural production. Cost budgeting presents the weakness of agricultural entities. Cost budgets are compiled only by 62 % of entities from the sample. All sample companies track costs according to nature for which the structure is prescribed by the framework chart of accounts for entrepreneurs bookkeeping in double entry accounting. We recommend cost classification to variable and fixed costs defined by Research Institute of Agricultural and Food Economics (RIAFE) in Bratislava. Such a classification provides a possibility of international comparison of achieved results. Variable cost structure defined by RIAFE is compatible with the methodology of the European Union.

Conclusions: The survey found out that agricultural entities apply principles of cost controlling covering intra-organizational accounting, budgets and cost calculations, but with a lot of weaknesses mentioned in the paper. Recommendation for improvement and higher quality of information support of cost controlling in agricultural entities in Slovakia have been provided.

JEL CODE: M21, M41, Q120

Determinants of agricultural productivity in Nigeria in the era of agribusiness

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Abstract

Agriculture is the most significant sector of the Nigeria economy. The sector serves as the major employer of labour, source of income to smallholder farmers, non-oil foreign exchange earner, and food security. Therefore, its integration with other sectors of the economy in the present era of agribusiness is paramount. However, in the last few decades, the performance of the sector had been steadily declined, culminating from being the net exporter of food to the net importer since 1974. Owing to the fact that 50% of the Nigerian population are rural dweller who predominantly engaged in agriculture, underdevelopment of the sector has had serious implications for their living standards, food security status and the economy of the country.

The current dwindling oil prices on the world market has necessitated Nigeria to think about reforming and strengthening some policies aimed at diverting her economy away from petroleum to agrarian and other sectors of the economy. Against this background, the paper aimed at dealing with the major drivers of agricultural growth and development in Nigeria in the present era of agribusiness. In addition, constraints to agricultural development in the country will be identified, and previous agricultural policies in the country will be briefly evaluated.

Empirically, the study will determine the effects of some determinants such as access to finance, producer prices, the input used, labour, food import and export, and area under cultivation on agricultural production in the country. Econometric techniques such as OLS and Granger causality approaches will be used to investigate some of the determinants of agricultural performance in the country. Time series data obtained from reliable sources like the Food and Agriculture Organization of the United Nations, Central Bank of Nigeria, National Bureau of Statistics, World Bank world development indicators and other sources will be used.

The results of this work would help better to understand the significance and implications some of those variables in the development of agriculture in Nigeria. Policy recommendations will gear towards the country to turn from being a net importer to becoming food sufficient and the net exporter agricultural products. If the government and other stakeholders act on the policy recommendations, sustainable development in the agriculture sector of the economy in the country may be ensured. The findings of this work may be useful to not only the government of Nigeria but also to the producers as well as promoters of agricultural development in the era of agribusiness in Nigeria and elsewhere in Sub-Saharan Africa.

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Possibilities of Talent Development in the Czech Republic

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Abstract

Introduction: Regarding current trend in organisations to retain quality and knowledge employees who would be able to provide high performance in long-term and support organisational competitive advantage, more and more organisations orient themselves on continual employee development and talent management. To reveal current situation in rural area, primary research on employee development in agriculture and forestry was driven. The aim of the paper is to describe and identify approaches to talent management and development in selected organisations in the Czech Republic and to analyse those approaches to evaluate the situation and formulate suggestions.

Data: The sample of organisations in agriculture and forestry was carried out in the Czech Republic as a random selection of organisations. The sample group contains 101 organisations operating in rural economy.

Methods: The data was collected using the method of an electronic questionnaire that automatically recorded and pre-categorised respondents' answers (CAWI method – 85 respondents) and telephonic interview (CATI method – 16 respondents). The sample selection took into account the size of the organisation. Only respondents from upper or top management were answering the questionnaire. One respondent per organisation was questioned. The primary data were evaluated using the tools of descriptive statistics, analysis of correlation, and also, dependence among qualitative characteristics was tested for verification of the obtained data and their further analyses (multidimensional statistics).

Results: The results show orientation of surveyed organisations on development and education; 64% of respondents are being regularly developed on their job position and 12% are being developed for their future position or position on which they aspire. Total 54% of surveyed employees aspire on higher position (managerial or specialist). The impulse to development is mostly own ambition of each employee (58%). Only 12% of surveyed respondents are neither developed by themselves nor by organisation at all. The results revealed main factors describing possibilities of talent development in agribusiness. A comparison of results with similar surveys conducted abroad and draft recommendations are also included.

Conclusion: 50 percent of surveyed organisations in agribusiness are focused on development of their employees. They use either talent management, personnel planning or performance management. The results allow prediction of further development activities in the agriculture sector in the Czech Republic.

Acknowledgements

This contribution is a follow-up to the project of University of Economics and Management and wide internal grant agency (CIGA) at CULS Prague, number 20141002 - Human Resource Branding Using of the New Strategic Trends in Organizations in the Czech Republic.

