



Cost management for long term road system investments – Sources of financing and funding allocations of road management

Jani Saarinen

- RAKLI - The Finnish Association of Building Owners and Construction Clients
- Executive Director
- Jani.saarinen@rakli.fi





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1. The problem

- Governments are facing problems in funding transport infrastructure
- Transport costs are increasing
- Growing congestion
- Pollution, emissions and the use of energy must be treated

- *What should be the sources of financing and how much to spend?*
- *How should the funds be allocated to the road management?*

Historical tradition for managing road system

- Most roads publicly provided and NOT directly charged for
- PPPs account for a minority of investment, and usually focus on individual links
- Few countries have transferred entire existing networks to single providers, which can be public or privately owned

Off-budget financing

- Off-budget financing
 - out from the public budget e.g. general tax revenues through government's budgets
 - might be traditionally budgeted if earmarked
- Allows financing to be spread over the project or contract life cycle
- Does not necessarily mean user-pay principle
- PPP's are not necessarily off-budget

- *Often seen as the solution – and more often as a way of bringing “new money”*

Sources of financing

The two Sources of financing are either taxpayers or road users by

- General tax revenues (traditional budget)
- Earmarked taxes or fees
- Special levies
- Vignettes
- User charges or tolls
- Direct loans
- Private parties
- Other



Fund allocations

Funds have to be allocated to the road management through

- maintenance
- investments
- traffic operations
- administrative tasks

By using

- in-house resources, government agencies
- contracting out, design-build arrangements
- PPP's, concessions etc.

2. Working group assignment

- Investigate, identify and define strategies for best practices that make better cost management for long term road system investments
 - sources of financing
 - funding allocations of road management
- By preparing a survey and concluding a summary of current trends, practises and tools in use

An extensive Questionnaire

- A questionnaire was made to collect information
- Send to 70 countries
 - Piarc and CEDR (Conference of European Directors for Roads) members
- Responses from 26 countries
 - Europe – 18, EU members – 15
 - Asia and Australia – 4
 - North America and Mexico – 3
 - Africa – 1
- The same questionnaire should be utilised by PIARC for future studies and benchmarking

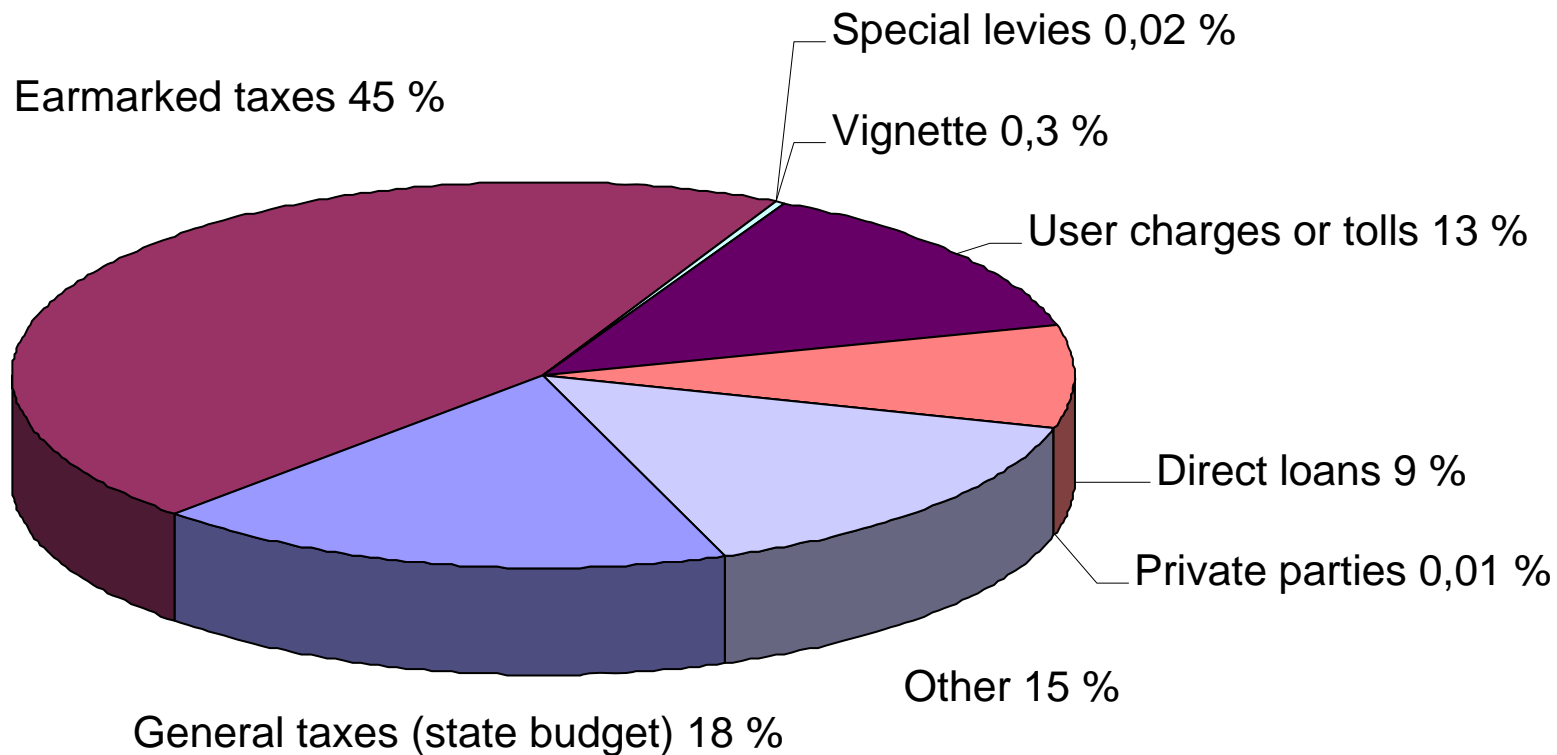


3. Sources of financing

- What are the sources of financing in use?
- What are the current trends with financing?

