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Land-use conflicts and the Common Agricultural Policy: Evidence from Poland

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ABSTRACT

The main goal of this paper is to show the implicit role of the Common Agricultural Policy (CAP) in land-use conflicts at the regional level in Poland. With the use of the Computable General Equilibrium (CGE) model we identified how CAP, through farmland price distortions, influenced the Polish land market in the years 2004–2013. The role of the policy in land-use conflicts depended not only on the size of the funds, but primarily on socio-economic conditions, farm structure, and the level of urbanisation of the regions where the conflicts of interests took place. We concluded that in the case of the least urbanised regions with small farms, CAP's contribution to increases in farmland prices was very high and hence CAP implicitly hampered farmland turnover, thereby leading to economic conflicts between farmers. In the case of the most urbanised regions, CAP's contribution to farmland prices was relatively low in comparison to other factors related to urbanisation processes. Hence, the farmers had high incentives to sell their land for non-agricultural purposes. Consequently, in those regions spatial conflicts arose from the fact that agricultural land was exposed to high conversion to non-agricultural purposes, something engendering conflict between farmers and non-farmers.

1. Introduction

Land-use conflicts occupy a prominent position in academic and political debates. Scientists agree that government policy, especially land-use and agricultural policies, are – apart from historical conditions, geographical location, and demographic and climate changes – the most significant factors influencing the use of agricultural land. This is shown in both theoretical and empirical research (e.g., Rudel and Meyfroidt, 2013; Renwick et al., 2013). The Common Agricultural Policy (CAP), especially due to decoupled payments and environmental schemes, directly influences land markets in the EU countries. Most of the research on CAP and land markets concentrates on CAP's influence on land prices and the capitalisation of CAP payments into land values (e.g., Kilian et al., 2012; Feichtinger and Salhofer, 2013; Ciaian et al., 2013; Latruffe et al., 2013; Michałek et al., 2012) and/or on land abandonment phenomenon (e.g., Terres et al., 2013; Renwick et al., 2013). In this paper we attempt to analyse CAP's influence on land markets from a different perspective. Namely, we scrutinize how CAP (through its relative contribution to total changes in farmland prices) can influence incentives for buying farmland by farmers versus non-agricultural users − in other words, how CAP contributes to or prevents the possible land-use conflicts among different stakeholders.

Steinhäußer et al. (2015) point out that there is no common or consistent definition of the term "land-use conflict". They compare different approaches used in the literature and show that while many authors concentrate on spatial aspects (e.g., Roehl and Fesenmaier, 1987), others define the term "land-use conflict" as a social dispute (e.g., Mann and Jeanneaux, 2009). Following Steinhäußer et al., we adopt the definition proposed by von der Dunk et al. (2011, p.149), which states that a "land-use conflict occurs whenever land-use stakeholders (i.e., conflict parties) have incompatible interests related to certain land-use units (i.e., geographical component)". This definition integrates the economic and spatial aspects of the other definitions. This is especially important in our case since we identify two types of conflicts: economic conflict – i.e., conflict of economic incentives, which mainly occurs among the farmers; and spatial conflict – i.e., conflict of spatial incentives, which occurs in interaction between farmers and non-farmers. We define the two conflicts as follows.

Economic conflict arises from the fact that the farmland price distortions caused by CAP change the value of land (production factor) and therefore affect transactions between farmers. Land becomes more expensive (so, less affordable), but also more valuable (since farmers become wealthier). Farmers have little incentive to supply land because it is good collateral and a valuable asset worth keeping (with expectations of increasing value due to CAP support). Thus the farmland market for farmers becomes rigid.

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Spatial conflict arises from the fact that the farmland price distortions caused by CAP favours farmers (their assets become more valuable) vis-à-vis non-farmers interested in buying the land for non-agricultural purposes. This gives rise to conflict between farming versus non farming use of the land since the non-agricultural users are affected by the fact that the farmland prices are higher than they would otherwise be without CAP, as well as by the fact that the farmers have higher incentives not to sell the land, as explained above.

How to evaluate the role of CAP (which is unintentional, since CAP has no mandate to explicitly manage land-use) in the possible conflicts among different farmland stakeholders, from both a spatial and economic perspective? The main goal of our paper is to show how the distortions of farmland prices caused by CAP at the regional level (NUTS2) influence the incentives of different users of farmland and how this is related to the economic and spatial conflicts among them. The specific example that we investigate comes from the Polish land market, which seems to be particularly well suited for investigating CAP's impact on the market and the conflicts arisen over agricultural land use. In 2004 Poland, as one of new Member States of the European Union, introduced direct payments in the form of the single area payment scheme (SAPS), which provides a flat-rate decoupled area payment paid for eligible agricultural land. The new measure strongly influenced the situation on the agricultural land market, mainly by capitalisation of SAPS into sale prices of farmland in Poland (Ciaian and Kancs, 2012; Czyżewski et al., 2017). Our analysis covers the two budgetary periods after Poland's accession to the EU: 2004–2006 and 2007–2013.

The contribution of our paper to the literature is twofold. First, most research on land-use conflicts is based on case studies, while we attempt to portray this phenomenon for the entire country from the regional perspective. Second, to the best of our knowledge, this paper is the first to analyse the influence of CAP measures on farmland prices from the regional perspective by use of the Computable General Equilibrium (CGE) model for Poland. Last but not least, the findings of our paper may well also contribute to the policy debate on CAP's impact on land markets and the current consultations about CAP beyond 2020.