Correctness of open data in the agricultural sector

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Abstract

Introduction: The supply of fast, accessible and high-quality information to individual users is the key aspect of information strategy of the agricultural sector. This aspect is closely related to the so-called information need. It is important to provide not only the data alone, but also bound with their context, or the knowledge, in accordance with the latest trends of knowledge based society and economy. In conjunction with open data, the governments and public organizations release more and more data sources, either as a consequence of the trend of higher transparency or as an economic stimulus of the knowledge based

Data: The data from open and public sources was gathered from year 2012 to year 2015. Main source of data was Czech Ministry of Agriculture, like other sources were used data from non-government organizations, universities, other Czech ministries etc.

Methods: The methodical approach consists of primary analysis of current state of open data usable for agriculture including selection of model data. The paper deals with further analyses of quality and its new proposed aspects. To meet the above objective, we used methods and techniques for evaluating the quality of software products, including standardized procedures of the international system of quality standards SQuARE. In terms of this system, we defined the concept of quality as an external quality, i.e. the extent to which a product satisfies stated and implied needs when used under specified conditions. Other used methods are relational databases, in particular methods of data integrity enforcement.

Results: Observed subjects should efficiently use open data as a relevant information support of their tactical and strategic decisions in context of their business activities. In practice open data unfortunately was inaccurate, incomplete and inconsistent in Czech agriculture. On the other hand, there are some accurate open data, but those must be aggregated as well. All the above mentioned objectives can be reached only if the supplied data will be correct. This correctness will be determined primarily by their credibility, topicality and directness. From the data integrity point of view, correctness means that data provably relate to objects they belong to, have values that correspond with reality, and contains correct relations to other data (objects from different context).

Conclusion: In order to take advantage of open data potential in agriculture in practice, it is necessary to address some questions, which closely related to correctness: E.g. How can a higher level of correctness of open data in the agriculture be achieved? How can the discrepancy between the need to publish open data in agriculture and the need to protect their strategic and personal content be addressed? etc. When above mentioned question are feasibly solved, it is possible to expect following benefits for agriculture: higher overall transparency of the resort, thanks to the public character of partial business activities of agricultural enterprises and relevant information support for tactical and strategic decision making.

JEL CODE: L86, D83, Q19

The impact of a local thematic focus on the intensity of community-forging activities in rural villages

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Abstract

Some rural villages pursue a strategy of establishing themselves as themed places in order to succeed in the intercommunal competition of locations. In such municipalities local population and economic activities focus on a specific most outstanding characteristic. This concentration on some uniqueness should provide distinctiveness and strengthen the sense of solidarity. Thus it is worth to check whether this desired effect of creating and consolidating commonality actually occurs.

A comparative approach is used to find out the respective impacts of the establishment of themed places. Based on document analyses, interviews with local experts and a questionnaire survey among the inhabitants information and key figures were collected in three themed places (Hanftal - hemp, Poysdorf - wine, and Wilhelmsdorf - herbs), and three non-themed places (Zistersdorf, Obritz, Reikersdorf). All villages concerned are situated in the "Weinviertel", a north-western region of Lower-Austria. There the investigations record frequencies of associations' and club activities, numbers of active club members, village fairs and other events and its numbers of participants etc. Various statistical tests examine whether there is a difference between local community supporting activities in themed places or places without a theme. Since the evaluation of the survey is still in progress final results cannot be offered yet but will be available soon.

JEL CODE: R19

Solidarity on the example of farmers' pension insurance in Poland

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Abstract

Introduction: Farmers in Poland are under a separate pension protection system. They pay much lower premiums than those insured under the general scheme, in consequence, the subsidies provided by the state budget for their pensions constitute around 90%. One reason for the continuation of this privileged pension is a reference to solidarity, but the functioning of many farms in Poland, because of low income, is made possible only by a low pension premium.

Data: Presented in the paper figures come from Poland's Ministry of Finance. Figures characterising the social security system for farmers have been compiled with the Polish budget revenue and budget deficit. It allowed for a complete overview of the analysed research area.

Methods: The aim of the study is to present solidarity based on the example of the social insurance system used for farmers in Poland. Due to the research area the work is based mainly on an analysis of the subject literature as well as on secondary research. The subject literature lacks studies presenting the issue in this way.

Results: In the paper this privilege is determined in a comprehensive way:

1. What is solidarity? 2. Is the responsibility of the community unlimited? 3. Should an individual under solidaristic reciprocity transfer to the community specific benefits, in exchange for the social privilege? 4. Should solidarity be looked at through the prism of current actions, or through the increasing budgetary expenditure and thus the impact on the financial position of the country in the future? 5. Whether this privilege affects the financial situation of the State budget? and 6. Can farmers, because of their income, pay higher pension premiums? The social privileges granted to farmers in Poland impose significant costs on public finances now and in the future, so the system is largely maintained by taxpayers. Like it was mentioned in the paper, Polish agriculture has changed after joining the European Union, but budget expenditure on the social insurance of farmers is constant. But nobody in Poland has ever presented the problem of financing the social insurance system from a definitional approach to the concept of solidarity (unit, community).

Conclusions: Privileged pension system for farmers is not the result of solidarity, it is political rent awarded for political support given. Due to finance (balanced budget), solidarity (with the community) and agricultural income (role of the low pension premium) starting debates on implementing changes in the farmers' pension insurance is necessary.

