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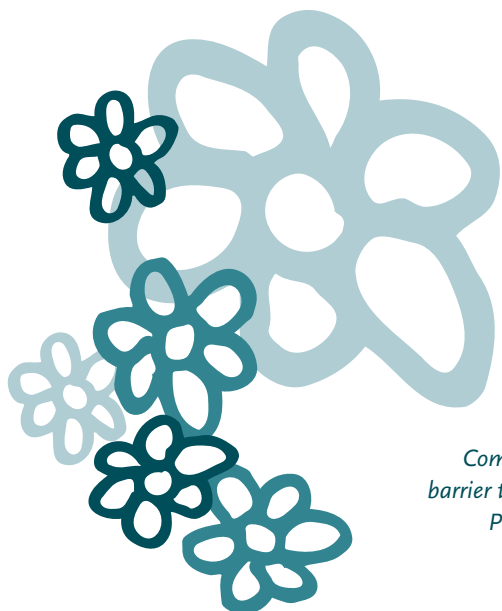
Compensating Municipalities for Protected Areas

Fiscal Transfers for Biodiversity Conservation in Saxony, Germany

Communities often perceive protected areas as a barrier to development – a misleading point of view. Protected areas can actually generate benefits and be a source of local income, if properly incorporated into fiscal transfers.

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Compensating Municipalities for Protected Areas – Fiscal Transfers for Biodiversity Conservation in Saxony, Germany
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Abstract

Local conservation efforts and land-use restrictions due to protected areas are often related to benefits at higher governmental levels. This gives rise to spatial externalities that – if not adequately compensated – may lead to an underprovision of public goods and services. This article proposes two models that would expand the existing intergovernmental fiscal transfer system from the state to the local level in Saxony, Germany, to include designated protected areas; the models are based on actual administrative, social, and economic data from 2002. Conservation units (CUs) are identified in each municipality by overlaying Geographical Information System (GIS) layers of the various categories of protected areas over a total of 537 municipal borders in Saxony. The first model considers CUs within the calculation of general lump-sum transfers by "translating" CUs into the generic indicator of inhabitants. In the second model, a specified amount of the overall transfer sum is devoted to conservation according to the share of CUs a municipality holds in relation to its total area. Both approaches lead to higher transfers, especially to rural communities (though to varying degrees), thereby acknowledging the latter's ecological services to society.

Keywords
biodiversity conservation, environmental federalism, fiscal transfers, Germany, local costs, protected areas, Saxony, spillover effects

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The concept of ecological tax reform was developed during the 1990s. The early focus on energy taxes was later enlarged to include fiscal policy more broadly. The debate on ecological fiscal reform, however, continues to be focused on environmental pollution, or – in economic terms – internalising negative externalities by way of taxes, charges, and fees, and thus, on greening public income. Much less has been written on internalising positive externalities, which means greening the public expenditure side. Developing fiscal transfers to compensate societal actors for the ecological goods and services they provide remains a neglected aspect of the debate. Although the German Advisory Council on the Environment has long suggested the integration of nature conservation into communal fiscal transfer systems (SRU 1996), there have been no systematic steps in this direction so far. One major argument in favour of ecological fiscal transfers relates to the spatial division of labour concerning public sector functions. Whereas the socio-economic public sector functions of urban agglomerations (such as schools, hospitals, and theatres) have long been a part of fiscal transfer schemes, functions related to ecological goods and services in rural and peripheral regions still await inclusion (Ewers et al. 1997, Ring 2002). Protected areas, for example, involve land-use restrictions that may force municipalities to forego development opportunities that would generate communal income. If protected areas were successfully included in fiscal transfers to the local level, however, their acceptance could be increased.

Perner and Thöne (2005) suggested ways of incorporating nature conservation into communal fiscal transfers, based mainly on indicators from spatial planning and the support of direct conservation measures. Köllner et al. (2002) developed a model based on biodiversity indicators and cantonal benchmarking for fiscal transfers to the local level in Switzerland.

This article aims to advance the debate, firstly, by describing the current state of and future prospects for ecological fiscal transfers in Germany, based on an analysis of the 13 fiscal transfer laws in the German *Länder* (federal states). Secondly, the intergovernmental fiscal transfer system from state to local level in Saxony,

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Germany, is presented and at the same time expanded to include a conservation indicator based on designated protected areas. Saxony was selected with a view to data availability, since the expanded transfer scheme is based on Saxon administrative, social, and economic data from 2002. Two alternative models and sets of simulation results are presented. They demonstrate for the first time in a spatially explicit way the changes in communal income that would occur if protected areas were considered in a state's fiscal transfer system.