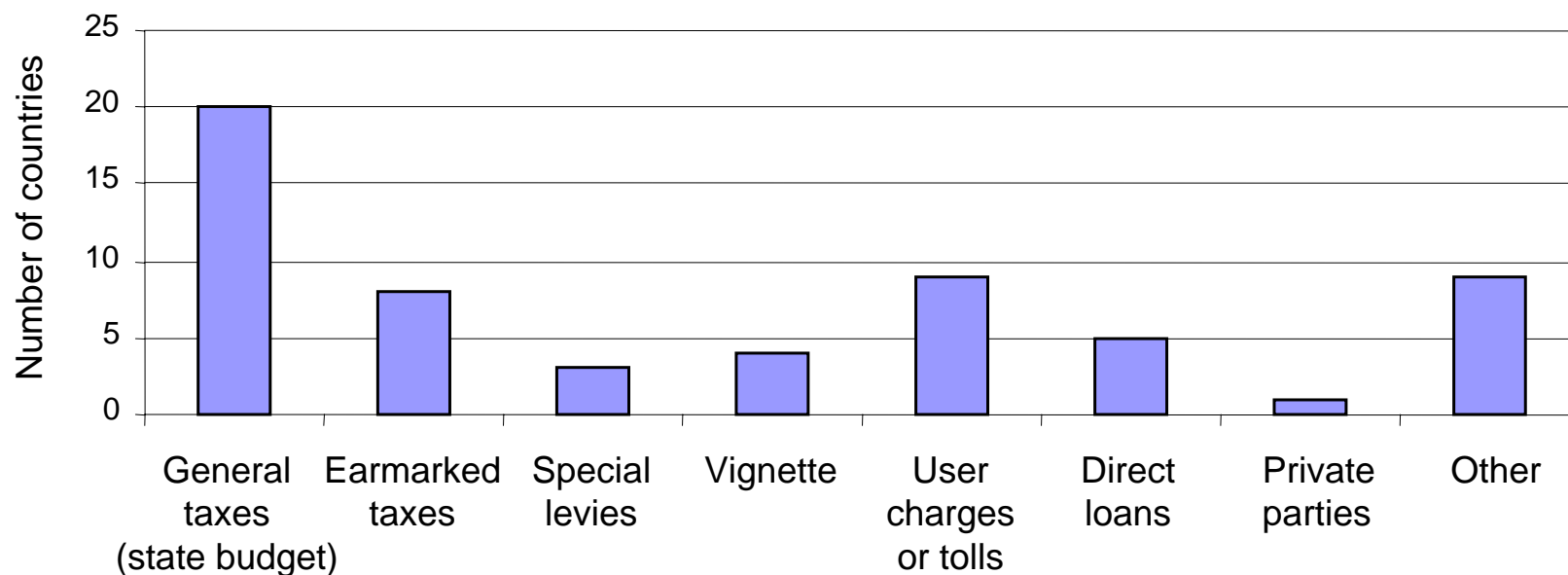
Sources of financing

→ Sources of financing, n=23



Sources of financing

→ Number of countries using different sources of financing, n=23



Traditional budget financing is the only method in 8 countries

Sources of financing

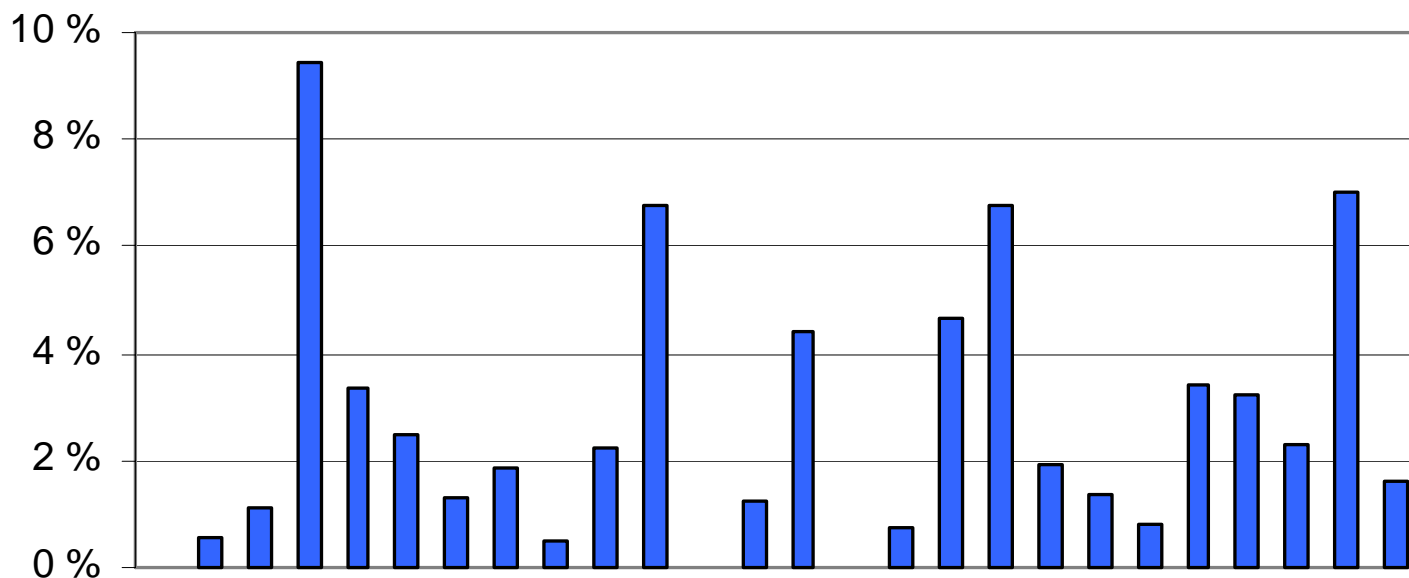
→ Percentage of countries using different sources of financing, n=23

General taxes (state budget)	87 %
Earmarked taxes	35 %
Special levies	13 %
Vignette	17 %
User charges or tolls	39 %
Direct loans	22 %
Private parties	4 %
Other	39 %