JEL CODE: Q14, H55, G22

Farmers' environmental perception concerning agri-cultural landscape and agrobiodiversity

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Abstract

Farmers are one of the main influential factors on cultural landscape in rural areas and on agricultural related biodiversity. The former is – within the scope of the natural circumstances – shaped according to the values and goals of landholders in general and farmers in particular. The latter can, at least to a certain extent, be seen as a consequence of farmers' land use decisions. It is obvious that agri-cultural landscape and agrobiodiversity, as two aspects of farmers' environmental services, are not mutually exclusive. Among others the maintenance of a valuable agri-cultural landscape as well as a high degree of biodiversity are major goals of the Austrian agri-environmental programme (AEP).

Our study offers the possibility to contrast two kinds of farmers since 50 % of the surveyed farmers participated in a specific measure of the Austrian AEP namely the Ökopunkte-Programm (i.e. Eco-Points Programme/ EPP). This measure, which was mainly targeted towards the preservation and expansion of landscape elements (e.g. hedges, rivers, stonewalls), was exclusively implemented in the federal province of Lower Austria. However, due to the immense importance of landscape elements for agriculture in Austria, the achieved insights about farmers' perception are of value for the Austrian AEP in general.

In our investigation we focused on farmers' perception of landscape and landscape elements as well as those of agrobiodiversity. A purposive sample of 30 farmers from the federal province of Lower Austria was surveyed. In order to secure our study results statistically we made use of a bootstrapping technique. In addition to the questionnaire, we also used the IACS-data from the sampled farms. These results were contrasted and supplemented with the outcomes of another part of the study, which were obtained via a Q methodological approach to gain a profound insight into farmers' environmental behaviour and attitudes.

Preliminary results indicate that agri-cultural landscape in general and landscape elements in particular are of high importance for farmers while biodiversity might be of lower importance. This might be due to the fact that biodiversity is more difficult to grasp than landscape and especially landscape elements. Irrespective of whether the farmers have been participating in the EPP or not an appreciation of a diverse cultural landscape can be observed. However, the relevance of both retaining agri-cultural landscapes as well as agrobiodiversity can only be viewed in the light of economic considerations which vary considerably among different types of farmers.

Acknowledgements

We thank the administration of the federal province of Lower Austria and BIO AUSTRIA Niederösterreich for their support. Furthermore, we thank the members of the Doctoral School of Sustainable Development (dokNE) for their priceless advices on the project and we especially thank all farmers participating in our study.

Community Supported Agriculture: a comparative analysis of Austria and Germany

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Abstract

In many industrialized countries the agricultural sector has to face a mainly low and in many cases still decreasing social acceptance. Due to long and complex value chains, consumers have lost contact to food production. Regarding food safety, consumers are concerned about several uncertainties and search for alternatives to gain more control over food production and processing, for example by buying organic or regional food or visiting farmer markets. Community Supported Agriculture (CSA) is an alternative farming concept which connects consumers to local farms. As a result CSA enhances social acceptance and reinforces consumers' trust in agricultural production. The concept bases on mutual support, commitment and interaction between farmers and consumers. CSA members purchase a certain amount of shares to finance farm operations. In return the growers provide local food considering specific socially required production guidelines. The CSA group shares the risks and benefits of food production. The concept first appeared in the 1960s and is widely spread in the USA and Japan. There are also many initiatives within Europe which differ in structure and organization form. Despite its growing relevance, agricultural economic research so far has widely neglected CSA; therefore, only very limited knowledge about CSA is available so far.

The purpose of this conceptual study is to analyze the diverse manifestations of CSA with a special focus on Austria and Germany. Based on a broad literature review, a systematization of different organizational forms of CSA enables us to clarify the concept, distinguish it from related concepts such as urban farming/gardening and outline the current dissemination as well as regional nuclei of CSA in Austria and Germany. There are various developments within the concept which can be connected to different landscapes, agricultural and economic structures as well as population parameters. A comparison pictures the current situation of CSA in both countries. The study provides a fundamental knowledge about the stage of development of CSA in Austria and Germany. The acquired overview outlines a basis for further research and allows assessing the potential of continuing development according to the particular requirements of the regional conditions.

Acknowledgements

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JEL CODE: Q13, Q19

Matching the expectations of small-scale forest owners: assessing the potential of a post-sales confirmation for first time wood sellers

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Abstract

The forest-based sector plays a crucial role for the Austrian economy and sustainable forest management ensures availability of wood as an important renewable resource. Small-scale forest owners own a significant part, about 54%, of the overall 3.96 million hectares of forests in Austria. However, the annual harvest from small-scale forests is below the annual increment. Therefore, there is a potential for wood mobilization from small-scale forest owners. In practice, small-scale forest owners have often limited access to wood markets. On the one hand, many of them are forced to practice discontinued management due to the smallness of their forests and hence they participate seldomly in wood markets. On the other hand, a change in the structure of small-scale forest ownership has been observed with increasing numbers of non-traditional forest owners whose profession is not related to forestry or even agriculture. This research paper aims at investigating the situation and motivation of first-time wood vendors in Austria.