Ecological Fiscal Transfers in Germany: Status Quo and Perspectives

Local conservation efforts as well as local land-use restrictions due to protected areas are often related to benefits at higher governmental levels. In particular, biodiversity conservation gives rise to global benefits, yet its associated costs are unequally distributed with regard to regions and economic sectors (Urfei 2002, Ring 2004, Hampicke 2005). In studies of environmental federalism, it is undisputed that the non-use values associated with natural resources in particular justify the centralisation of responsibilities (Revesz 2000, Oates 2001, List et al. 2002). In Germany, protected areas are designated by the *Länder* and at regional governmental levels, at times with and at times without the consent of local actors. Hence, land users and municipal authorities often perceive protected areas as an obstacle to development (Bauer et al. 1996), and opposition towards large protected areas can be considerable (Stoll-Kleemann 2001, Job 2008, in this issue). Due to the local management and opportunity costs of providing public goods and services, spatial externalities or spillovers exist that – if not adequately compensated – lead to their underprovision (Bergmann 1999, Ring forthcoming). A number of reforms are needed to reconcile the local costs and global public benefits of biodiversity conservation (Perrings and Gadgil 2003, MEA 2005). In Germany and in Europe generally, various agri-environmental programmes exist to compensate private land users for benefits foregone. For local public actors – the municipalities – only few options exist for obtaining compensation. In Saxony, one programme offers support for direct conservation measures, although the opportunity costs of protected areas imposed by spatial planning are not taken into account. Moreover, municipalities hope to generate income from designating commercial and housing development areas; this remains a major driver of land consumption.

Theoretically, fiscal federalism and the principle of fiscal equivalence provide major arguments for matching decision-making responsibilities with the costs and benefits of providing public goods and services (Buchanan 1950). Where spatial externalities exist between jurisdictions at different governmental levels, intergovernmental fiscal transfers are proposed as a suitable instrument to internalise them (Olson Jr. 1969). Fiscal transfers are an important source of local income in Germany: almost 30 percent in West Germany and more than 50 percent of average local income in eastern Germany stem from communal fiscal equalisation (Karrenberg and Münstermann 2006).

In the German *Länder,* general lump-sum transfers constitute the majority of transfers to the local level. They may be used in any way the recipient wishes, thereby acknowledging the high degree of autonomy given to the local level of government by the German Constitution. Their allocation is based on the fiscal need of a local jurisdiction in relation to its fiscal capacity (its own revenues based on local taxes). Fiscal need is determined by a "principal" approach that takes into account the general and average fiscal need. The main indicator used is the number of inhabitants, often accompanied by weighting factors linked to population size. In some states, "additional" approaches exist to take account of specific community burdens. The Free State of Saxony has an additional approach based on the number of schoolchildren; other states take account of recreational functions or the area of a municipality. The inhabitant-based indicator used for the bulk of fiscal transfers, however, generally favours urban areas as opposed to rural areas, due to the lower population densities of the latter.

Area-based indicators are a first step towards taking account of ecological public functions in fiscal transfers (Ring 2002). Henneke (2006) refers to the additional costs incurred by a large community or district area for public sector functions such as nature conservation, agricultural affairs, waste disposal, water supply, or sewage discharge. The German Association of District Councils *(Deutscher Landkreistag)* frequently requires enhanced area-related indicators in fiscal transfers. So far, only the thinly populated states of Brandenburg, Mecklenburg-Western Pomerania and

TABLE 1: Earmarked ecological fiscal transfers in German fiscal equalisation laws of the German *Länder* (2006).

area	measures supported	*Länder* (federal states)
soil	▪ soil conservation	BW, ST
	▪ prospecting and remediation of contaminated sites, recultivation	BY, BW, HE, ST, TH
water	▪ water protection	HE, SH, RP
	▪ water supply	BY, BW, HE, MV, RP, SL, SN, TH
	▪ sewage disposal	BY, BR, BW, HE, MV, RP, SL, SN, TH
nature protection	▪ nature conservation and landscape management	HE, MV, ST
recreation	▪ spas, recreation, and tourism	MV, RP, SH
waste	▪ waste disposal plants	BY, HE, MV, RP, SL, TH
energy	▪ energy saving measures	HE

BR: Brandenburg
BW: Baden-Württemberg
BY: Bavaria
HE: Hesse
MV: Mecklenburg-Western Pomerania
RP: Rhineland-Palatinate
SH: Schleswig-Holstein
SL: Saarland
SN: Saxony
ST: Saxony-Anhalt
TH: Thuringia

Saxony-Anhalt use area as an indicator for general lump-sum transfers, along with Rhineland-Palatinate, a state with higher average population density.

North Rhine-Westphalia, Baden-Württemberg, and Hesse acknowledge ecological fiscal needs independently of a municipality's fiscal capacity. These states provide unconditional fiscal transfers relating to public sector functions in nature conservation, recreation, and environmental protection.

Table 1 shows fiscal transfers earmarked for ecological purposes in German fiscal equalisation laws in 2006. This is the most common method of including ecological functions in communal fiscal transfers. Infrastructure-related measures and end-of-pipe measures dominate the picture, confirming the results of a previous analysis conducted in 2001 (Ring 2002). Apart from drinking water provision, resource protection, as well as nature and biodiversity conservation are rarely supported.

