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YEARS

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Ecological Fiscal Transfers

Intergovernmental fiscal transfers redistribute tax revenues among levels of government, from national and regional governments to [local jurisdictions](#) according to agreed principles and priorities. Integrating ecological services means making [conservation](#) indices (e.g. size/quality of protected areas) part of the [fiscal allocation formula](#) to reward investments in conservation and to incentivize the expansion of protected areas.

Key words: Environmental fiscal reforms; biodiversity; protected areas; green finance; local financial reforms

How does it work?

Intergovernmental fiscal transfers [finance about](#) 60 per cent of subnational expenditures in developing countries and about a third in the OECD. The volume and direction of these transfers depend on geographical, social and economic indices (e.g. population, GDP, area of jurisdiction) or [formulas](#) determined by the country's fiscal authority. Fiscal transfers to [local jurisdictions](#)-i.e. regions, provinces or municipalities-serve multiple purposes, as they provide the resources for the delivery of public services and can reduce fiscal and economic imbalances. They can also create incentives and accountability systems. However, these indices rarely include environmental variables. Only Brazil, Portugal and to some extent France have effectively introduced them, Brazil's Imposto Sobre Circulação de Mercadorias e Serviços-Ecológico (ICMS-E) being the first (1992). Similar solutions are being considered in a number of countries to compensate [local jurisdictions](#) for the costs of providing ecological goods and services (e.g. in India, Indonesia, Germany, Poland and Switzerland).

The inclusion of [conservation](#) in the fiscal allocation [formula](#) makes for: 1. compensation for [conservation](#) opportunity costs; and 2. an indirect incentive to expand protected areas. It can also empower local governments to address [conservation](#) challenges. Without compensation, municipalities have the incentive to allocate land use rights to agriculture, industry and construction solely for the purpose of revenue generation. Given that [conservation](#) produces positive [externalities](#) beyond the boundaries of a municipality, there is a valid case for offering a fiscal premium for [conservation](#). This solution is also considered more efficient and less costly than establishing a complex regulatory framework to value and compensate [conservation](#) efforts.

[Fiscal transfers](#) can be "un-earmarked", meaning local jurisdictions can decide on their use, or specific purpose (conditional or earmarked). If the additional income is invested in conservation, the impact of the measure can be considerably higher. The quantity/size of protected areas is among the most easily available indices for calculating lump-sum transfers, but quality indicators may also be used. The state of Paraná (Brazil) has developed a "quality index" for protected areas with a 0-1 scale. The score, assessed by the environmental agency, is based on biological quality; quality of water resources; quality of planning, implementation and maintenance; and support to producers and local communities.

- In Brazil, 25 per cent of [ICMS \(GST/VAT\)](#) receipts are transferred to municipalities. In Paraná – one of the States that implement the ICMS-E formula - 5 per cent of this 25 per cent municipal share is distributed according to ecological considerations (half to conservation units and half to watershed protection). These criteria include the size of protected areas, the area of the municipality and the protected area's management category. Some states also impose additional environmental criteria, such as protection of water reserves, quality of water, sanitation and treatment of solid waste and sewage.
- In Portugal the size of protected areas affects the allocation of funds from the General Municipal Fund, effectively constituting an ecological fiscal transfer. The fund is capitalized by fiscal revenues collected from personal income tax, corporate profits tax and value-added tax. Of the amount transferred, 30 per cent is distributed according to the area of the municipality and the area designated as a [conservation zone](#).
- In the 2006 reform of its intergovernmental transfer system, France introduced an "ecological allocation" for municipalities in which national parks or marine parks are located. However, due to the restrictive definition of protected areas and the low value assigned to ecological allocation in the funding formula, fewer than 0.5 per cent of French municipalities are eligible for this funding (which represents just 0.02 per cent of public revenues).

Stakeholders

- **Regulatory entity/ies:** The tax/[fiscal code](#) is amended by the relevant authority. Depending on the degree of decentralization, the responsibility might fall to central, local authorities or both.
- **Revenue collection entity/ies:** The entity that collects public revenues transfers the resources to the [local jurisdictions](#) according to the [fiscal formula](#).
- **Beneficiary jurisdiction(s):** The [local jurisdiction/authority](#) is the main beneficiary. In the case of earmarked transfers for conservation, the resources will reach the departments, independent agencies or public companies that directly manage the protected areas. Private landowners may also receive resources, if provision is made for this.

Summary

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Financial Result



[Realign expenditure](#)

Instruments Used



[Fiscal](#)



[Regulatory](#)

Sources of Finance



Related SDG



Potential in monetary terms (revenues, realignment or cost-savings)

The impact of changes in the allocation [formula](#) can be large, as the amount of fiscal transfers to [local jurisdictions](#) can be high, particularly in developing countries. In Paraná, 5 per cent of the municipal share of the [ICMS](#) is allocated based on ecological criteria (about US\$70 million according to latest figures); in [Portugal](#) the share of fiscal transfers as a proportion of municipal revenues is about 60 per cent, implying that the introduction of conservation indices can have a tangible result.

The revenue potential can be modelled using different parameters. For example, a [study](#) has estimated the impact of the introduction of an index on protected areas in Indonesia. The results suggest that the new [formula](#) would have a positive impact on about a third of provinces by increasing lump sum transfers to those provinces by between 4.2 and 12.6 per cent.

When is it feasible?

The legal requirements include amendment of the [fiscal code](#) in order to introduce conservation indices in the fiscal formula. The amendment might require an act of the national and/or regional parliament.

Minimum investment required and running costs

The minimum investment requirement includes a feasibility study to reform the [fiscal code](#) and a programme of advocacy. Depending on the market and the reach of advocacy activities, costs can be estimated in the range of US\$200,000-300,000. If capacity is lacking in the central and local revenue authorities, additional measures might be required. There are no specific running costs, which are carried in the overall fiscal system.