A qualitative research approach was chosen in order to deepen the understanding of new forest owners' experience in relation to wood marketing. A semi-structured, open questionnaire will be used for qualitative interviews with forest owners, who have recently gained first experience in selling their wood. Therefore, interviewee selection will concentrate on forest owners with little experience in selling wood (up to three sales) since their inheritance as forest owners. Furthermore, forest owners who have no experience in selling wood yet, however do intend to sell in the future will be considered as well for interviews. The survey covers questions on interviewees' decision to sell wood as well as their impression and experience of the vending situation. The challenge of identifying adequate interview partners was met by snowballing technique as well as with help of regional forest owner associations. After successful identification of interview partners, the interviews will take place during spring and summer 2015. Results will be analyzed in regards to its implication on the vendor– buyer network. Finally, the study assesses the potential of a “post-sales confirmation” approach in analogy to the post purchase confirmation. Post-sales conformation measures could be considered as a means to improve the long-term vendor-buyer relationship. In the context of small-scale forest owners, it is hypothesized that vendors should receive affirmative encouragement that fits to their initial motivation for selling to the market, for example, by emphasizing the overarching importance of their wood delivery in regards to the multiple environmental and societal benefits of sustainable forest management.

JEL CODE: Q13, Q15, Q23

Options and limitations of cooperatives for preserving quality of life in rural areas

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Abstract

High unemployment, depopulation and ageing societies are increasingly shaping rural areas. Especially in small villages consisting of a few hundreds inhabitants, potential demand for central village services as well as potential supply of labor force decrease simultaneously with the population. These trends might even accelerate due to the demographic change. To handle these changes, this qualitative empirical study aims to assess how far cooperatives can contribute to preserving quality of life in rural areas. Therefore, expert interviews have been conducted in Baden-Württemberg (Germany) in 2013 with structured, standardized questionnaires. In consideration of several perspectives, participants originated from various spheres such as rural development managers (3), scientists (2), politicians (5), managers of cooperatives (8) and one member of a cooperative association. The majority of the interviewed experts stated that especially within energy and central village supply, cooperatives have been interesting approaches. Through the pooling of interests, people could cope with tasks collectively, which might have been difficult for a single person. A joint project may sustain the social cohesion and poses a high share of identification with the business. Contrariwise, economic feasibility and the presence of “dray-horses” are inalienable preconditions for successful cooperatives in rural areas. Voluntary engagement and visible benefits are also important. All these options and limitations determine the future prospects of cooperatives in rural areas which have been discussed diversely. Furthermore, case studies have been investigated to assess the impact of diverse cooperatives (rural tavern, energy cooperative, central village shop, swimming pool, cooperative bank, agricultural cooperative society, nursing home for the elderly) on the quality of life in rural areas. In all cases, the examined cooperatives provide a contribution to the rural population: they donate employment or accept meaningful responsibilities for the rural community, especially for those who are insufficiently mobile.

JEL CODE: Q13, R11

The SWOT analysis as tool for creating rural development strategies: Some remarks on its practical implementation in Austrian LEADER regions

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Abstract

Prerequisite for applying for EU subsidies from the LEADER program is that regions elaborate Local Development Strategies (LDS) including a mandatory SWOT analysis. The implementation of such regional SWOT analyses should facilitate strategy development; but some regional representatives may regard SWOT analyses only as a compulsory exercise. Hence, the underlying study wants to reveal how differentiated the SWOT analysis instrument has been applied in Austria by the 86 Local Action Groups (LAGs) established during the period 2007-2013. It also shows to which extent the approaches were methodically correct. A document analysis systematically evaluated all 82 available LDS of the program period 2007-2013. This analytical approach combined qualitative hermeneutic interpretations with quantitative content analysis following Mayring's methodical frame. Furthermore a set of quality criteria (which were based on literature recommendations) was used in order to evaluate and compare the SWOT analyses. Beside criteria concerning the methodical implementation, criteria relating to the contents of the SWOT analyses were considered.

The results show, that the SWOT analyses had not been consistently used by the LAGs. The LAGs fulfilled the directives of the Ministry but the methodical development steps of the analysis had not been considered consequently. Most of the LAGs only collected and documented strengths, weaknesses, opportunities and threats. Merely few LAGs developed several strategic options in a separate step and only one LAG realized the final development step which contains to choose a strategy. All in all the LAGs developed 475 SWOT analyses which are mostly characterized by unspecific items (e.g. "scenic beauty"). About 80 percent of the LAGs got assistance from experts (regional planners) but this had no statistically significant impact on the quality of the methodical implementation of the SWOT analyses. In order to carry out a methodical correct SWOT analysis in LDS, the Ministry as a contractor should give detailed information about the method which includes that all SWOT-development-steps should be carried out consistently with specific items to develop region-related strategies. Beside the development of strategies, the SWOT-analysis can help to involve the population in the process of regional development (bottom-up approach).

