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Analysis

Expert Estimates of the Share of Agricultural Support that Compensates European Farmers for Providing Public Goods and Services

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ABSTRACT

Evaluations of agri-environment support at the European level are still rare. We used an expert survey to examine agricultural support schemes in the EU, Norway and Switzerland in terms of the shares of the payments that compensate farmers and other recipients for the costs of providing services. Furthermore, we explored to which categories of ecosystem services the funding for agri-environment measures contributed according to the experts. For the agri-environment payments in the EU we found a mean estimate of 'percent payment for services' (PPS) of 72.3%. Expert age, type of organisation and disciplinary background systematically affected the individual estimates. Controlling the individual-level variation, the estimates differed significantly by measure objectives. Particularly high PPS estimates were found for organic farming and conservation related measures, while integrated production and more generic extensive management options were perceived to perform less well. The mean PPS estimate for the rural development programmes was 59.6% and that for single payments 16.8%. The results suggest that expert estimates of PPS may complement the evaluation of schemes at the national or regional level in cases where complex policy objectives prevent a comprehensive evaluation based on objective measures.

1. Introduction

The European Union (EU) allocates a substantial fraction of its budget to the Common Agricultural Policy (CAP). In the funding period from 2007 through 2013, a total of 56 billion euro was spent annually (European Commission, 2013a). About 45 billion euro was allocated to direct payments to farmers, while about 11 billion euro was spent on the European Agricultural Fund for Rural Development (EAFRD) to support rural development programmes (RDP) (European Commission, 2013b). Another 11 billion euro was contributed by the member states which co-finance the RDP. The public support is now increasingly conditioned on the provision of environmental and other public goods and services. In the case of the direct payments, environmental objectives are pursued indirectly through the requirements of cross-compliance (Council Regulation no. 73/2009), while the RDP support specific agri-environment and other rural development objectives (European Commission 2013b).

The effectiveness of the support in terms of the provision of public goods and services cannot be taken for granted (e.g. OECD, 2007; SRU, 2013; Swinnen, 2010). Evaluations of the current policies are important to support future programming decisions (Ansell et al., 2016; Dwyer, et al. 2008; European Commission, 2011a; European Court of Auditors, 2011; Westhoek et al., 2013). To date, however, the evaluations of the RDP under the Common Monitoring and Evaluation Framework examine mainly whether budgets, supported areas and number of beneficiaries are on target and provide only limited insights regarding the performance of the payments in terms of the provision of public goods and services (Uthes und Matzdorf, 2013).

The challenges for evaluations of scheme performance at the European level are substantial. Agri-environment schemes (AES) support diverse services, many of which are difficult to measure (Desjeux et al., 2015; Pacini et al., 2015). Assessments therefore typically focus on a limited number of measureable indicators (Primdahl et al., 2010; Uthes und Matzdorf, 2013). There is still a lack of conceptual frameworks and empirical approaches that allow organising diverse measures according to reference levels, measure requirements and payment levels (Keenleyside et al., 2011), although the literature is increasing (Finn et al., 2009; Mauchline et al., 2012; Page et al., 2015; Purvis et al., 2009). Finally, while some fairly comprehensive assessments of AEM exist at national or regional levels (e.g. Dickel et al., 2010; Hodge and Reader, 2010; Schroeder et al., 2015), the information available at the European level is limited (Uthes und Matzdorf, 2013).

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Here, we examine the performance of agricultural support at the European level in terms of an indicator that is sufficiently generic to be applied to a wide range of policy instruments providing both agri-environmental and other public goods and services. The performance indicator we use is 'percent payment for services' (PPS), defined as the share of agricultural support that effectively compensates farmers for providing public goods and services. The difference between the total payment and the payment for services (PS) constitutes a 'transfer payment' which, in a welfare economic framework with rational actors, equals the consumer surplus (see Section 3.1). The indicator also has similarities with 'additionality' (Claassen et al., 2008; Claassen et al., 2013; Mezzatesta et al., 2013) but relates to the costs rather than units (such as hectares) of additional practices.

The objective of the present paper is to estimate the PPS among agricultural support in Europe in the reference year 2012 based on a survey of agri-environmental policy experts in the EU, Norway and Switzerland. Furthermore, to link the assessment of policy measures with the literature on ecosystem services (e.g. Kragt and Robertson, 2014), we explore to which widely used categories of ecosystem services the AEM contributed. The following specific questions are examined: According to the experts, (1) which percentage of (a) basic income support, (b) rural development support and (c) agri-environment support were payments for services?; (2) which factors determined the PPS of the AEM?; and (3) how was the funding for AEM allocated to different categories of ecosystem services?

The paper is organised as follows. The next section provides an overview of agricultural policy support in the EU, Norway and Switzerland. Section 3 contains the methods. The results are reported in Section 4 which is followed by a discussion and conclusions.