Traditional budget financing is the only method in 34 % of the countries

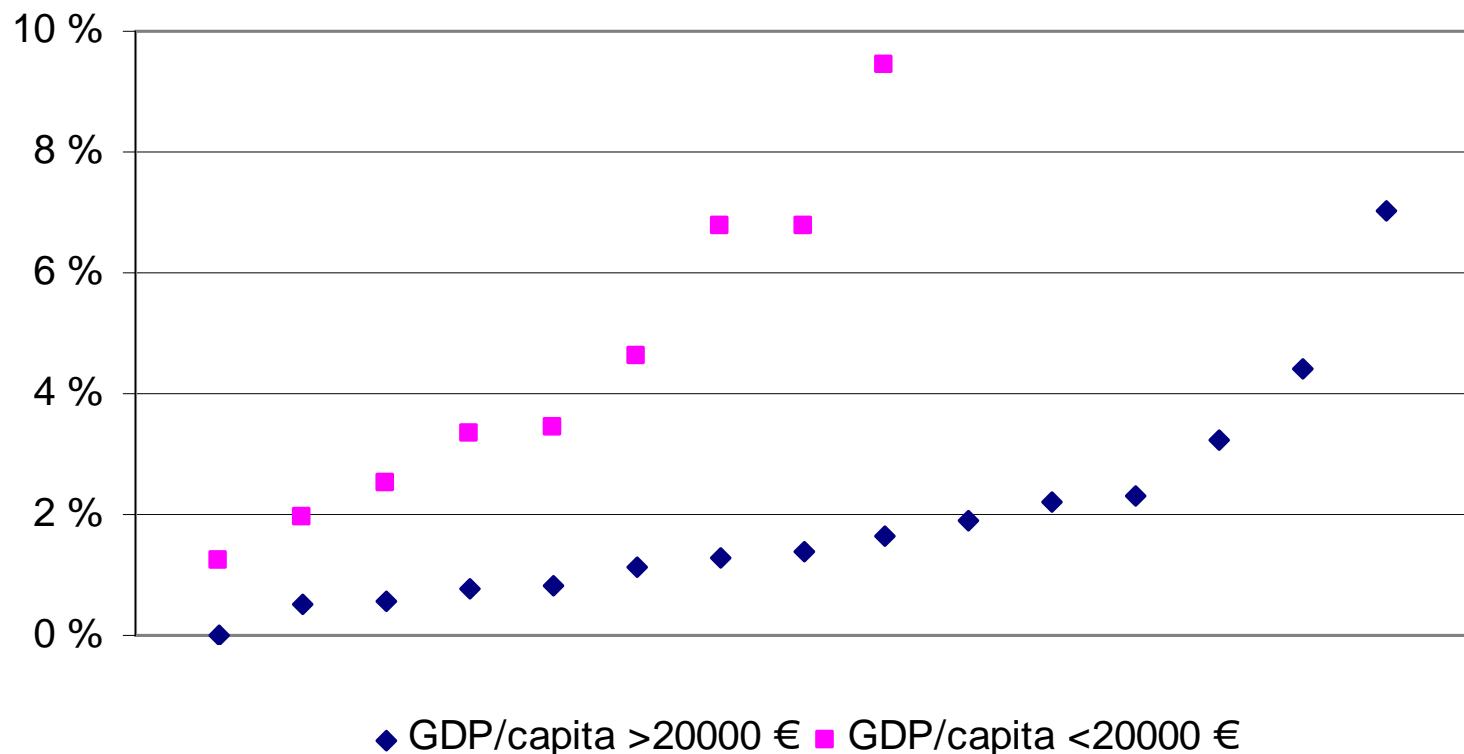
Sources of financing

→ Percentage of a road budget vs. national budget, n=24



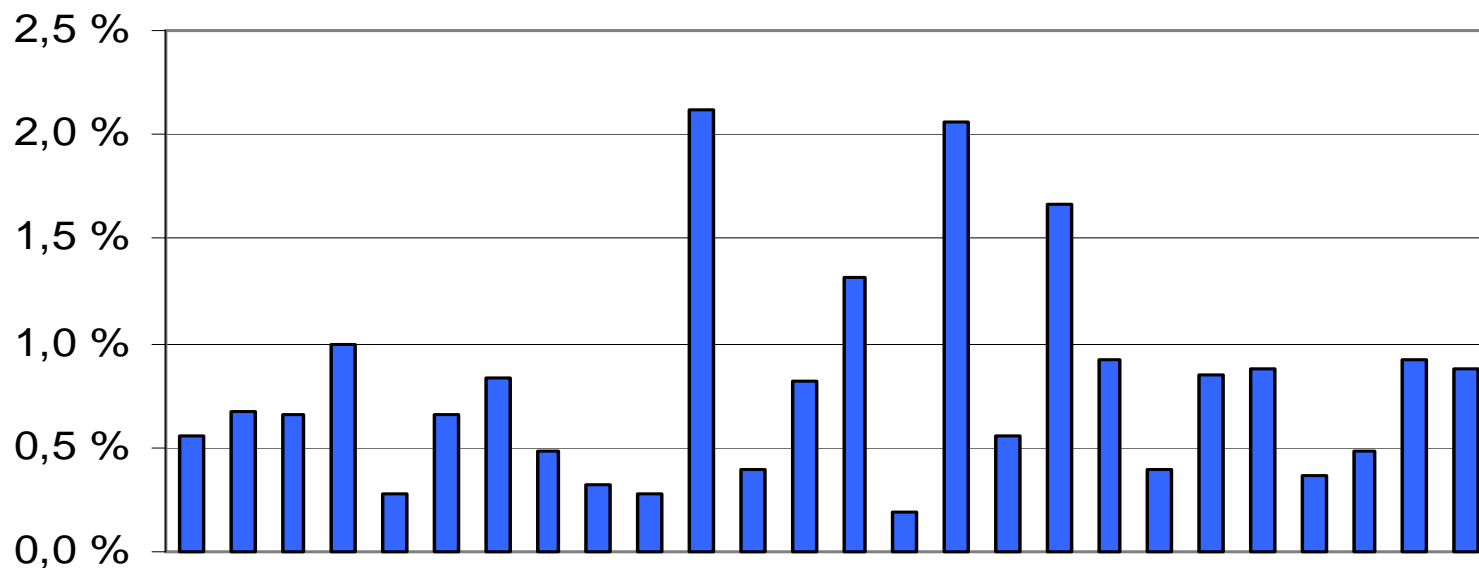
Sources of financing

→ Percentage of a road budget vs. national budget, n=24



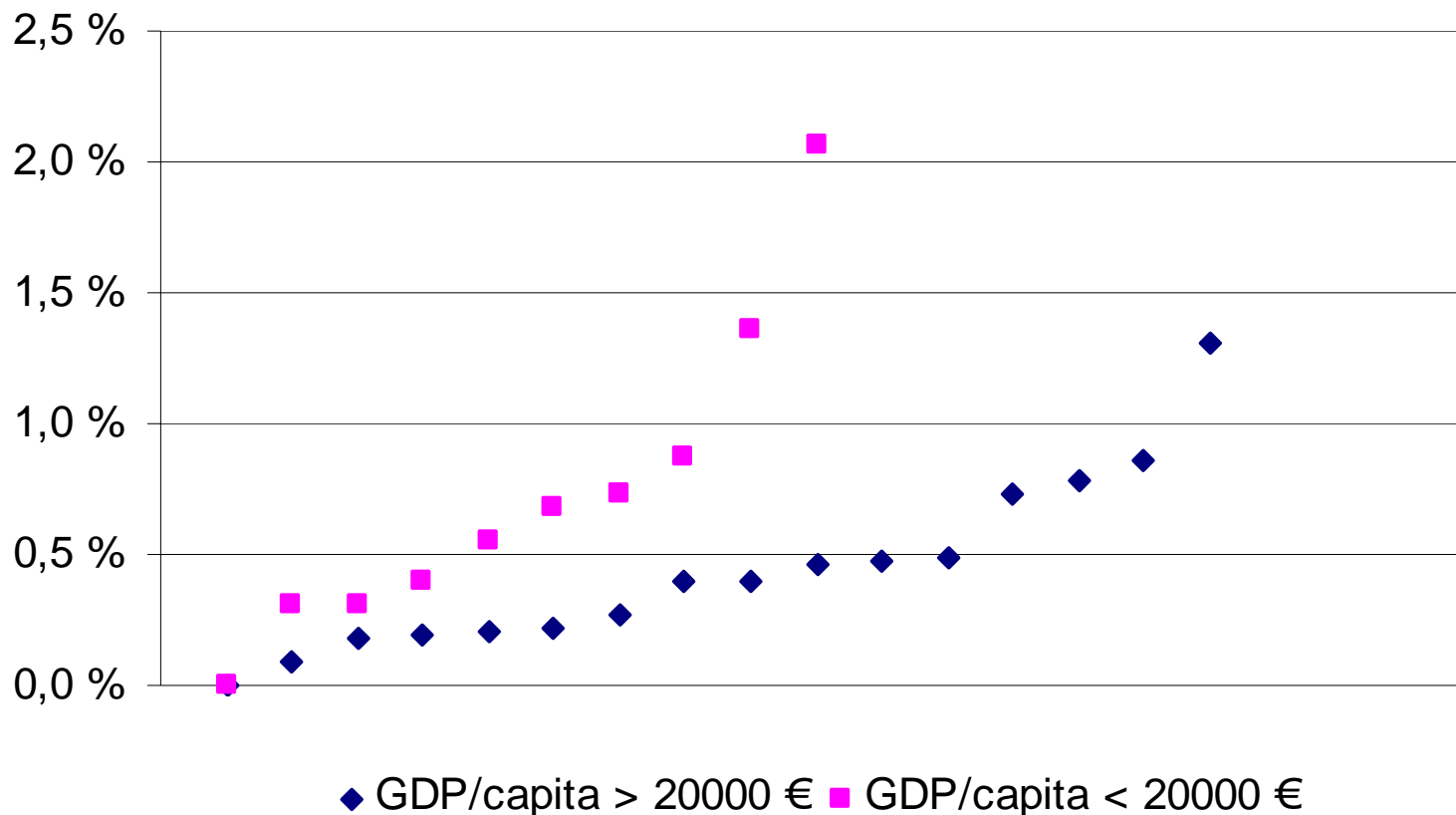
