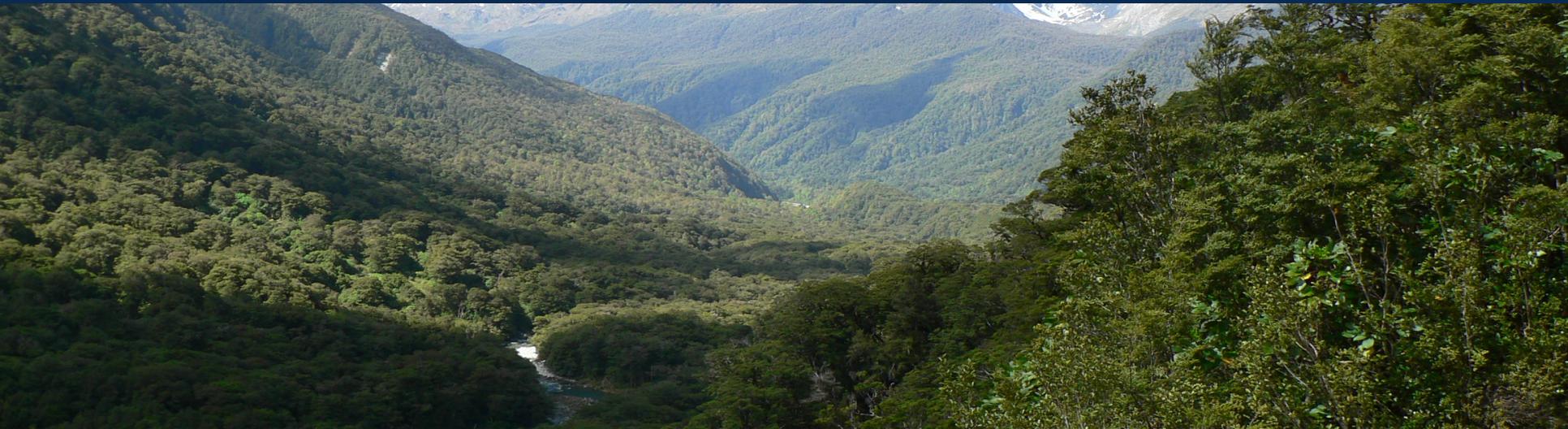


# Addressing Public Actors: Ecological Fiscal Transfers for Biodiversity and Forest Conservation

Irene Ring

World Bank Workshop, Washington, D.C., October 24 – 25, 2018:  
Fiscal Mechanisms for a Sustainable Forest Sector



# Ecological fiscal reform – Enlarged understanding

## Public income

- Taxes
- Charges
- Fees

- Feebate schemes

## Public expenditure

- Subsidies
- Payments for ecosystem services
- Fiscal transfers

**Negative externalities**

**Negative & positive externalities**

**Ecological fiscal reform  
and (forest) conservation**

# Addressing public actors: Ecological fiscal transfers (EFT)

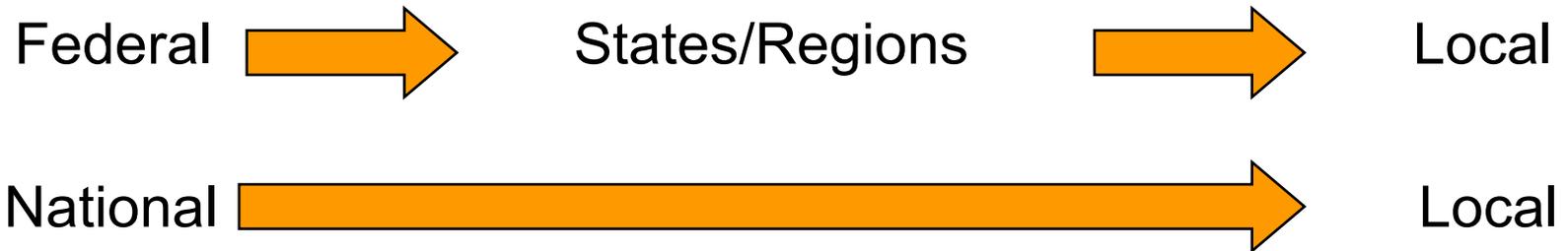
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- Feebate and PES schemes mostly address private land users as ecosystem service providers.
- However, ecological services can also be provided by decentralized governments, such as provinces, states, or local communities and local governments.
- Here, we speak about ecological fiscal transfers from central governmental levels to state and local governmental levels: “intergovernmental fiscal transfers”.