Use in appropriate time and context

This solution is more appropriate in contexts where the share of domestic taxation to GDP has reached a sufficiently high threshold (indicatively at least? 10-15 per cent) and where administrative and fiscal decentralization is fairly advanced. Ecological fiscal transfers are less effective where the rate of domestic taxation is too low, especially if there are also severe capacity gaps in the central and local revenue authorities. Their effectiveness is also diminished in countries where [local jurisdictions](#) are not significantly dependent on fiscal transfers. It will be particularly opportune to introduce ecological fiscal transfers when fiscal and/or decentralization reforms are being rolled out. Decentralization programmes are also potential vehicles for capacity development and the establishment of a monitoring framework.

What are the main risks and challenges?**Pros**

- Ecological fiscal transfers do not require an increase in overall taxation.
- Rewards local governments for hosting protected areas, and validates the key role ecosystems services play.
- Allows the designation of new protected areas thanks to an increase in budgets (fiscal incentive), thus counteracting the (negative) incentive to reduce natural land to the benefit of agriculture, industry and construction for the sake of generating revenue from property/income taxes.
- Changes the perception of local communities of the advantage of preserving vital ecosystems and the opportunities for compensating [local jurisdictions](#) for [conservation](#).

Cons

- Since the transfers are a fixed proportion of overall revenues, when [local jurisdictions](#) expand protected areas, the impact of the incentive can diminish. The transfers will be diluted, as the creation of new protected areas will reduce the amount transferred per unit area.
- If transfers are not earmarked for [conservation](#), the final impact will depend on how the additional resources are spent, e.g. in the worst case, on projects that can harm biodiversity. A lack of transparency on expenditures is an obstacle to evaluating the impact of the instrument.

Risks

- Equity issues among jurisdictions can emerge if richer jurisdictions are found to have more protected areas (and thus benefit more from ecological fiscal transfers).
- Relying solely on quantitative indicators in the formulas? might undervalue the risks related to the management of protected areas, including the risk of fraud (e.g. through the acceptance of a fraudulent claim that that an area is protected).
- When decentralization is not mature, or when local jurisdictions do not have adequate capacity, the concerned actors at local level may be ill-prepared to align their practices and policies to respond to incentives or absorb increased funding.
- While ecological fiscal transfers do not require an increase in taxation, they affect the distribution of resources. Political risks and conflicts between losing and winning jurisdictions might arise.

How can the design be ameliorated to improve the impact?**Related Sector**

AGRICULTURE

ENERGY

FORESTRY

FISHERY

WATER

TOURISM

MINING

FINANCE

TRANSPORT

The impact of ecological fiscal transfers should be thoroughly assessed. A model can estimate the effect of their introduction on [conservation](#), controlling for socio-economic variables. The only case where the impact of ecological fiscal transfers can be studied is Brazil, given their only very recent adoption in Portugal and the limited scope of the scheme in France. The state of [Paraná](#) is considered as an example of best practice: an early adopter of the [ICSM-E](#), it increased the size of its protected areas in the first nine years of operation by 165 per cent. The growth in the size of protected areas was 65 per cent in the state of Minas Gerais over the same period. The inclusion by Paraná of qualitative indices and the provision of compensation to private companies that were operating in areas designated as protected are considered as having contributed to the good results achieved. Evidence of the impact of the [ICSM-E](#) in other Brazilian states is limited. Earlier research highlighted a significant positive effect of the [ICSM-E](#) on water quality. A correlation (positive/significant) between the ecological fiscal transfer and the size of protected areas was also found in a recent study ([preliminary results](#)).

Ecological fiscal transfers can help to introduce results/performance-based budgeting if the indices used are able to measure progress towards defined social/environmental results as compared with traditional formulas that rely on static metrics. The introduction of such transfers can then contribute to strengthening the overall budget allocation processes as a co-benefit. [Performance-based grants](#) in particular can generate positive infrastructure and service-delivery outputs in terms of allocative efficiencies in [local jurisdictions](#). [Research](#) and lessons learned from projects (e.g. [UNCDF LoCAL](#)) aiming at introducing local financing responses to climate change can provide further examples of how performance-based grants can be channelled, as well as identifying minimum performance criteria. There have been attempts, similar to ecological fiscal transfers, aimed at establishing inter-governmental fiscal transfer systems in response to climate change in South East Asia.

The impact of transfers can be regressive if they produce a transfer of resources from the poorest jurisdictions to the richest ones as result. A careful monitoring of the impact of any change in the allocation [formula](#) is necessary and correction mechanisms should be considered (and added to the [formula](#)) in order to guarantee fiscal equity is not undermined.

Earmarked or conditional ecological fiscal transfers can increase the social/economic impact of the instrument, if the additional revenue is invested in projects that produce multiple development benefits. If transfers are earmarked for conservation, the final impact will be dependent on successful implementation, efficient and transparent use of the resources, and adequate tools to measure results. Furthermore, earmarked transfers can help to integrate conservation into key planning and budgeting processes, and therefore strengthen the existing processes. The disadvantage of earmarking is that it may circumscribe the autonomy and responsiveness of [local jurisdictions](#).

Guidelines and Case Studies

Case studies

[Portugal](#)

[Brazil](#)

[Indonesia](#)

[UNCDF LoCAL](#)

Our work

[International Guidebook of Environmental Finance Tools](#) null



Sustainable Development Goals



Environmental finance

Our Perspective

09 Jul 2015

We should reach a consensus on the fact that macroeconomic policies in low-income economies need to also jettison the conventional wisdom of undue restrictiveness.