2. Background on Agricultural Support in Europe in the Period 2007 − 2013

In the European Union, agricultural support under the CAP consists of two 'Pillars'. In the period 2007 − 2013, Pillar I included the uncoupled (area-based) and coupled (production-related) direct payments to farmers with the main objective to support farm income.[2] The payments in Pillar I were not specifically targeted at the provision of public goods but they may have supported public goods indirectly, as explained below. Pillar II includes the RDP which were funded through the EAFRD. This support was directly targeted at specific public goods including environmental objectives.

The direct payments in Pillar 1 supported agri-environment objectives through the cross-compliance mechanism (Council Regulation 73/2009). Since the full implementation of the 2003 reform of the CAP in 2007, all farmers receiving direct payments were subject to compulsory cross-compliance, which consisted of two elements: The 'statutory management requirements' (SMR) included 18 legislative standards concerning the environment, food safety, animal and plant health and animal welfare. The requirement of 'good agricultural and environmental condition' (GAEC) refers to a range of standards related to soil protection, maintenance of soil organic matter and structure, avoiding deterioration of habitats, and water management. The costs of compliance were officially borne by the farmers. Nevertheless, the cross-compliance requirement implies that an unknown fraction of the direct payments essentially compensated farmers for the costs of complying with the higher standards. Since legislative standards were required independently of direct payments, the direct payments implicitly compensated farmers for GAEC requirements that exceeded the SMR.

The support payments in Pillar 2 were organised around four thematic 'axes'. Axis 1 aimed at 'increasing the competitiveness of the agricultural sector', axis 2 at 'enhancing the environment and the countryside', axis 3 at 'enhancing the quality of life in rural areas and promoting the diversification of rural economic activities', and axis 4 provided funding for innovative governance through locally based, bottom-up approaches to rural development. Each axis comprised a menu of measures from which the programming units (countries or regions) could choose. However, there were proposed minimum funding percentages in the axes 1 − 4 of 10%, 20%, 10% and 5% of the national totals, respectively. The RDP were co-financed by the member states which on average paid about 50% of the costs from their national budgets in the programming period 2007 − 2013 (European Commission, 2015).

The AES represent one category of measures within axis 2 of the RDP. While it was compulsory for the member states to implement AES, the participation of farmers in these schemes was voluntary. Farmers voluntarily committed themselves to comply with the AES for a minimum period of five years. The payments for the environmentally friendly farming techniques were calculated according to additional costs and income loss due to the AES, and they were paid to farmers on an annual basis. Depending on the Member State, the AES were designed at the national or regional level. The schemes were diverse across countries and regions but often involved sub-measures for organic farming, integrated production and extensive farming, reduced fertilizer and pesticide use, soil conservation, techniques to reduce emissions, actions to promote the maintenance of genetic resources or measures for the conservation of biodiversity and traditional rural landscape features. With a budget of 37 billion euro for the period 2007 − 2013, the AES alone comprised 24% of the RDP budget (European Commission, 2013c).

The Norwegian agricultural support in 2007 − 2013 included various types of direct payments with the main objective to support farm income. As in the EU, these direct payments were conditional on cross-compliance and may have indirectly supported the provision of public goods. Additional support was provided through 'Regional Environmental Programmes' with objectives comparable to those of the AES of the EU (MAF, 2008). In Switzerland during the same time period, income support was provided through 'general direct payments'. This support was likewise conditioned on cross-compliance. A scheme called 'financial aid for structural adjustment' pursued rural development objectives similar to some objectives in the European RDP. Finally, 'ecological direct payments' supported a menu of environmentally friendly practices which were similar to the AES in the EU (FOAG, 2013).

3. Methods

3.1. 'Percent Payment for Services' (PPS)

In this study, the performance of agricultural support is examined by distinguishing between units of funding that *do* vs. *do not* compensate farmers for additional costs due to the supported practices or projects. The supported practices are assumed to deliver public goods and services (short: 'services'). These services include 'pure' (non-excludable and non-rival) public goods (e. g. Stiglitz and Rosengard, 2015) but also other public services such as access to land from which individuals could be excluded. For units of funding that compensate farmers for the costs of specific practices we use the term 'payment for services' (PS). For units of funding that *exceed* these costs we use the term 'transfer payments'. On this basis, we define 'percent payment for services' (PPS) as the percentage of payments for services among the total payments for the practice (i.e. among the sum of payments for services and transfer payments).

PS and PPS have similarities with the concepts of 'additionality' (Claassen, 2012, Claassen et al., 2013) and 'percent additionality' (Mezzatesta et al., 2013). A payment yields additional benefit if it prompts the adoption of practices that would not have been adopted in the absence of the payment. Contrary to PS, however, additionality

[2] For simplicity, we use past tense throughout, although many features of the policies remain unchanged after 2013.