To sum up, there is a lack of conservation-oriented public sector functions in fiscal transfers, particularly relating to the opportunity costs of protected areas. In terms of types of fiscal transfer, there is a lack of lump-sum or unconditional transfers based on conservation indicators. Such transfers would give the municipality more leeway in the use of monies received. Therefore, two alternative models are presented, each using a conservation indicator for distributing 1. lump-sum transfers and 2. unconditional ecological fiscal transfers.

This highway bordering the protected landscape Leipziger Auewald exemplifies the conflict between nature protection and other forms of land use, such as transport infrastructure.

Modelling Fiscal Transfers for Protected Areas in Saxony

The Saxon Communal Fiscal Transfer System

The Free State of Saxony has three administrative levels: the state level, an intermediate level of administrative districts[1], and the local governmental level. The latter consists of cities that are district-independent, districts, and communities belonging to a district. In the following models, only the seven district-independent cities and 530 communities are considered (537 municipalities in total) representing Saxony's decentralised jurisdictions that make up the total state area. For the distribution of general lump-sum transfers, fiscal needs are determined by weighted inhabitants according to size classes of municipalities (principal approach) and weighted schoolchildren according to school types (additional approach). The two approaches form the "overall approach" which is then multiplied by a "base amount" to identify the fiscal need of a municipality. Different iterative calculation processes are used to determine the base amounts for district-independent cities and communities respectively. In 2002 these original base amounts were 1 150.62 euros for cities and 520.81 euros for communities. Fiscal capacity is determined by a municipality's own local revenues, consisting of local land and business taxes plus local shares of income and value-added taxes (Lenk 2005). Municipalities do not receive any lump-sum transfers if   >

1 *Regierungsbezirke* Chemnitz, Dresden, and Leipzig.

TABLE 2: Estimated conservation weights for different categories of protected areas.

management category	conservation weight
national park	1
special area of conservation (SAC), *EU Habitats Directive*	0.9
special protection area (SPA), *EU Birds Directive*	0.9
nature reserve	0.7
biosphere reserve	0.6
nature park	0.4
landscape reserve	0.3

their fiscal capacity exceeds their fiscal need, which was the case for just four Saxon municipalities in 2002. All the others received lump-sum transfers, partly equalising the gap between their fiscal need and fiscal capacity.

In addition to lump-sum transfers, the Saxon fiscal transfer system provides for further unconditional transfers to take account of fiscal needs independently of the municipality's fiscal capacity; it dedicates specified amounts for transfers to compensate for burdens linked to roads, cultural amenities, and snowfall, and includes earmarked transfers. Before presenting the models below, a suitable indicator is developed for including protected areas in the Saxon fiscal transfer system.

Conservation Units as an Indicator

Conservation units (CUs) are used as an indicator for taking account of designated protected areas in the Saxon fiscal transfer scheme. Conservation units are standardised areas within the boundaries of a municipality that belong to one of the following categories of protected areas according to Saxon nature conservation law: national park, special area of conservation (SAC) according to the *EU Habitats Directive*[2], special protection area (SPA) according to the *EU Birds Directive*[3], nature reserve, biosphere reserve, nature park, and landscape reserve. These categories are defined by German nature conservation law. Data on protected area boundaries are available from conservation authorities. Hence, CUs represent a simple yet comparable indicator capable of being included in the communal fiscal transfer systems of the German states in various ways, thus reflecting German federalism. For the standardisation of protected areas, a conservation weight is introduced, taking account of the conservation value of the management category in question (table 2). From an economic perspective, the conservation weight also takes into