# What are fiscal transfer schemes?

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Public revenue is redistributed through transfers from national and subnational governments to local governments



## Purpose:

- Help lower-tier governments cover their expenditure in providing public goods and services
- Compensate decentralised governments for expenditure in providing spillover benefits to areas beyond their boundaries

# Why consider fiscal transfer systems for conservation purposes? **Mainstreaming!**

**Substantial source of income** for subnational governments:  
e.g., on average 60% in developing and transition countries,  
non-Nordic Europe 46%, Nordic Europe 29%

## Fiscal compensation today

Urban agglomerations



Rural and remote areas



**Mostly not considered:**

**Ecological services** involving  
spatial externalities: spillover benefits



# Rationales for ecological fiscal transfers (EFT)

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Conservation benefits:

Goods and services of national and global relevance

Conservation costs:

Regionally and sectorally unequal distribution



- Environmental services involving **spatial externalities**:  
Local / state costs and spillover benefits
- **Opportunity costs** of (forest) conservation:  
usually reduced tax income (land, business, income taxes)
- Conservation **management costs**
- **Fiscal equalisation** / distributive fairness

# Ecological fiscal transfers (EFT) in practice



## Portugal

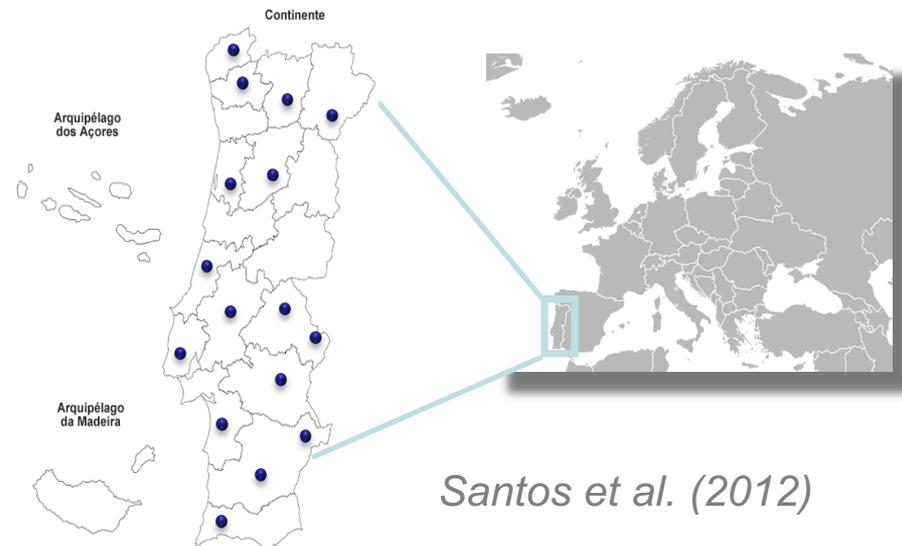
### Local Finances Law 2007

- promote sustainable local development
- Natura 2000 and other nationally protected areas as indicators for fiscal transfers to municipalities

## Brazil (since 1991)

16 out of 26 states consider protected areas for distributing state-level value-added tax to municipalities (ICMS Ecológico)