JEL CODE: R58

Cost-effectiveness of climate protection in dairy farming

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Abstract

Swiss farms are responsible for a large proportion of its nation's greenhouse gas emissions (GHG-e): About 11% of total national GHG-e are caused by agriculture. The major portion of GHG-e in agriculture arises from methane (85% of overall methane emissions) and nitrous oxide (80%). Enteric fermentation of ruminants (CH₄) and urinary nitrogen deposition on pasture (N₂O) and hence the production of dairy products (almost 50% of Swiss farmers produce milk) and beef can explain these numbers. While demand for dairy products and meat is on the rise, Switzerland aims to reduce its GHG-e by 30% on farm level until 2050 as a part of its national climate change policy.

Clearly, there is a trade-off between climate policy and increased dairy and beef production. Despite the high potential for mitigation of GHG-e in agriculture, there has been little progress in implementing measures yet. Therefore, the paper investigates the GHG-e mitigation potential of an improved management as well as an improved feeding practice in dairy farming. To verify the economic viability of the measures, we further determine farms' costs per ton of avoided GHG-e. In terms of management changes, we assume a reduction in the number of replacement heifers which in return means we increase the number of lactations from 3.5 to 4.5 lactations per cow (scenario (i)). As feeding additives to reduce emissions per kg feed intake such as antibiotics often suffer from undesirable side-effects, we investigate the feeding of concentrates without usage of soy (ii) or at least 100% certified soy (iii) in matters of improved feeding practices. The CO₂-reduction potential is derived with help of the Swiss Agricultural Life Cycle Assessment (SALCA) tool. The cash flows of the mitigation measures are determined within a cost-benefit analysis. We consider four different types of typical Swiss farms with specialization on different branches (agriculture vs stock breeding) to model the effects with respect to the diversity of Switzerland's farming sector. A comparison of GHG-e referred to total agricultural GHG-e and GHG-e referred to the outcome of the cost-benefit analysis to baseline model farms show that the implementation of scenario (i) and (ii) are clearly effective from a GHG-e reduction as well as an economic point of view.

JEL CODE: Q12, Q18, Q56

Status of Structural Change in Organic Farming in Germany – Theoretical Explanation and Empirical Evidence

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Abstract

Introduction: The organic market has gone through a dynamic growth. A resulting question of this growth is about the impact on the farms structure of organic farms. There are different theories of structural change in the agricultural sector. Since organic farming is an environmentally friendly farming system with production restrictions, we expect a different impact of the economic drivers. We investigate, whether and to what extent the existing hypothesis of structural change apply on the organic sector.

Theory: We investigate theories of structural change. Driving forces of sectoral shrinking in agriculture is technological progress leading in the long run to sinking commodity prices. Besides this, higher salaries in the industrial and service sector results in decreasing labour-forces in agriculture. Other theories are path-dependency theory, evolutionary economics and conventionalization hypothesis.

Data: Bookkeeping data from the EU's Farm Accountancy Data Network in Germany with 62,127 observations between 2000 and 2009. We split the data into farms from Northern, Eastern and Southern federal states.

Results: The analysis of farm size reveals a clear tendency towards larger farms in both sectors. Organic farm show a lower share in the class up to 20 ha and above 500 ha. With respect to farm types, we find more grassland and mixed-farming in the organic sector and less arable and meat production farms. The income inequality is slightly lower in the organic sector, being the lowest in Eastern Germany with a Gini-coefficient of 0.34. In the period of observation, the inequality in both organic and conventional farming was increasing in Southern and Northern Germany, and slightly decreasing in Eastern Germany.

Conclusions: We find evidence that organic farms are going through a similar structural change as conventional farms. The theorem of sectoral change might therefore apply in a similar way and we don't find evidence of path dependencies. Organic farming is still a niche-market, therefore, elements of the organic farm-structure can also be explained by evolutionary economics. We can't make any statement, whether conventionalization applies, since the data does not provide information about environmental services. However, there is further research necessary, in order to see whether structural change comes at the costs of environmental performance, or if structural change is just a result of professionalization of the organic sector.

JEL CODE: D21, L11, L25, Q12

Indicators on the Economic Sustainability of Swiss Dairy Farms

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Abstract

Sustainability is regularly conceptualized following the integral concept of the three pillars, i.e. an economic, a social, and an environmental pillar. Often, the focus of sustainability assessment is set on environmental indicators, neglecting the economic and social pillar. To assess a potential broader implementation of economic sustainability in Swiss agricultural production, a literature survey on existing tools is conducted. Based on the literature survey and further considerations, suggestions for indicators and underlying parameters to assess economic sustainability based on farms' accountancy are presented. Using data from the Swiss farm accountancy data network (FADN), selected indicators are evaluated with regard to their validity, their sensitivity (e.g., regarding the farm structure) and their usability.

Different tools exist to assess the sustainability of agricultural production covering economic aspects. RISE addresses farms worldwide and uses the indicators 'economic viability' and 'farm management' to assess economic sustainability; due to the global application, data has to be easily collectable for a variety of farms. The DLG certificate 'sustainable agriculture' also uses a questionnaire to survey financial data but this tool can also directly consider farm accountancy data; to assess economic sustainability, this tool uses the indicators profitability (measured by the parameters operation results and relative factor payment), liquidity (measured by the use of the medium-term debt-service limit), and stability (measured by changes in equity, net investment, profit rate). An overall economic indicator is not provided by either tool.