2 *EU Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.*
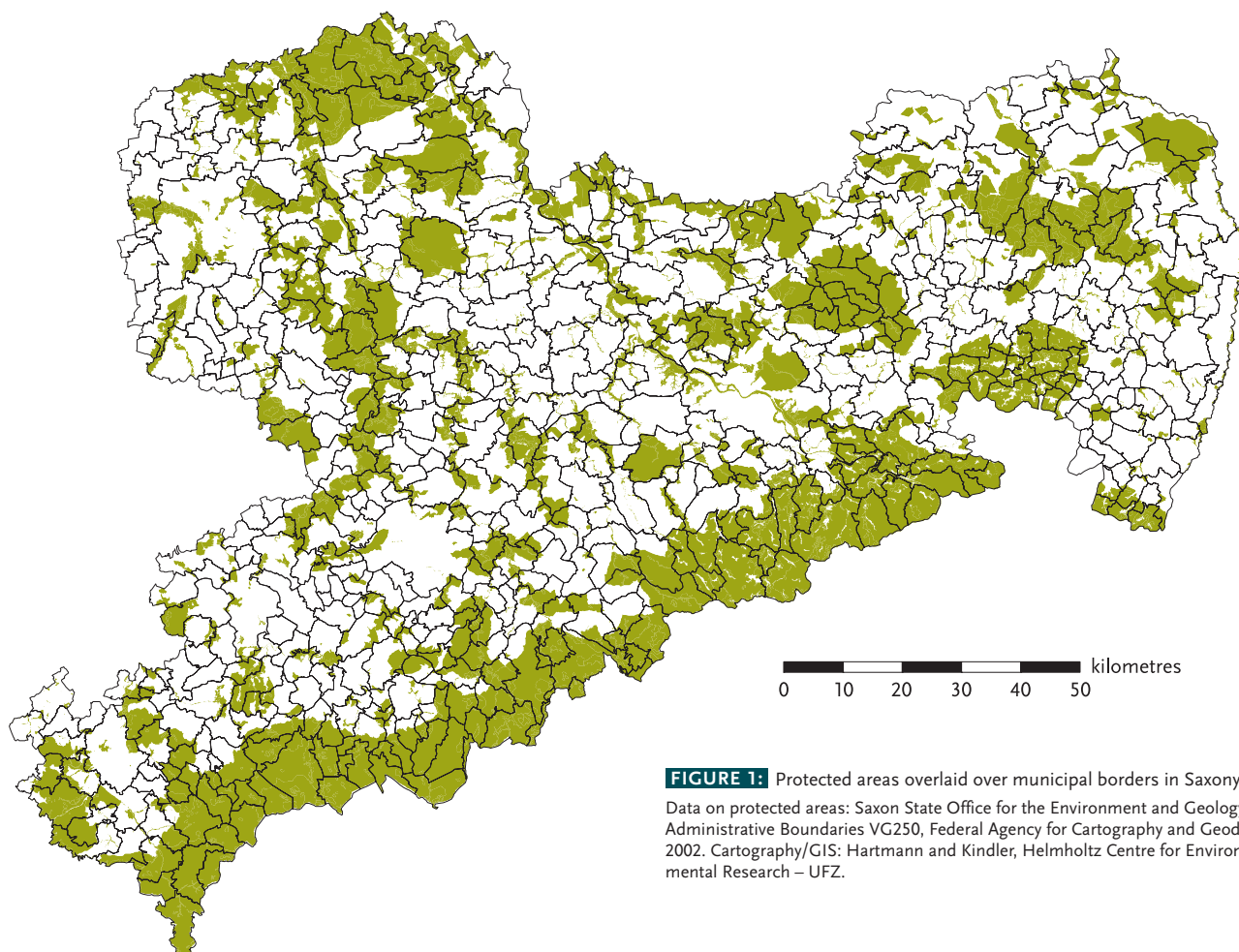3 *EU Directive 79/409/EEC on the conservation of wild birds.*

FIGURE 1: Protected areas overlaid over municipal borders in Saxony.
Data on protected areas: Saxon State Office for the Environment and Geology 2004, Administrative Boundaries VG250, Federal Agency for Cartography and Geodesy 2002. Cartography/GIS: Hartmann and Kindler, Helmholtz Centre for Environmental Research – UFZ.

TABLE 3: Inhabitants, protected areas and conservation units (CUs) in Saxony and its three administrative districts.

administrative district	inhabitants	total area (ha)	protected area (ha)	protected area (%)	CUs (ha)	CUs (%)	CUs per inhabitant
Chemnitz	1 621 284	613 007	270 770	44.2	118 289	19.3	0.07
Dresden	1 712 562	796 944	322 094	40.4	168 080	21.1	0.10
Leipzig	1 091 735	440 669	165 439	37.5	78 989	17.9	0.07
Saxony	**4 425 581**	**1 850 620**	**758 303**	**41.0**	**365 359**	**19.7**	**0.08**

account – in other words rewards – spillover benefits associated with categories of international and European significance, such as national parks, biosphere reserves, and the European Natura 2000 network. Land-use restrictions associated with the various management categories are also considered.[4] For example, national parks are of very high conservation value; they represent a management category of international significance and are associated with the strictest land-use restrictions in German nature conservation law. For this reason, one hectare of national park corresponds to one CU, setting the reference value for the other categories. In contrast, landscape reserves are usually of regional importance with relatively low land-use restrictions. Thus, one hectare of landscape reserve is assumed to correspond to 0.3 CU.[5]

The CUs of each municipality are identified by overlaying GIS [6] layers of the various categories of protected areas over a total of 537 municipal borders in Saxony, while avoiding double counts.[7] Figure 1 shows all protected areas in Saxony as of early 2004 superimposed on its municipal borders as of January 1, 2002.[8] 41 percent or approximately 758 000 hectares of Saxony's total area are designated under nature conservation law (table 3). Due to the conservation weights applied, this corresponds to approximately 365 000 hectares CU. Compared to Chemnitz and Leipzig, the administrative district of Dresden has a higher percentage of CUs due to having large protected areas, including Saxony's single national park and biosphere reserve.