*Ring (2008a, b)*



# EFT / ICMS-Ecológico in Brazil

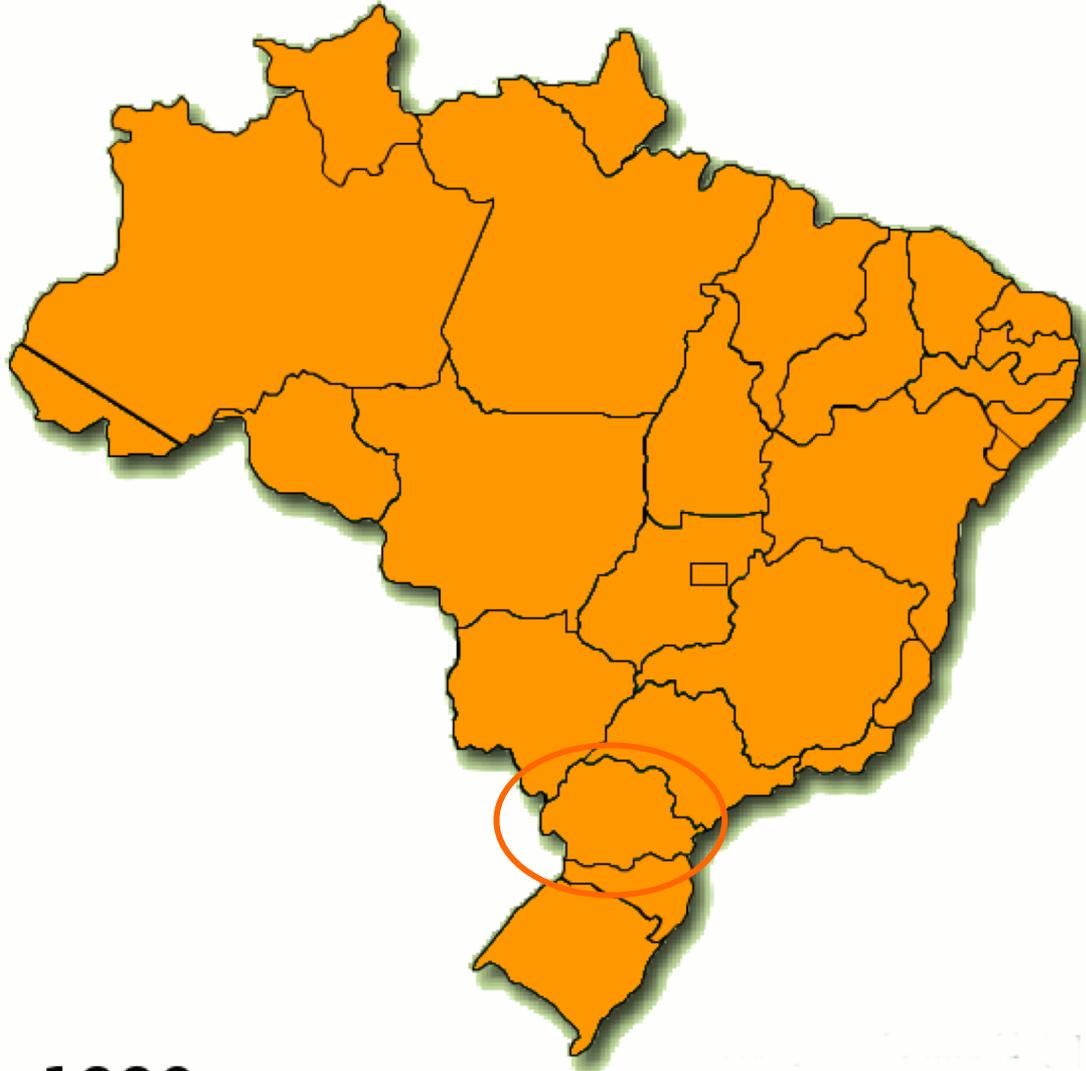
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- Introduced as a compensation for land-use restrictions
- Developed into an incentive to create and maintain protected areas

## Ecological indicators

- **“Conservation Units”**: officially **registered protected areas** for nature and biodiversity conservation
- Watershed protection areas
- Reduced or avoided deforestation; Reduced forest fires
- Indigenous lands; Solid waste disposal; Sanitation systems and sewage disposal; Slashing and burning control; Soil protection; Local environmental policy