This analysis also focuses on the indicators profitability, liquidity, and stability and uses different further parameters (next to the parameters mentioned above) taken from literature, e.g., agricultural banks' credit decisions. The collection of parameters has finished and the quantitative analysis is starting.

The description of a multitude of indicators which are generally available from farms' accountancy and the test of these indicators on dairy farms from the Swiss FADN allows to analyse the strength and weaknesses of the parameters and indicators. This analysis includes a comparison with existing tools. Specific attention will be given to an aggregated, overall economic indicator. This helps farmers to assess their operation's economic sustainability, certification bodies and standard setters to better focus the issue of sustainability and agricultural policy to further promote and monitor sustainability of agricultural production, not only in Switzerland but also in other European countries.

JEL CODE: Q01, Q12, Q14

JEL Classification System / EconLit Subject Descriptors

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- A3 Collective Works

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- B1 History of Economic Thought through 1925
- B2 History of Economic Thought since 1925
- B3 History of Economic Thought: Individuals
- B4 Economic Methodology
- B5 Current Heterodox Approaches

C. Mathematical and Quantitative Methods

- C1 Econometric and Statistical Methods and Methodology: General
- C2 Single Equation Models • Single Variables
- C3 Multiple or Simultaneous Equation Models Multiple Variables
- C4 Econometric and Statistical Methods: Special Topics
- C5 Econometric Modeling
- C6 Mathematical Methods • Programming Models • Mathematical and Simulation Modeling
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- C8 Data Collection and Data Estimation Methodology • Computer Programs
- C9 Design of Experiments

D. Microeconomics

- D1 Household Behavior and Family Economics
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- D3 Distribution
- D4 Market Structure, Pricing, and Design†
- D5 General Equilibrium and Disequilibrium

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D8 Information, Knowledge, and Uncertainty

D9 Intertemporal Choice

E. Macroeconomics and Monetary Economics

- E1 General Aggregative Models
- E2 Consumption, Saving, Production, Investment, Labor Markets, and Informal Economy
- E3 Prices, Business Fluctuations, and Cycles
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- E5 Monetary Policy, Central Banking, and the Supply of Money and Credit
- E6 Macroeconomic Policy; Macroeconomic Aspects of Public Finance, and General Outlook

F. International Economics

- F1 Trade
- F2 International Factor Movements and International Business
- F3 International Finance
- F4 Macroeconomic Aspects of International Trade and Finance
- F5 International Relations, National Security, and International Political Economy
- F6 Economic Impacts of Globalization

G. Financial Economics

- G1 General Financial Markets
- G2 Financial Institutions and Services
- G3 Corporate Finance and Governance

H. Public Economics

- H1 Structure and Scope of Government
- H2 Taxation, Subsidies, and Revenue

H3 Fiscal Policies and Behavior of Economic Agents

H4 Publicly Provided Goods

H5 National Government Expenditures and Related Policies

H6 National Budget, Deficit, and Debt

H7 State and Local Government • Intergovernmental Relations

H8 Miscellaneous Issues

I. Health, Education, and Welfare

I1 Health

I2 Education and Research Institutions

I3 Welfare, Well-Being, and Poverty

J. Labor and Demographic Economics

J1 Demographic Economics

J2 Demand and Supply of Labor

J3 Wages, Compensation, and Labor Costs

J4 Particular Labor Markets

J5 Labor–Management Relations, Trade Unions, and Collective Bargaining

J6 Mobility, Unemployment, Vacancies, and Immigrant Workers

J7 Labor Discrimination

J8 Labor Standards: National and International

K. Law and Economics

K1 Basic Areas of Law

K2 Regulation and Business Law

K3 Other Substantive Areas of Law

K4 Legal Procedure, the Legal System, and Illegal Behavior

L. Industrial Organization

L1 Market Structure, Firm Strategy, and Market Performance

L2 Firm Objectives, Organization, and Behavior

L3 Nonprofit Organizations and Public Enterprise

L4 Antitrust Issues and Policies

L5 Regulation and Industrial Policy

L6 Industry Studies: Manufacturing

L7 Industry Studies: Primary Products

and Construction

L8 Industry Studies: Services

L9 Industry Studies: Transportation and Utilities

M. Business Administration and Business Economics • Marketing • Accounting • Personnel Economics†

M1 Business Administration

M2 Business Economics

M3 Marketing and Advertising

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N. Economic History

N1 Macroeconomics and Monetary Economics
Industrial Structure • Growth • Fluctuations

N2 Financial Markets and Institutions

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P3 Socialist Institutions and Their Transitions

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Q. Agricultural and Natural Resource Economics • Environmental and Ecological Economics

Q1 Agriculture

Q2 Renewable Resources and Conservation

Q3 Nonrenewable Resources and Conservation

Q4 Energy

Q5 Environmental Economics

R. Urban, Rural, Regional, Real Estate, and Transportation Economics

R1 General Regional Economics

R2 Household Analysis

R3 Real Estate Markets, Spatial Production Analysis, and Firm Location

R4 Transportation Economics

R5 Regional Government Analysis

Y. Miscellaneous Categories

Y1 Data: Tables and Charts

Y2 Introductory Material

Y3 Book Reviews (unclassified)