Sources of financing

→ Percentage of a road budget vs. GDP, n=26



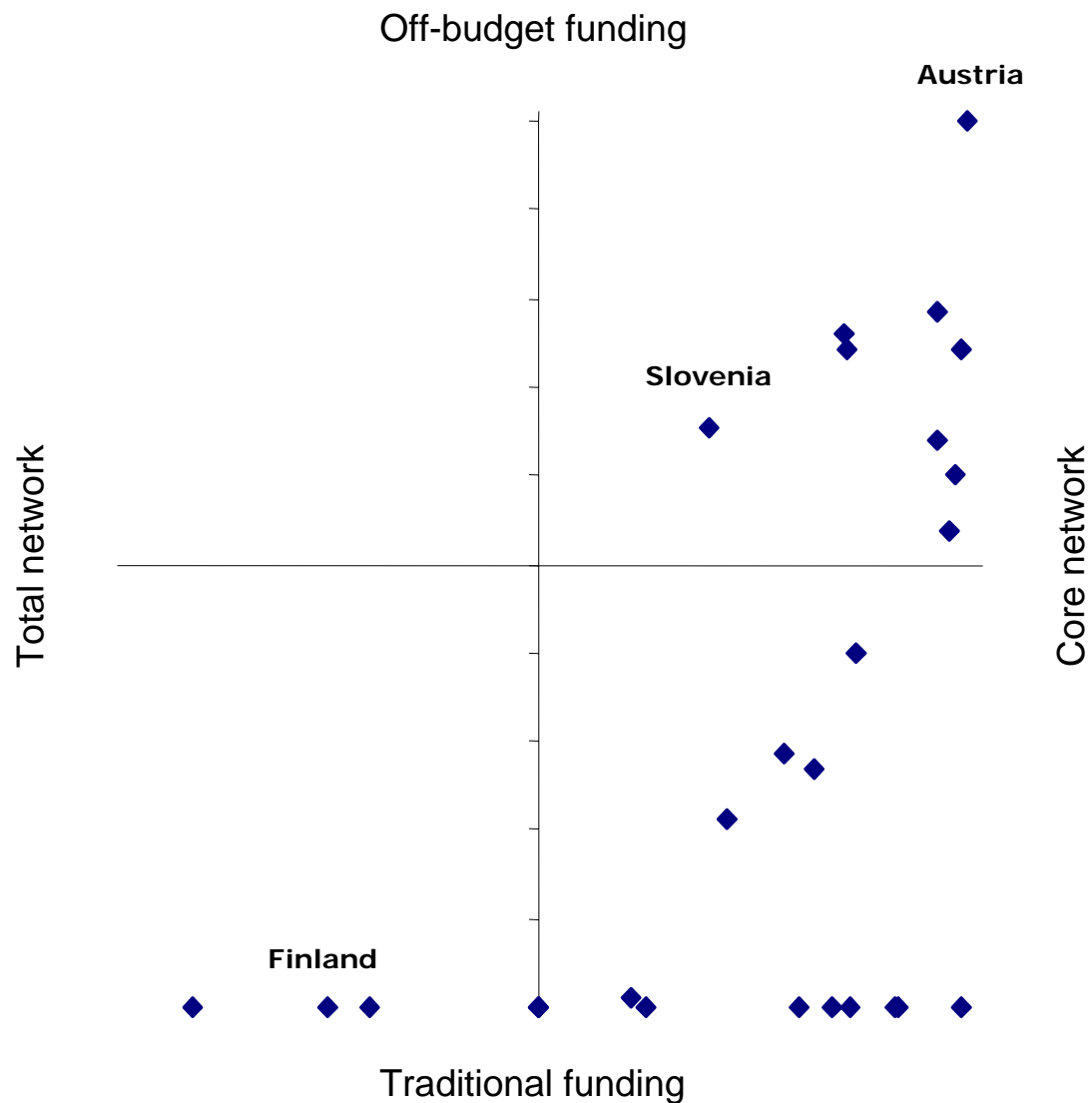
Sources of financing

→ Percentage of a road budget vs. GDP, n=26



Sources of financing

→ Percentage of off-budget financing vs. managed road network

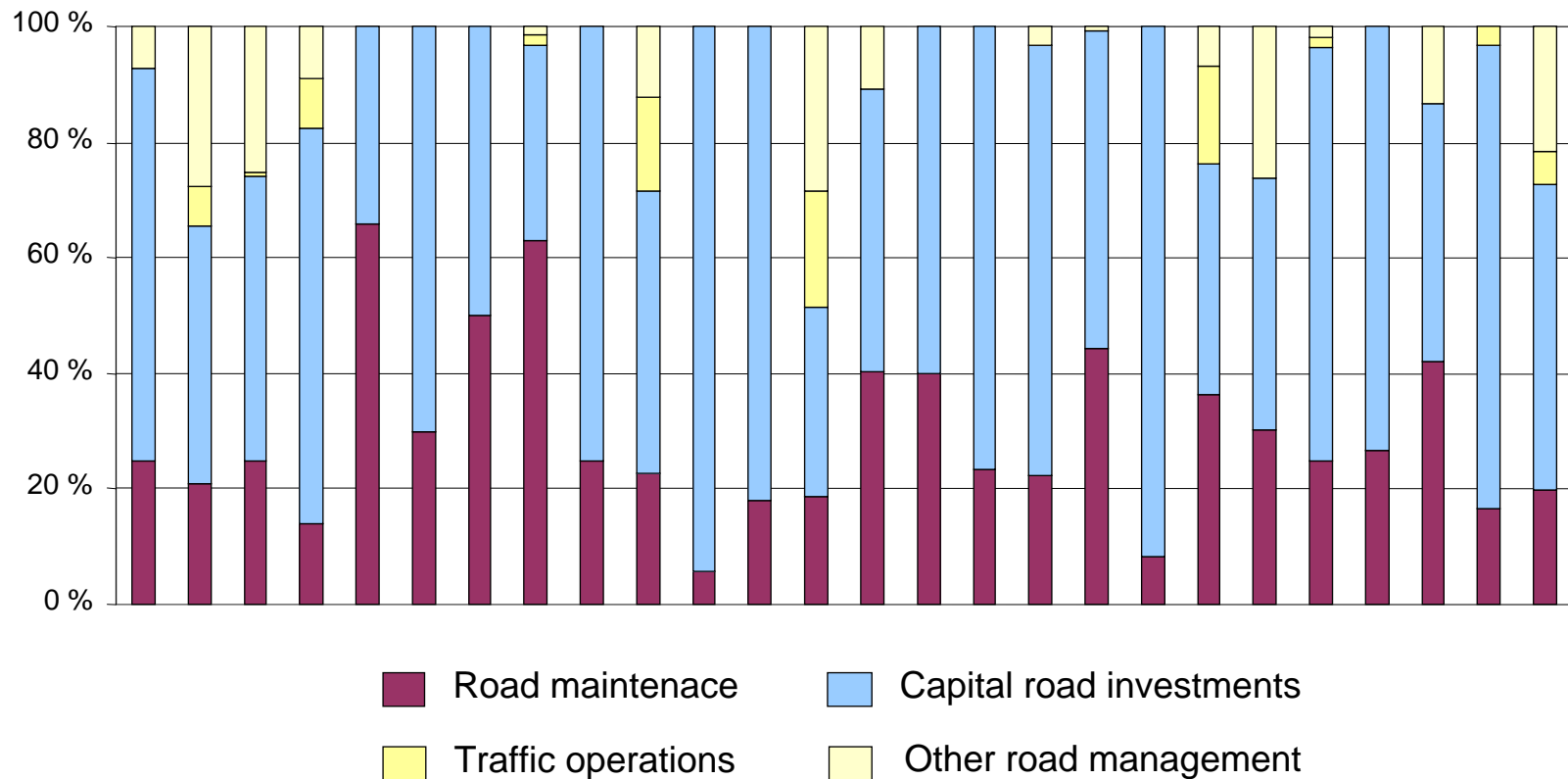


4. Allocation of funding

- How are the funds allocated for new development, maintenance, traffic operations and administrative tasks?
- What are the management methods in use for allocation of funds?
- Are there any management methods in use based on valuation or accounting of road assets?
- Is cost management based on innovative procurement methods ?