# ICMS-Ecológico – Implementation over time



1990

Source:  
<http://www.icmsecologico.org.br/>  
(Animation Nils Droste, UFZ)

# Fiscal transfers as an incentive?

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- Legal perspective: Intergovernmental fiscal transfer schemes are not meant to work as an incentive –constitutional law
- Economic perspective: Any indicator for tax redistribution to subnational levels clearly acts as an incentive
- Importance of well-designed (forest) conservation indicators, e.g., both quantity and quality of protected areas to be considered

# Growth in protected areas up to 1991 and from 1992 to 2009, Paraná, Brazil

Protected areas	Prior to 1991 (ha)	Up to August 2009 (ha)	Increase (%)
Federal conservation units	584,622.98	714,913.10	22.3
State conservation units	118,163.59	970,639.05	721.4
Municipal conservation units	8,485.50	231,072.02	11,338.8
Indigenous areas	81,500.74	83,245.44	2.1
RPPN	0	42,012.09	0
Faxinais (traditional community)	0	17,014.56	0
Permanent Protection Areas - APP	0	17,107.69	0
Legal Reserves – RL	0	16,637.73	0
Special Sites – SE	0	1,101.62	0
Other connective forests – OFC	0	3,245.62	0
<b>Total</b>	<b>792,772.81</b>	<b>2,096,988.92</b>	<b>164.5</b>

Source: Wilson Loureiro, IAP/DIBAP-ICMS Ecológico for Biodiversity, in POLICYMIX Report No. 2, 2011

# Portugal: Relevance of EFT for local budgets (2009)

<b>Municipalities</b>	<b>Share of designated conservation area per municipality</b> %	<b>Ecological component (EFT)</b> €	<b>Share of ecological component in proportion to total fiscal transfers</b> %	<b>Share of ecological component in proportion to total municipal revenues</b> %
Barrancos	100	914 063	27	26
Vila do Bispo	97	946 153	25	10
Monique	87	1 877 280	28	19
Porto de Mós	76	1 086 111	15	11

*Santos et al. (2012)*

# India: the world's first EFT for forest cover

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Indian states now have a sizable new fiscal incentive to protect and restore forests:

- In 2014, India's 14th Finance Commission added forest cover to redistribute tax revenue from central to state governments
- **7,5%** of centrally collected tax revenue to be distributed to states is now based on forest cover!
- 2015 – 2019: Government of India estimates to distribute US \$6.9–\$12 billion per year to states in proportion to their 2013 forest cover, amounting to around \$174–\$303 per hectare of forest per year.

*Busch and Mukherjee (2018)*



# EFT – Challenges

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- **Goal:** Compensating subnational *governments* for conservation costs (opportunity and management costs) as well as spillover benefits of protected areas (PA)
- **Actors addressed:** Public actors (national to local; state to local; national to state) – **align with instruments for private actors**
- **Conservation effectiveness:** Incentive to increase quantity and quality of PAs (especially when beneficiary of transfers can influence quantity and quality of PAs) – **Monitoring important!**

*Ring et al. (2011)*  
*Droste et al. (2017)*

# EFT – Challenges

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- **Associated costs:** low transaction costs, building on existing mechanisms (fiscal transfer schemes and conservation or forest sector regulation); **secure no double funding**
- **Social impacts:**  
Depending on entry point of relevant indicators in fiscal transfer scheme; fiscal transfers as such address inequalities between jurisdiction – **distributive instrument**
- **Legal and institutional requirements:**  
Protected area or forest coverage as an indicator for biodiversity/forest conservation; easy to grasp, monitor and information available; introduction of new indicators often needs constitutional changes and new laws, **requiring political majorities**