To simplify matters, the models presented include CUs only as a quantitative indicator. As a second step, both the quantity and the quality of protected areas should be considered in order to prevent municipalities striving to accumulate low quality protected areas.

Model 1: Including Conservation Units in General Lump-Sum Transfers

In the first model, protected areas are taken into account by creating a further additional approach – the "conservation approach" – in the distribution of lump-sum transfers, thereby increasing fiscal need while acknowledging local fiscal capacity. For this purpose, CUs need to be converted into the generic indicator of inhabitants. This procedure mirrors the existing consideration of area in fiscal transfer systems in other German *Länder*[9]. In the model calculation presented, we assume that a political decision is taken to make one hectare CU equal to one inhabitant (average population density in Saxony in 2002: 2.36 inhabitants per hectare). Thus, the "overall approach" of a municipality is given

by the sum of weighted inhabitants and schoolchildren plus its CUs. In this way, the fiscal need of a municipality is increased according to the CUs within its municipal boundaries.

Ideally, the equivalence between CUs and inhabitants should be justified empirically by estimating the opportunity costs of protected areas and the municipality's direct conservation management costs, in order to approximate the "actual" fiscal need. It is very difficult (if not impossible), however, to develop an indicator and an appropriate weighting procedure that "correctly" reflects the fiscal need of a municipality. A similar problem is encountered when using weighted inhabitants to approximate municipal fiscal needs, a (controversial) argument developed in the literature on public finances in the 1930s (Brecht 1932). Rhineland-Palatinate and Schleswig-Holstein have already abolished the weighting of inhabitants, in contrast to the prevailing practices of other German states.

In the present model, the base amounts calculated for district-independent cities (1 144.21 euros) and for communities (478.04 euros) are lower than those obtained in the original fiscal transfer system in 2002 (see above). Hence, municipalities with no or few CUs receive fewer lump-sum transfers, while others make gains according to their CUs. Due to the differing base amounts, one weighted inhabitant or schoolchild, as well as one hectare CU, more than doubles the fiscal need of a district-independent　>

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4 The conservation weights applied here were estimated with the assistance of Klaus Henle, Head of Department of Conservation Biology at the Helmholtz Centre for Environmental Research – UFZ. In practice, conservation authorities may decide on weights according to the conservation value of different protected areas. A scientific justification may also include an analysis of land-use restrictions and associated opportunity costs as well as an economic valuation of spillover benefits.

5 If all protected areas were to be considered in the same way, all the conservation weights would be equal to one. The sum of a municipality's CUs would then be the sum of all designated protected areas within its territory.

6 Geographical information system.

7 An area designated as a nature reserve, which also lies in a biosphere reserve, is to be counted once using the area and conservation weight of the highest category associated with it.

8 GIS data for all types of protected area in Saxony became publicly available only in 2004.

9 For example Brandenburg: additional approach with ten inhabitants per square kilometre area for districts; Saxony-Anhalt: principal approach with 15 inhabitants per square kilometre area for districts; Rhineland-Palatinate: additional approach with two inhabitants per square kilometre area above state average. In protected area statistics at local and state levels, the unit hectare (one hectare equals 0.01 square kilometre) is more common and henceforth used to incorporate CUs into fiscal transfers.

TABLE 4: Model 1: Distribution of winning and losing municipalities across Saxony if the Saxon fiscal transfer system 2002 included designated protected areas.

administrative district	percentage change in general lump-sum transfers							number of municipalities
	< − 50	− 50 up to < − 25	− 25 up to < 0	0 up to < 25	25 up to < 50	50 up to < 100	≥ 100	
Chemnitz	1	1	113	64	21	13	1	214
Dresden	0	0	99	65	21	16	19	220
Leipzig	1	0	61	18	15	4	4	103
Saxony	**2**	**1**	**273**	**147**	**57**	**33**	**24**	**537**

city compared to the smaller communities. From an economic point of view this is justified by the higher opportunity costs of protected areas in large cities.