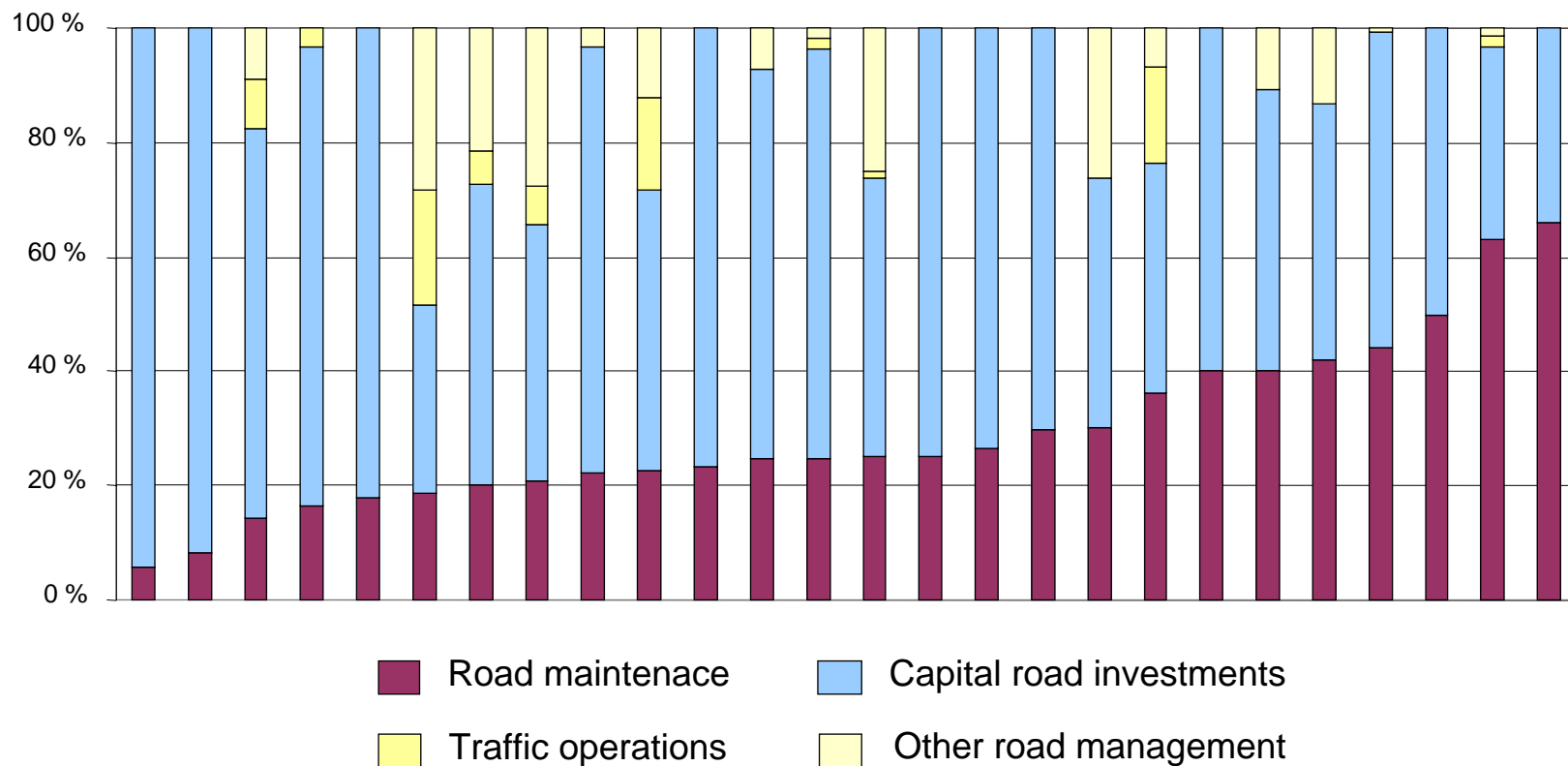
Allocation of funding

→ Allocation of funding for road management, n=26



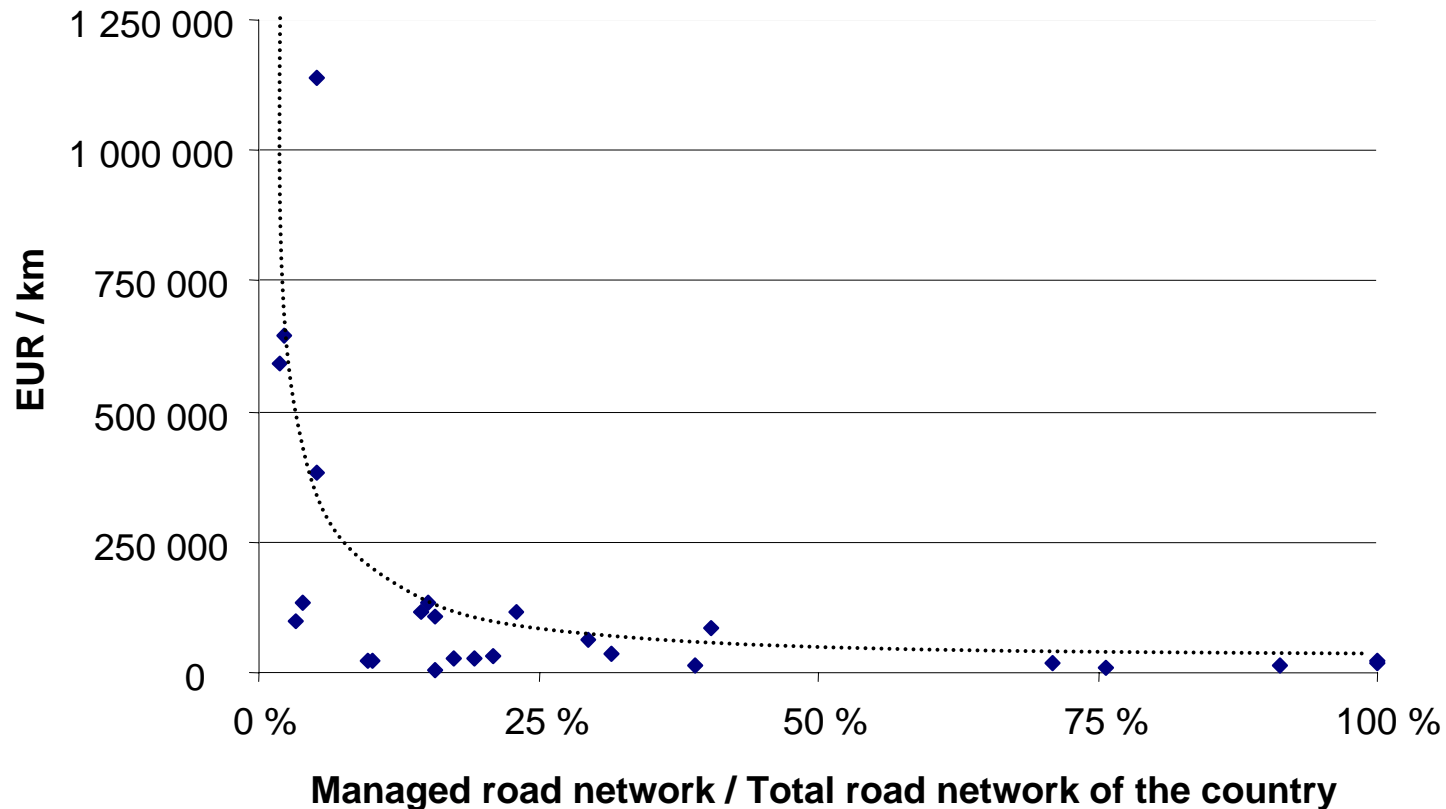
Allocation of funding