*Ring et al. (2011)*  
*Ring et al. (2017)*

# EFT – Critical design features

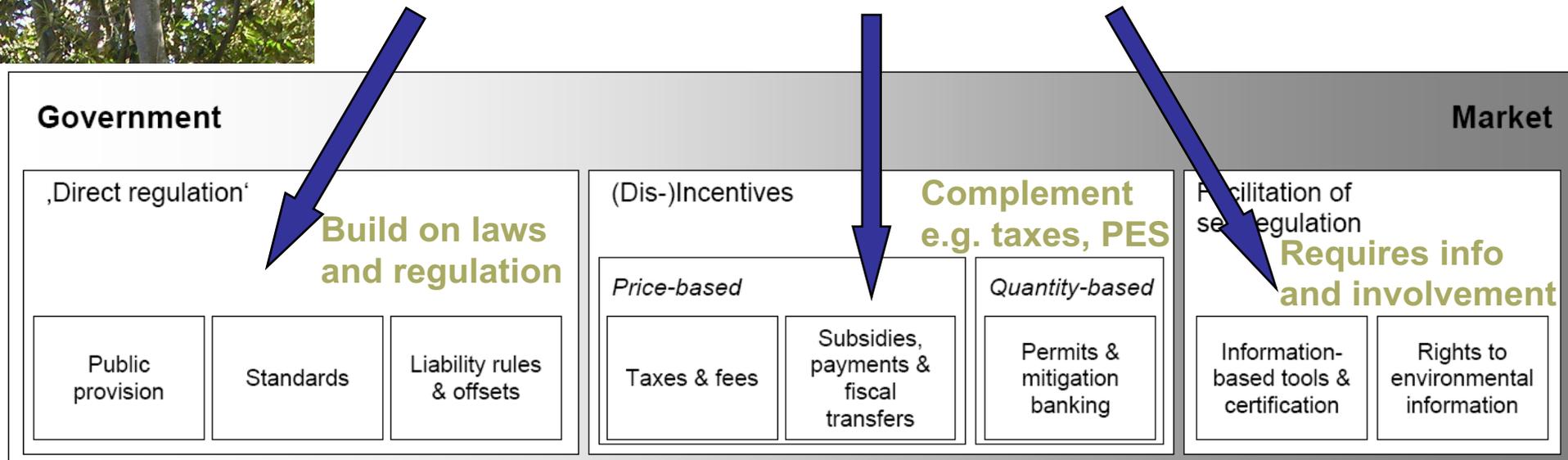
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- Lump-sum vs. specific purpose transfers
- Area-based indicators: Quantity and/or quality?
- Indicators: area-based factors vs. population-based factors for distributing transfers
  - Trade-off between quality and (over-)complexity
  - Restrictions imposed by constitutional laws
- Resources available for transfers
- Type of integration into transfer scheme
  - fixed budget or percentage of total transfer volume

*Schröter-Schlaack et al. (2014)*  
*Ring et al. (2017)*



# Ecological fiscal transfers in the policy mix



**Actors addressed by incentive:** public actors

**Governance levels addressed:** governments at different levels – national / state / local

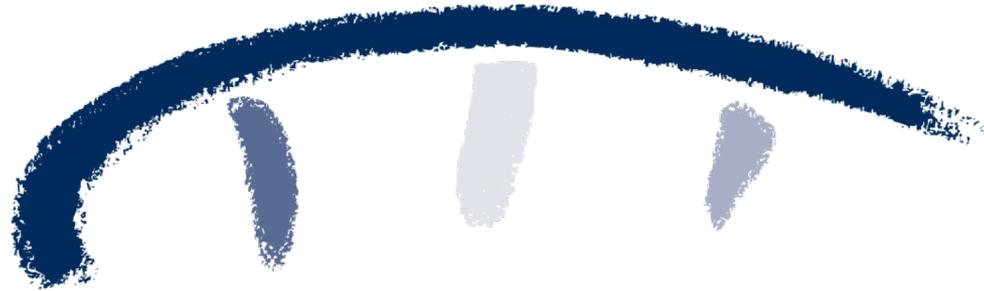
**Associated with:** Constitution, protected area/forest regulation

**Potential complement:** Taxes, feebate schemes and PES – private actors;

**Relevant:** Good information policy to increase knowledge and motivation of actors addressed

*Ring et al. (2011)*

*Ring and Barton (2015)*



**»Wissen schafft Brücken.«**

**»Knowledge creates bridges.«**



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