Figure 2 illustrates the percentage changes in general lump-sum transfers due to CUs for each Saxon municipality, compared to lump-sum transfers originally received in 2002. On the winners' side, most municipalities increase their lump-sum transfers by up to 25 percent, but there are some municipalities that more than double them. The ten municipalities ranking highest are located within one of the large protected areas in Saxony's periph-eral regions. Half of them lie in the biosphere reserve Oberlausitzer Heide- und Teichlandschaft, while the others are part of the nature parks Dübener Heide and Erzgebirge-Vogtland, as well as the national park Sächsische Schweiz. The absolute increase in
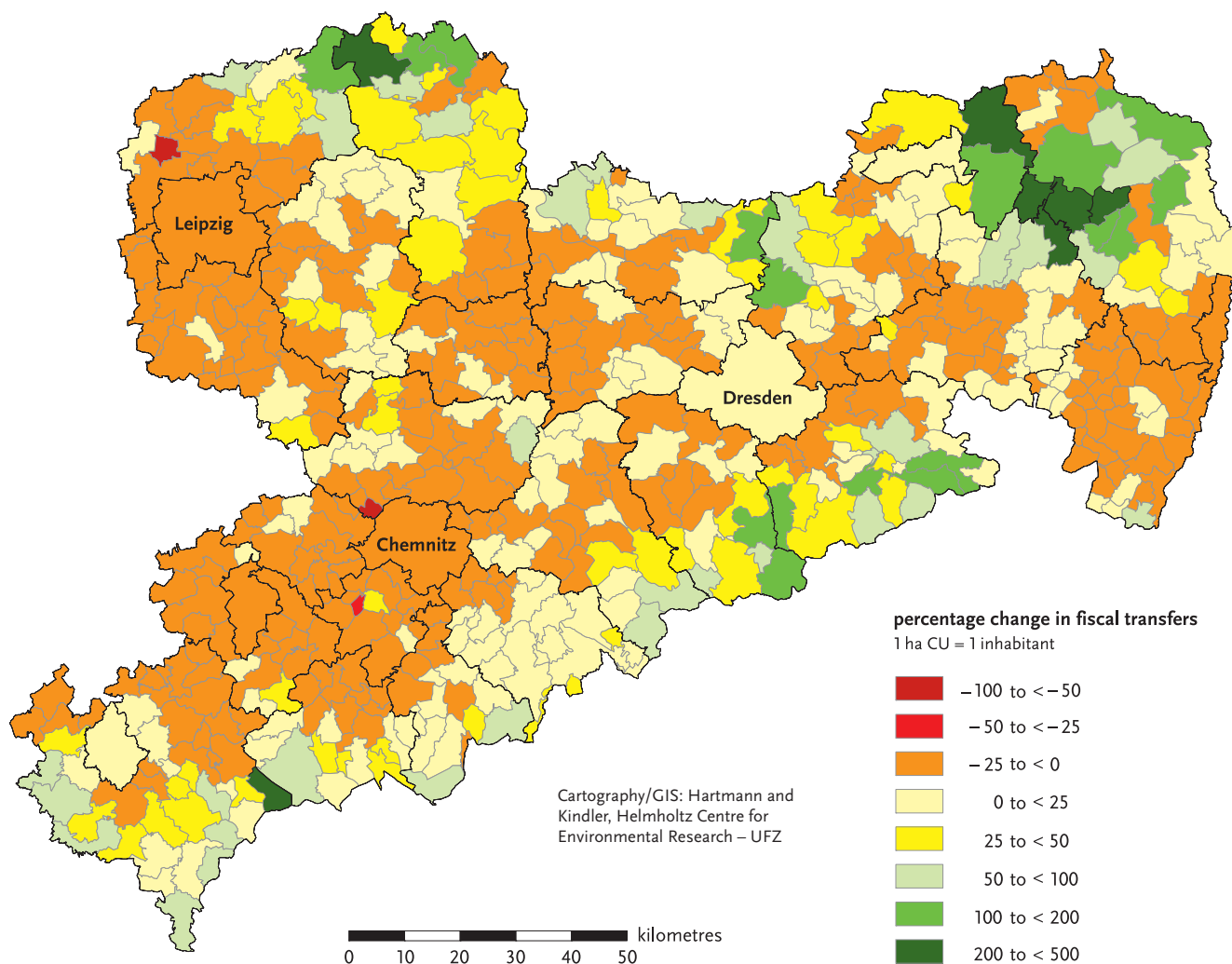
FIGURE 2: Model 1: Percentage change in general lump-sum transfers when the Saxon fiscal transfer system 2002 was expanded to include designated protected areas. In this model, conservation units (CUs) are used in addition to inhabitants and schoolchildren to calculate the fiscal need of a municipality, assuming one hectare CU is equal to one inhabitant.

percentage change in fiscal transfers
1 ha CU = 1 inhabitant

- −100 to < −50
- −50 to < −25
- −25 to < 0
- 0 to < 25
- 25 to < 50
- 50 to < 100
- 100 to < 200
- 200 to < 500

Cartography/GIS: Hartmann and Kindler, Helmholtz Centre for Environmental Research – UFZ

