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Regional impacts of abolishing direct payments: An integrated analysis in four European regions

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ABSTRACT

The direct payment system of the Common Agricultural Policy (CAP) provides income transfers to European farmers. Recently, several countries including England and Sweden have advocated the elimination of direct payments after 2013. The extent to which an elimination of direct payments would affect the land use dynamics in Europe including impacts on structural change and the environment has not been addressed in the existing literature. In this paper, we combine participatory methods, to analyze regional preferences for functions and effects of agriculture, and farm-level modeling, to assess the impacts of such a policy change on farm structures and land use intensities in four European regions located in Germany, Denmark, Italy and Poland, each with different socio-economic and biophysical characteristics. In each region, the entire farm population consisting of different farm types with different production orientations and land management types was modeled under the presence and absence of direct payments using a combination of agent-based and bio-economic modeling. We found that the initial characteristics of the regions, such as the historical farm structure and regional site conditions, greatly influence the impact of direct support elimination and cause regionally different development trends. The results for the four regions were summarized in four specific storylines that emphasize how much the diversity of European regions matters for future policy decisions. An explicitly regional focus is, therefore, argued to be crucial to complement future policy analysis.

1. Introduction

In recent decades traditional farming systems in many European regions have been replaced by modern and intensive production systems with associated negative impacts on the environment (Berger et al., 2006). In addition, the number of farms in Europe has continuously declined (Glauben et al., 2006; Breustedt and Glauben, 2007). Farm exits accelerate the growth of the remaining farms by redistribution of production factors. The declining number of farms not only has consequences for the agricultural sector but also for rural areas as a whole (Zimmermann et al., 2009). The loss of farms may lead to a depopulation of the countryside, which in turn affects the demand for services and the infrastructure of local communities (Ballas et al., 2006; Piorr et al., 2009).

The direct payment system of the Common Agricultural Policy (CAP) provides income transfers to European farmers. The existence of direct payments is justified by the need to provide income stability and compensation for higher production standards with regard to consumer protection, animal welfare, and environmental conservation compared to many non-European countries.[1] Breustedt and Glauben (2007) provided empirical evidence that the CAP has reduced the structural change in agriculture during the last

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[1] http://www.bmelv.de/DE/Landwirtschaft/Direktzahlungen-Foerderung/foerderung_node.html.

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decades of the previous century through its price support and subsidy payment programs. Ongoing pressures from the WTO negotiations, criticism of its trade-distorting effects and also consumer concerns regarding the safety and quality of agricultural goods, however, have induced a continual reform process of the CAP (Beard and Swinbank, 2001; Potter and Burney, 2002; Mann, 2005). Changes based on the Luxembourg Agreement in 2003 and the most recent reform package (the "Health Check") approved in November 2008 are underway, stimulating new discussions about the future of the CAP. Some EU countries, including the United Kingdom[2] and Sweden, have, in the meantime, considered abandoning large parts of the CAP, including the direct payment scheme, which currently accounts for the largest share of the CAP budget (COM, 2006).

Several studies have analyzed the consequences of switching the CAP regime from coupled to decoupled direct payments (e.g., Beard and Swinbank, 2001; Matthews et al., 2006; Onate et al., 2007; Tranter et al., 2007; Uthes et al., 2008; Happe et al., 2008). However, the extent to which a possible elimination of direct payments would affect the land use dynamics in Europe on a regional scale including impacts on structural change and the environment has not been addressed in the existing literature. We refer here to farm structural change which is defined as the change of the number of farms within certain farm types over time (Zimmermann et al., 2009).

The aim of this paper is to analyze the consequences of such a proposal on the farming sector in four European case study regions. To achieve this aim, an integrated approach based on interdisciplinary work was developed within the EU research project MEA-Scope (2004–2007). The project analyzed the structural development and associated environmental effects of rural European regions in response to different policy scenarios (Piorr and Müller, 2009). Integrated assessment generally attempts to provide a systematic way to integrate knowledge across disciplines, scales, resolutions and degrees of certainty (Scrase and Sheate, 2002). Our proposed framework can be understood as integrated from a methodological point of view as it combines participatory methods identifying the regional demand for agricultural functions and effects, scenario techniques and analytical tools into one approach, as was recommended by Rotmans (1998). Conceptually, it seeks to integrate the economic, environmental and social dimensions of policy changes into a single analysis (see also Uthes et al., 2010a).

