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Ecological Fiscal Transfers in Europe – Evidence-Based Design Options for a Transnational Scheme

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ABSTRACT

Ecological Fiscal Transfers (EFT) have recently gained attention as a promising instrument addressing public authorities to provide incentives for nature conservation. In parallel, both the EU and various European countries are exploring new mechanisms to mobilise funding to support biodiversity conservation. We develop a proposal for an EFT design within the supranational context of the EU and assess its potential effects with evidence-based estimates. We i) provide both a theoretical underpinning and a synthesis of the current EFT schemes and EU Nature Directives, ii) propose a model for EFT implementation within the existing EU funding mechanisms based on quantitative and qualitative conservation indicators, iii) analyse how resulting payments would be (spatially) distributed among European regions, and iv) discuss the model outcomes in terms of ecological effectiveness, distributive effects and cost-effectiveness. We thereby contribute to the debate about how to better integrate ecological public functions within multi-level and supra-national governance structures.

1. Introduction – The Need for Innovation in Conservation Policies

While the Millennium Ecosystem Assessment (Millennium Ecosystem Assessment, 2005) and The Economics of Ecosystems and Biodiversity (TEEB) reports (TEEB, 2010) have successfully raised awareness about the importance of healthy ecosystems for human well-being, political measures have not yet been sufficient to halt the decline in biodiversity (Hooper et al., 2012; Waldron et al., 2013). Being at the international forefront in conservation efforts, the EU biodiversity strategy has indeed set ambitious goals for conservation but lacks implementation effectiveness (European Commission, 2011, 2015). The European Natura 2000 (N2k) network of protected areas is a cornerstone of the strategy since transnational habitat and species conservation networks play a crucial role in the protection of important natural heritage (Pereira and Navarro, 2015) and migratory species (Opermanis et al., 2012). However, while N2k provides substantial benefits to both biodiversity and people (ten Brink et al., 2013), successful implementation yet lacks sufficient financing (Kettunen et al., 2011, 2017; Milieu et al., 2016; N2k Group, 2016).

In this context, there is an increasing interest in the supplementary use of economic instruments to both increase the financing for biodiversity conservation and improve the effectiveness and efficiency of conservation efforts (TEEB, 2010). For example, result-based agri-environment measure are being increasingly used to improve the efficiency and effectiveness of common agricultural policy payments in order to enhance outcomes and spur behavioural changes of private land users (Burton and Schwarz, 2013; Matzdorf and Lorenz, 2010; Russi et al., 2016). Conservation policy through protected areas is primarily a public function (Ring, 2002). Hence, beyond instruments that address private land users (Vatn, 2015) the conservation policy mix is not complete without instruments that support public bodies in their function to conserve nature (cf. Ring and Barton, 2015).

An innovative instrument that addresses public bodies explicitly is Ecological Fiscal Transfers (EFT). EFT are an element of

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intergovernmental fiscal transfers that allocate tax revenue among different government levels according to ecological criteria such as the existence of protected areas (PA) and is thus based on policy outcomes. EFT are promising in terms of conservation outcomes since i) they do not necessarily require additional funding as such but can be based on introducing changes to existing allocation schemes, and ii) they can be used to incentivise the creation of PAs (Droste et al., 2016, 2017; Grieg-Gran, 2000; May et al., 2002; Ring, 2008a; Santos et al., 2012). Originating in the Brazilian state of Paraná, the instrument has spread among other Brazilian states (Droste et al., 2017; Grieg-Gran, 2000; Loureiro, 2002; Loureiro et al., 2008; May et al., 2002; Ring, 2008a; Sauquet et al., 2014). As the first EU Member State, Portugal introduced a fully fleshed EFT scheme from the national to the local governmental level for all PA categories in 2007 (Santos et al., 2012, 2015).[1] The idea of EFT has received international attention (May et al., 2002; Ring, 2008a) and is gaining momentum regarding potential use in other states such as Switzerland (Köllner et al., 2002), India (Kumar and Managi, 2009), Indonesia (Irawan et al., 2014; Mumbunan, 2011), Germany (Ring, 2008b; Schröter-Schlaack et al., 2014) and France (Borie et al., 2014). Even an adaptation to the global level has been proposed (Farley et al., 2010).

Given the lack of finance for a successful implementation of the EU biodiversity conservation objectives, including the N2k network, and the potential of EFT to support conservation policies through financial incentives for conservation, the aim of this article is to explore a possible policy design for EU-wide implementation of an EFT scheme based on empirical evidence of the distribution of N2k areas and experience gained with existing EFT mechanisms. In order to provide the relevant background information, we introduce both a theoretical foundation for an EU-level EFT scheme, and synthesise current experience with EFT, N2k governance, and EU conservation financing (section 2). We then present a tailored proposal for a European EFT scheme (section 3). In a next step, we analyse the spatial distribution of simulated EFT payment flows among European regions within the proposed scheme (section 4). Finally, we discuss the potential outcomes of the proposed scheme in terms of conservation effectiveness, distributional effect and cost-effectiveness (section 5) and conclude with a note on the political economy of conservation (section 6).