kilometres
0 10 20 30 40 50

TABLE 5: Model 2: Distribution of winning and losing municipalities across Saxony if the Saxon fiscal transfer system devoted 90 million euros to conservation.
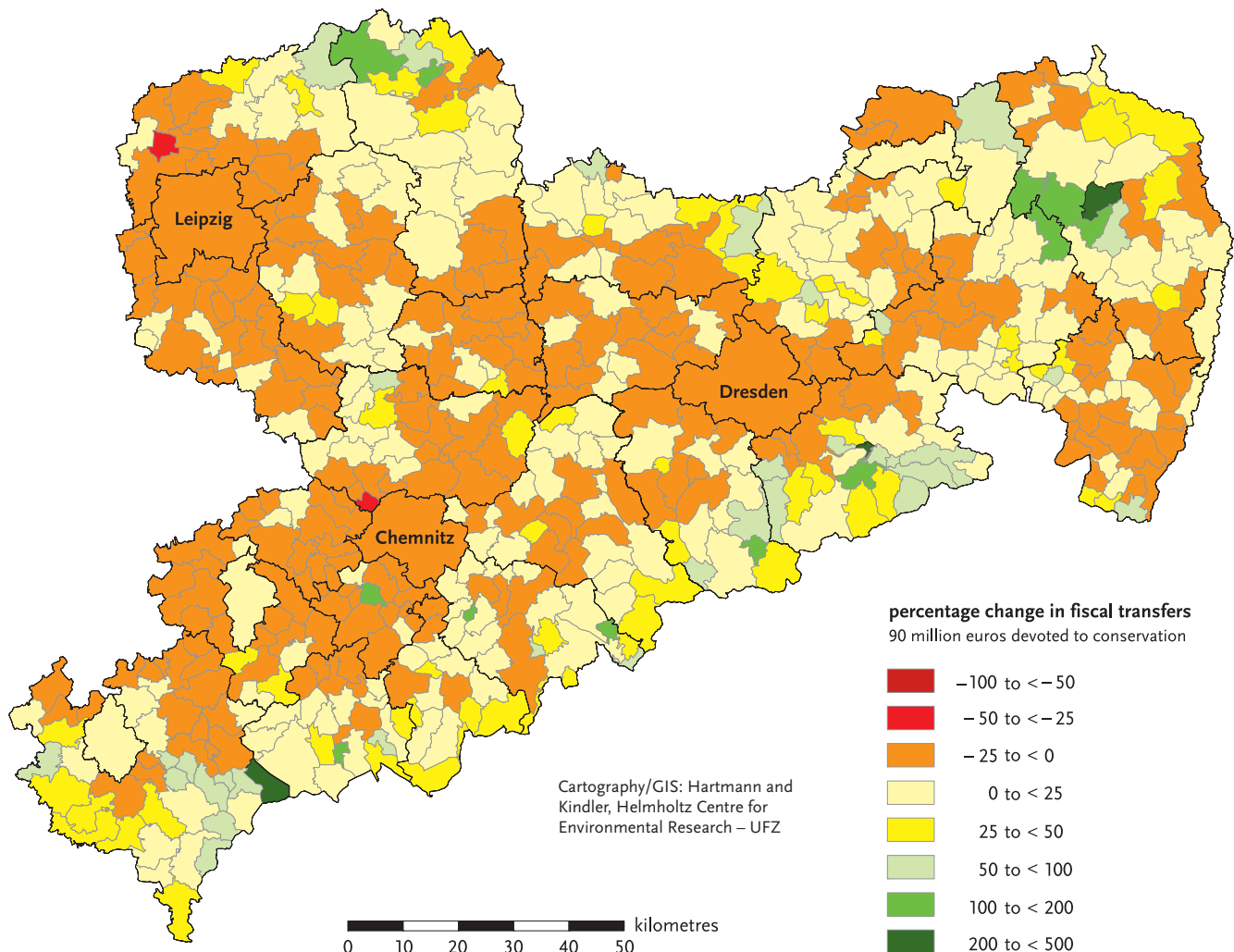
administrative district	percentage change in net fiscal transfers							number of municipalities
	< − 50	− 50 up to < − 25	− 25 up to < 0	0 up to < 25	25 up to < 50	50 up to < 100	≥ 100	
Chemnitz	0	1	93	75	27	13	5	214
Dresden	0	0	84	82	28	18	8	220
Leipzig	0	1	58	32	8	2	2	103
Saxony	0	2	235	189	63	33	15	537

lump-sum transfers of these ten municipalities ranges between 700 000 and 1.5 million euros. By contrast, the vast majority of municipalities in Saxony lose only up to 25 percent of their lump-sum transfers (table 4).

FIGURE 3: Model 2: Percentage change in fiscal transfers when 90 million euros were devoted to conservation in the Saxon fiscal transfer system in 2002. The map indicates net changes in fiscal transfers consisting of additional ecological fiscal transfers, based on conservation units (CUs) in relation to the total municipal area, and reduced lump-sum transfers.

Model 2: Devoting a Specified Amount to Ecological Fiscal Transfers

The second way of including CUs in communal fiscal transfers is designed in analogy to the *ICMS Ecológico* in Brazil (see box, p. 150). This fiscal instrument has been implemented by several Brazilian states since the early 1990s (Grieg-Gran 2000, May et al. 2002, Ring 2007). Ecological fiscal transfers are determined by multiplying the ecological index of a municipality by a specified amount of money devoted to conservation. For a given quantity of overall CUs in the state, each municipality's ecological in- >

percentage change in fiscal transfers
90 million euros devoted to conservation

- −100 to < − 50
- − 50 to < − 25
- − 25 to < 0
- 0 to < 25
- 25 to < 50
- 50 to < 100
- 100 to < 200
- 200 to < 500

Cartography/GIS: Hartmann and Kindler, Helmholtz Centre for Environmental Research – UFZ

kilometres
0 10 20 30 40 50

dex is controlled by its Municipal Conservation Factor (MCF),
representing the share of municipal CUs in relation to its total
area. In this way, the relative land-use restrictions associated with
protected areas are compensated, and a higher CU to municipal
area ratio will lead to an increased absolute amount of ecological
fiscal transfers. Thus, a municipality with a MCF of 90 percent
receives more ecological fiscal transfers than one with a MCF
of only 30 or 50 percent.