→ Allocation of funding for road management, n=26



Allocation of funding

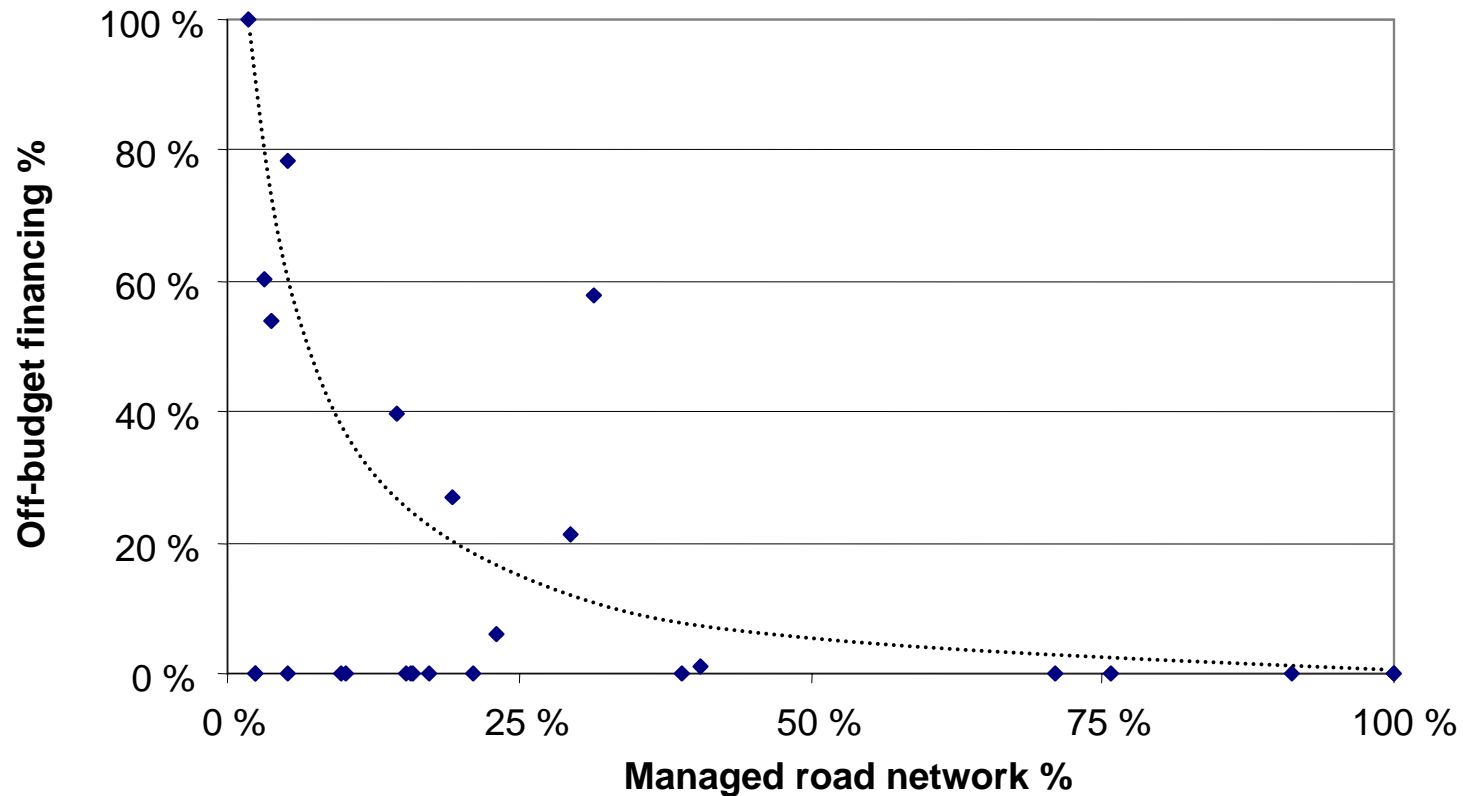
→ Management costs (EUR/km) vs. managed road network (%), n=23