2. Background – What Have we Learnt So Far?

In order to understand potential design options, we provide a brief theoretical underpinning for fiscal transfers in general and for introducing an EU-level EFT scheme in particular (section 2.1). We present the basic functioning of existing national and state-level schemes for local governments in Brazil and Portugal, where EFT were first implemented (section 2.2). For a suitable adaptation to the multi-level conservation governance structure of the EU, we elaborate on the implementation of N2k policies and their existing funding opportunities within the current EU (co-)financing schemes (section 2.3).

2.1. A Theoretical Foundation

In multi-level government structures the various levels each have their particular public functions which require corresponding public budgets. This is the main reason for revenue sharing and fiscal transfer schemes: to ensure sufficient finances for public functions at all government levels. Furthermore, there are often equity and efficiency considerations that determine the design of the fiscal system (Boadway and Shah, 2009). As a general guideline, the principle of *fiscal equivalence* (Olson, 1969) states that those jurisdictions who obtain the benefits of a policy should also bear the costs of delivering it. In the case of PA, where a decentral policy benefits other jurisdictions or serves higher level government interests, fiscal transfers may serve the internalisation of spill-over benefits between jurisdictions. By lowering the cost of provision they create incentives for an additional supply from respective government levels.

There are different forms of fiscal transfers (Boadway and Shah, 2009): *General-purpose transfers* supply funds for general public functions at the national, state, regional and local level. *Specific-purpose transfers* are designed to create incentives for lower-level government to provide specific public goods and services and are thus earmarked for particular spending objectives. The latter may be provided as matching grants that require co-financing from both higher and lower level government sources. A third and hybrid form are *performance-oriented transfers* which are conditional on the supply of a particular result but do not necessarily require that transfers received are spent on specified purposes.

In the context of *ecological public functions* (Ring, 2002), these design options have different implications for the financing of conservation policies. General-purpose transfers increase the general budget and, depending on how the receiving administration allocates the respective budget, may also increase conservation spending. Specific-purpose transfers are earmarked to support the implementation of a certain policy area. If – as in the case of PA – some benefits remain at local or regional level (e.g. amenity services and local water quality) and others spill over to the (inter-)national level (e.g. climate regulation and biodiversity conservation) (Gantioler et al., 2010; ten Brink et al., 2013), specific-purpose transfers in the form of matching grants are an option for internalisation. Performance-oriented transfers do not necessarily require that the obtained revenue is spent on a particular activity but require the supply of a specific result and thus maintain some decentral autonomy as to how the money is best spent and how the result is obtained. Through performance-based transfers the provision of a particular result becomes a source of income and greater supply is incentivised. Existing EFT schemes are both based on the logic of general-purpose transfers (they supply transfers based on the financing need for ecological public functions), and they transfer funds conditional on ecological indicators such as the (relative) coverage of PA (for details see section 2.2). Hence, in the context of fiscal terminology EFT can be considered performance-oriented.

Within EU multi-level conservation governance structures there are thus arguments for different possible types of fiscal transfers or fund mechanism designs. From the perspective of EU-level interests, general-purpose transfers may not well serve the purpose of conservation policies since they lack a close tie to conservation spending or outputs. Specific-purpose transfers that are dedicated to particular programmes and activities serve two main and connected purposes: they earmark spending on conservation policies and could thus ensure that sufficient funding is available for conservation activities. Of these two, only the first is given, since a N2k funding gap remains and sufficient funding is not ensured (Kettunen et al., 2011, 2017; Milieu et al., 2016; N2k Group, 2016). Performance-oriented transfers, such as EFT, have not yet been implemented in a supra-national governance system.[2]

Summarising the theoretical foundation for an EU-EFT scheme, we argue that

i) positive spill-over benefits from N2k and the realisation of EU-level interests at decentral levels call for an internalisation via (fiscal) transfers, and
ii) a performance-oriented design would facilitate some decentral spending and implementation autonomy which allows for a greater degree of freedom in realisation of decentral level interests.

[1] Since 2006, a small-scale EFT scheme exists in France which provides ecological transfers for municipalities in core zones of national parks or natural marine parks (Borie et al., 2014).

[2] A result-based design of agri-environmental measures (Russi et al., 2016) follows a similar approach but addresses private land users instead.