2. Methodological framework

The developed methodological framework was strongly influenced by the concept of multifunctionality (OECD, 2001). Multifunctionality has become a paradigm in EU policy and science (Van Huylenbroeck and Durand, 2003). A number of interpretations of multifunctionality exist that have been shaped by many different disciplines and institutions coming from e.g. agricultural economics, landscape ecology, or forestry. In its very narrow meaning, multifunctionality (latin: multi – many) means being capable of serving multiple purposes or needs at the same time, or, following here the definition of the Organisation for Economic Co-operation and Development (OECD) "*The key elements of multifunctionality are: (i) the existence of multiple commodity and non-commodity outputs that are jointly produced by agriculture; and (ii) the fact that some of the non-commodity outputs exhibit the characteristics of externalities or public goods, with the result that markets for these goods do not exist or function poorly*" (OECD, 2001, p. 7). Commodity outputs (CO) are valued in existing markets while non-commodity outputs (NCO) can include the provision of public goods and positive externalities but also the reduction of negative externalities depending on the distribution of property rights between farmers and the rest of society (Wiggering et al., 2006). Command and control instruments define the minimum environmental and socio-economic standards to be provided by farmers (cf. Wüstemann et al., 2008). Farmers can be charged a tax if they fail to meet this minimum standard. On the other hand, they can become eligible for compensation if they provide a higher level than required by the law.

These rather theoretical thoughts provide a valuable economic background for any analysis in this field. However, developing the concept of multifunctionality into an operational framework has still remained a challenge for various reasons. For example, the demand for NCOs by society is diffuse and unevenly spread across the population. The supply of NCOs, on the other hand, is often non-point, and sometimes unpredictable, and there are inherent difficulties in measuring and monitoring outputs (Hodge, 2001). Being aware of these challenges, our intention was not to develop another conceptual but an operational framework for assessing policy options with regard to their impacts on agricultural multifunctionality. This required that the demand by society and related agricultural functions and effects had to be identified for a specific landscape in a given spatiotemporal context and it had to be analyzed how alternative policy options affect these functions and effects, or in other words how the NCO supply was influenced (Wiggering et al., 2006). The developed framework is illustrated in Fig. 1 and the following sections describe the different steps in greater detail. The framework should not be understood as the ultimate answer to the methodological problems raised before but rather as a pragmatic approach that seeks to strike a balance between efforts (including costs) and outcomes. Other studies that used the MEA-Scope analytical framework have focused on the NCO supply side (Uthes et al., 2008; Piorr et al., 2009), while this study reports from the project's efforts to link the NCO demand and supply side.

2.1. Context analysis: introduction of the case study regions

Four study areas located in Germany, Denmark, Italy and Poland were chosen for this study, each with distinct geo-biophysical and socio-economic characteristics. Starting point in our case study regions was an analysis of the regional context based on information from regional experts, existing publications and available statistics (see Balazs et al., 2005). A field excursion in each of the four regions was also included. The goal of this step was to become familiar with the specific situations in the regions as a preparation for all following steps. For an overview of the regional characteristics, see Table 1.

2.2. Regional relevance of agricultural functions and effects (NCO demand)

To identify regional differences in the NCO demand and as a basis for the development of specific regional storylines, a Stakeholder-Delphi-Approach (SDA) was conducted in each region. The SDA included face-to-face interviews among regional stakeholders and a consolidating workshop in each case study region (for a detailed description, see Schader et al., 2007, 2009). The stakeholders selected for the SDA typically included people who worked in the regional offices of government departments, those involved in spatial planning and decision-making, representatives of relevant land-use sectors, and in some cases, landowner interest groups and associations. Accordingly, the interviewees/participants were always addressed in their role as representatives or experts.

The first step of the SDA consisted of structured qualitative face-to-face interviews with open and closed-ended questions with the

[2] http://www.publications.parliament.uk/pa/cm200607/cmselect/cmenvfru/546/546i.pdf.