Applied to the situation in Saxony, a specified amount is de-
voted to unconditional fiscal transfers based on CUs, in analogy
to Saxon fiscal transfers for the compensation of burdens asso-
ciated with road maintenance (about 90 million euros each year),
provision of cultural services (about 30 million euros), and the
removal of excess snow (SMF 2007). For the purpose of illustra-
tion, we assume that 90 million euros are devoted to conserva-
tion services, similar to the amount used annually for roads. This
is about 2.7 percent of the 3 283 billion euros available for com-
munal fiscal transfers in 2002. By comparison, Brazilian states
devote 0.5 to seven percent to CU-based fiscal transfers (Ring
2007).

Figure 3 and table 5 present the percentage changes in fiscal
transfers to Saxon municipalities for the second model. Results
are given in net changes in fiscal transfers, consisting of addi-
tional ecological fiscal transfers due to CUs and reduced lump-
sum transfers. The monies devoted in advance to CUs are no
longer available for lump-sum transfers, reflecting a budget-neu-
tral fiscal reform. Similar to the first model, most municipalities
either gain or lose up to 25 percent of their fiscal transfers. How-
ever, in the present simulation, with 90 million euros devoted to
conservation, 39 municipalities move from the losing to the win-
ning side, while fewer municipalities double their income from
fiscal transfers.

Which Option to Choose?

In principle, both models are suitable for including protected
areas in intergovernmental fiscal transfers to the local level. The
indicator "conservation units" offers further possibilities for
greening communal fiscal transfers. A specified amount per hect-
are CU could be allocated to municipalities, in the way Portugal
amended its communal financing law in 2007 (see box). In the
end, the choice among these options is a political decision, as
is the choice of conservation weights and funds reserved for con-
servation purposes. Although there are theoretical and scientific
arguments to support the different options, political reasoning
as well as community lobbying strongly influence the specific
design of a state fiscal transfer scheme. This is exemplified in
current practices of including area or recreational functions in
German communal fiscal transfer laws (Ring 2002).

There is a basic difference, however, between the two models
presented. In the first model, municipalities only benefit if they
receive lump-sum transfers. If their fiscal capacity still exceeds
fiscal need despite including CUs in the fiscal transfer system,
it is assumed that the financial status is healthy enough to cope
with conservation-related direct and opportunity costs. By con-
trast, the second model always provides for municipal income
for CUs irrespective of fiscal capacity. So the two models differ
in the question of whether protected areas and associated fiscal
needs should be valued in relation to or irrespective of fiscal ca-
pacity. Many national parks regions benefit economically from
higher tourism income. Taking account of CUs in the distribu-
tion of general lump-sum transfers would better account for mu-
nicipal income (local taxes) generated through attractive tourism
destinations. At the same time, less attractive areas of high con-
servation value would be able to increase their income based on
CUs, allowing the latter to provide basic municipal services for
the remaining inhabitants.

At any rate, existing experiences with ecological fiscal trans-
fers in Brazil have shown that their implementation should be
accompanied by a sound information policy. Otherwise, munic-
ipalities may simply not know that protected areas generate mu-
nicipal income for them (Grieg-Gran 2000). Nevertheless, local
preferences differ, and there may be municipalities that – despite
ecological fiscal transfers – are not interested in biodiversity con-
servation (May et al. 2002), while others are intrinsically motivat-
ed in conservation policies irrespective of economic incentives.

Two important developments should be mentioned with re-
gard to Saxony:

First, a new administrative reform is under way that involves
retaining only the three district-independent cities of Leipzig,
Dresden, and Chemnitz (Sächsische Staatsregierung 2007). When
the plans are realised in mid-2008, general lump-sum transfers
for the cities of Görlitz, Hoyerswerda, Plauen, and Zwickau will
be much lower. The change of status will be hard for these cities,
irrespective of the consideration of protected areas. A transition
phase has already been planned to assist them in adapting to
fewer lump-sum transfers.

Second, the models presented include Saxony's protected areas as of early 2004. Since then, a significant number of SPA sites according to the *EU Birds Directive* have been reported to the EU Commission, constituting about 13.5 percent of the Saxon state area, compared to approximately four percent incorporated in the models. Including these new reserves would mean increased transfers for a number of municipalities due to the high conservation weight associated with this category.

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