The paper is organised as follows. The next sections offer an overview of the literature on the impact of CAP on farmland use and prices (Section 2) and on land-use conflicts (Section 3). Section 4 presents methodology, and how CAP Pillar 1 and Pillar 2 measures were modelled within a regional CGE model (POLTERM) and then the specificity of the land market in the model. This section is followed by results showing the contribution of CAP to the regional farmland prices. This section also discusses the research findings, while taking into account the characteristics of the regions, and interprets the results in the context of farmland use conflicts there. The final section offers our conclusions.

2. Impact of the Common Agricultural Policy on farmland use and prices in Europe: past research

The influence of CAP on land use and land prices in different EU Member States has been analysed in numerous studies, usually with the use of various economic and econometric models. Such analyses include e.g.: Scenar 2020 (Nowicki et al., 2007); EURURALIS (Verburg et al., 2010); FP6 SENSOR (Helming et al., 2011), Land Use Modelling Implementation (Pérez-Soba et al., 2010; Verburg et al., 2012). However, most studies show the impact of total CAP or only of Pillar 1, markedly fewer studies have estimated the impact of Pillar 2 on land markets – some examples of this are provided below.

According to studies estimating the impact of the total CAP support on land use, large-scale land abandonment is expected in the EU Member States over the next 20–30 years (Terres et al., 2013). The greatest reason for this phenomena is assigned to the assumption of high levels of global farming competition combined with low levels of CAP support for extensive farming. During the 2003 CAP reform debate, the argument was raised that redirecting transfers from production premiums to area payments would result in large-scale land abandonment in the whole EU (Keenleyside and Tucker, 2010). Hence, some support is still in the form of production premiums.

As for the impact of Pillar 1 on land use, Pan-European research by Renwick et al. (2013) showed its impact on land abandonment with use of CAPRI and Dyna-CLUE models. The results of this research led to the conclusions that if Pillar 1 transfers were discontinued,[1] a total of ca. 8% of UAA would be abandoned[2] in the whole EU-27.[3] Grassland area would be reduced by ca. 10%, and arable land by ca. 6% (as compared to maintaining CAP support). A greater impact could be expected in the EU-10, where the abandonment of UAA would reach ca. 9%, of grassland – ca. 13%, and arable land – ca. 8%. The response to discontinuing Pillar 1 transfers differs greatly depending on the Member State, from the relatively small decrease in the use of UAA in the UK (−6.44%) to more than twice that amount in Greece (−14.07%). Greece would also suffer from the greatest decline in the use of arable land (−13.33%), while Hungary would experience the greatest decline in the use of grassland (−18.40%) (Renwick et al., 2013).

As for the impact of Pillar 1 on land prices, the results show a much higher diversity among countries than they do with the impact on land use. This is confirmed by historical data which show that in period 1992–2010 real sale prices of farmland in Greece dropped by 25%, while they increased by 250% in Ireland at the same time. On the other hand, farmland lease prices dropped in Finland by 25% from 1992, while in Spain they rose by ca. 55% (Ciaian et al., 2010). The differences can be explained by the fact that the transmission of farmland prices via CAP was indirectly influenced by a number of factors which differ throughout the Member States. Among them the most crucial are e.g., the organisation of the land market, the level of farm subsidies in individual Member States, the degree of integration of the related markets (e.g., agricultural loan market, market of means of production, sales market, scale of national and foreign investments in farming and in agro-food sector, etc.). Michałek et al. (2012) estimated a 6%–10% SPS capitalisation rate for the whole EU. However, they also pointed out that there is a large variation in the capitalisation rate for different SPS levels and between different Member States, from 3% to 94%. Feichtinger and Salhofer (2013) rightly stressed the fact that quite many studies overestimate the capitalisation rate by not including non-agricultural variables, for example, urban pressure. Neglecting those variables results in a 0.148 percentage point higher capitalisation rate. Kilian et al. (2012) showed also that decoupled SFP are capitalised into rental prices to a larger degree than the coupled direct payments.

As for the impact of Pillar 2 on land prices, Ciaian et al. (2015) estimated the capitalisation of Pillar 2 payments for the EU within the range of 93%–109%. In contrast, O'Neill and Hanrahan (2016) estimated no significant capitalisation of Pillar 2 payments per hectare for Ireland. As for individual Pillar 2 measures, several studies show low (sometimes insignificant or even negative) capitalisation of agri-environmental measures in land rental rates (e.g., for Poland see Czyżewski et al., 2017; Czyżewski and Trojanek, 2016; Czyżewski et al., 2018; for Bavaria see Klaiber et al., 2017). At the same time a higher and significant capitalisation is observed for less favoured areas payments (Zawalińska et al., 2013; Klaiber et al., 2017).

Last but not least, one can observe clear similarities among the

[1] The scenario entails discontinuation of direct payments (per ha and in relation to production volumes) and market support under CAP Pillar 1 in the whole EU. In other words, the results of the scenario relate the influence of the whole CAP Pillar 1 to land use, because they compare situations of the current interventionism (base scenario) and hypothetical lack thereof (the discontinuation of Pillar 1 support)

[2] Only the "clear" impact of Pillar 1 is studied, with assumed *ceteris paribus*. Naturally, considering that some kind of budget transfers for agriculture would fill the gap, most probably a lower decline in the UAA hectarage could be expected. However, the model would require modifications to take account of such new transfers, which exceeds the scope of this analysis.

[3] The research includes 27 EU Member States as it was conducted before the EU accession of Croatia.