Y4 Dissertations (unclassified)

Y5 Further Reading (unclassified)

Y6 Excerpts

Y7 No Author General Discussions

Y8 Related Disciplines

Y9 Other

Z. Other Special Topics

Z1 Cultural Economics • Economic Sociology • Economic Anthropology

Z2 Sports Economics

Z3 Tourism Economics

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A

Adams I. (DE) 7
Antoušková, M. (CZ) 34

B

Back, H. (DE) 8, 69
Bahrs, E. (DE) 8, 69
Ballman, L. (DE) 7
Bartova, L. (SK) 9
Bavorová, M. (DE) 27
Benda, P. (CZ) 10, 95
Benešová, I. (CZ) 92
Besser, T. (CH) 11
Bílková, D. (CZ) 12
Boháčková, I. (CZ) 13
Borská, J. (CZ) 14
Breuning, S. (DE) 15
Brümmer, B. (DE) 58

C

Cordes, H. (DE) 16
Curtiss, J. (DE) 17, 19
Cvik, E.D. (CZ) 20

Č

Čechura, L. (CZ) 21, 34
Čierna, Z. (SK) 88
Čmejrek, J. (CZ) 22
Čopík, J. (CZ) 22

D

Darnhofer, I. (AT) 97
Dieterle, M. (CH) 23
Dobák, D. (SK) 88

Doluschitz, R. (DE) 7, 15, 29, 60, 121
Dömeová, L. (CZ) 24
Dvořáková, K. (CZ) 25

E

Ermann, M. (DE) 16

F

Fandel, I. (SK) 108
Ferenczi Vaňová, A. (SK) 112
Feusthuber, E. (AT) 26
Fietz, A. (DE) 27
Foltýn, I. (CZ) 28

G

Galnaityte, A. (LT) 70
Gindele, N. (DE) 7, 15, 29, 60
Gmeiner, P. (AT) 30
Góral, J. (PL) 31
Gotthardt, A. (AT) 32
Griessmair, K. (AT) 33

H

Hádková, Š. (CZ) 47
Halbich, Č. (CZ) 115
Hálová, P. (CZ) 34
Hambrusch, J. (AT) 35
Hana, D. (Kosovo) 36
Hedegger, M. (AT) 52
Heinschink, K. (AT) 35, 37
Heinze, S. (DE) 38
Heise, H. (DE) 39
Hennyeyová, K. (SK) 100
Hes, A. (CZ) 40
Higuchi, A. (PERU) 41
Hildenbrand, A. (DE) 43, 44

Hirschauer, N. (DE) 50
 Hockmann, H. (DE) 21
 Höhler, J. (DE) 43
 Hohnacker, J. (DE) 29
 Holúbek, I. (SK) 45
 Homolka, J. (CZ) 94
 Hönig, V. (CZ) 62
 Hoop, D. (CH) 58
 Hošková, P. (CZ) 65
 Hovorka, G. (AT) 30
 Hron, J. (CZ) 46
 Husák, J. (CZ) 47

Ch

Chetvertakov, S. (DE) 48

J

Janas, C. (DE) 60
 Janků, M. (CZ) 49
 Jantsch, A. (DE) 50
 Jarkovská, M. (CZ) 111
 Jarolímek, J. (CZ) 101, 104
 Jelínek, L. (CZ) 17
 Jindrová, A. (CZ) 24
 Jungmair, J. A. (AT) 51

K

Kadlecová, E. (CZ) 14
 Kantelhardt, J. (AT) 58, 118
 Kazlauskienė, N. (LT) 70
 Kharcheva, I. (RU) 53
 Khoruziy, L. (RU) 53
 Kirchner, M. (AT) 73, 90
 Kirchweger, S. (AT) 58
 Kirner, L. (AT) 52
 Kniepert, M. (AT) 36
 Kontsevaya, S. (RU) 53
 Konyova, V. (SK) 9
 Kopřiva, R. (CZ) 54

Košovská, I. (SK) 112
 Kotásková, S. (CZ) 54
 Kotevska, A. (MK) 55
 Kotyza, P. (CZ) 91
 Kovářová, K. (CZ) 77
 Krajčířová, R. (SK) 112
 Krisciukaitienė, N. (LT) 70
 Kučírková, L. (CZ) 40, 77
 Kühl, R. (DE) 44
 Kühl, S. (DE) 57
 Kurdyš-Kujawska, A. (PL) 56
 Kuttner, M. (AT) 90

L

Ladwig, F. (DE) 96
 Lakner, S. (DE) 58, 124
 Lančarič, D. (SK) 107
 Laputková, A. (CZ) 92
 Larcher, M. (AT) 33, 59
 Lavèn, P. (DE) 15, 60, 121
 Lettner, M. (AT) 61
 Linhart, Z. (CZ) 62
 Lips, M. (CH) 63, 121
 Lőrinczová, E. (CZ) 78
 Ludhammer, S. (AT) 52

M

Macák, T. (CZ) 46
 MacGregor Pelikánová, R. (CZ) 20, 64
 Mach, J. (CZ) 13, 65
 Maier, T. (CZ) 66
 Maitah, M. (CZ) 93
 Malec, K. (CZ) 94
 Malý, M. (CZ) 34
 Mann, S. (CH) 11
 Maskuti, A. (Kosovo) 36
 Masner, J. (CZ) 102, 104
 Maxová, J. (CZ) 67
 Meixner, O. (AT) 51
 Menzel, F. (DE) 69

Meyers, W., H. (US) 70
Milovanovič, V. (CZ) 71
Mitter, H. (AT) 73
Mrhálková, I. (CZ) 28
Mucke, T. (DE) 80
Mueller, H. (DE) 74
Munk, M. (SK) 107

N

Náglová, Z. (CZ) 75
Näther, M. (DE) 76
Navrátilová, M. (CZ) 77, 78
Nový, J. (CZ) 99

O

Olejniczak, J. (PL) 79

P

Paustian, M. (DE) 80
Pavlík, J. (CZ) 101
Pawłowska-Tyszko, J. (PL) 81
Pechrová, M. (CZ) 82, 103
Pfister, R. (AT) 32
Pieńkowska-Kamieniecka, S. (PL) 83, 117
Piper, A. (DE) 44
Pirsich, W. (DE) 84
Piterková, A. (SK) 107, 108
Plášilová, L. (CZ) 65
Pöchtrager, S. (AT) 89
Prášilová, M. (CZ) 85
Procházková, R. (CZ) 85

R

Rábek, T. (SK) 108
Ranacher, L. (AT) 86
Regnerová, M. (CZ) 40
Rieger, J. (DE) 87
Rohrer, H. (AT) 32

Rosa, A. (PL) 56
Rovný, P. (SK) 88
Rühmann, H. (DE) 16

S

Sajovitz, P. L. (AT) 89
Savov, R. (SK) 107
Schaper, Ch. (DE) 74
Schauppenlehner, T. (AT) 90
Schmid, E. (AT) 26, 59, 73, 90
Schönhart, M. (AT) 26, 59, 90
Schwarze, B. (DE) 60
Sijbesma, G. (DE) 57
Simonovska, A. (MK) 55
Sinabell, F. (AT) 37
Slaboch, J. (CZ) 91
Sládek, P. (CZ) 46
Smolová, H. (CZ) 114
Smutka, L. (CZ) 71, 92, 93
Soliwoda, M. (PL) 81
Spiller, A. (DE) 16, 57
Starz, W. (AT) 32
Steininger, M. (CZ) 93
Steinwider, A. (AT) 32
Steklá, J. (CZ) 94
Stern, T. (AT) 86, 120
Stočes, M. (CZ) 95, 102
Stojcheska, A. M. (MK) 55
Stratmann, J. (DE) 96
Strauss, A. (AT) 97
Svatošová, L. (CZ) 98
Svoboda, R. (CZ) 105
Svobodová, J. (CZ) 98, 99

Š

Šálková, A. (CZ) 77
Šálková, D. (CZ) 40, 111
Šánová, P. (CZ) 99
Šeráková, P. (CZ) 99
Šilerová, E. (CZ) 100

Šimek, P. (CZ) 101, 102
Šimpach, O. (CZ) 82, 103
Šišková, J. (CZ) 78
Škarabelová, S. (DE) 19
Škubna, O. (CZ) 93
Šmejkalová, V. (CZ) 10, 104
Špička, J. (CZ) 75
ŠrédI, K. (CZ) 105
Štiková, O. (CZ) 28

T

Theuvsen, L. (DE) 39, 74, 76, 80, 84, 96, 119
Tietz, A. (DE) 106
Tóth, M. (SK) 107, 108
Tribl, Ch. (AT) 35, 37
Tuna, E. (MK) 55
Tyrychtr, J. (CZ) 110, 115

U

Ulman, M. (CZ) 95, 110
Urbancová, H. (CZ) 114

V

Vaněk, J. (CZ) 102
Varvažovská, P. (CZ) 111
Varyová, I. (SK) 112
Vasilenko, A. (CZ) 110

Verter, N. (CZ) 113
Vnoučková, L. (CZ) 114
Vogel, S. (AT) 33
Vogel, A. (DE) 38
Vogeltanzová, T. (CZ) 100
Vostrovký, V. (CZ) 110, 115

W

Wachter, M. (AT) 116
Wagner, K. (AT) 30
Walczak, D. (PL) 83, 117
Walder, P. (AT) 118
Weible, D. (DE) 87
Wellner, M. (DE) 119
Werner, A. (AT) 120
Willersinn, Ch. (CH) 121
Wiltschko, J. (AT) 122
Wunderlich, A. (CH) 123
Würriehausen, N. (DE) 124
Wytrzens, H. K. (AT) 116, 122

Z

Zegarra, E. (PERU) 41
Zorn, A. (CH) 63, 123, 125

Ž

Žáková-Kroupová Z. (CZ) 34, 67

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