Päivitettävä

Allocation of funding

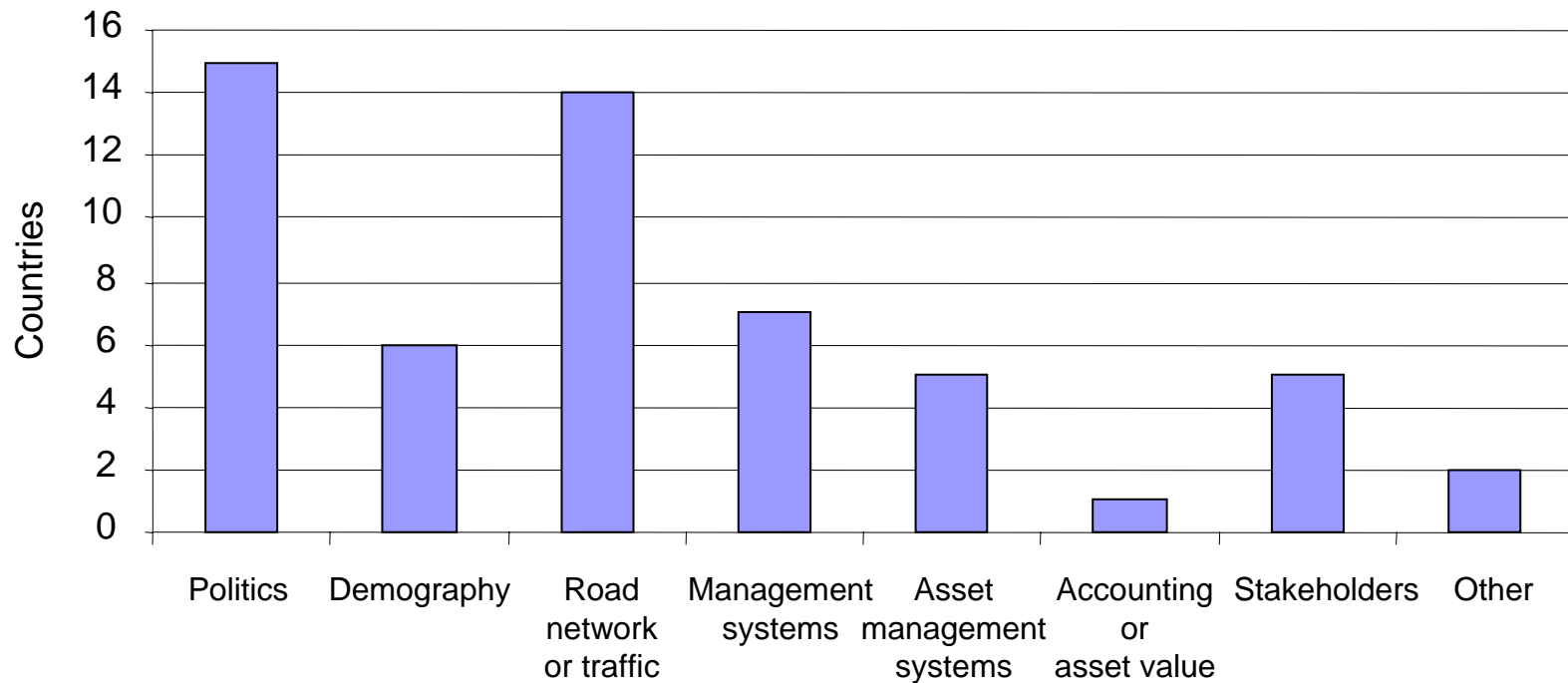
→ Percentage of an off-budget financing vs. managed road network, n=23



Päivitetävä

Allocation of funding

→ Number of countries using different methods for allocation of funding, n=20



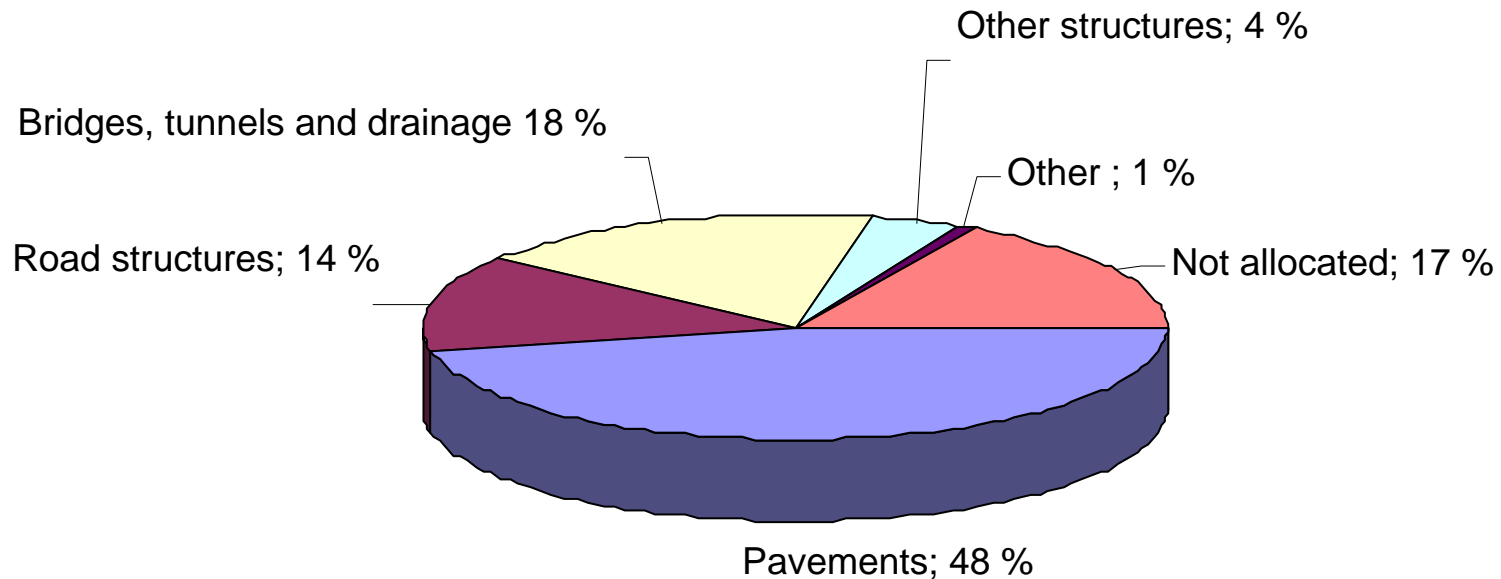
Allocation of funding

→ Percentage of countries using different methods for allocation of funding, n=20 / 17

	Short term	Long term
Politics	75 %	65 %
Demography	30 %	35 %
Road network or traffic	70 %	65 %
Management systems	35 %	35 %
Asset management systems	25 %	29 %
Accounting and asset value	5 %	6 %
Stakeholders	25 %	24 %
Other	10 %	18 %

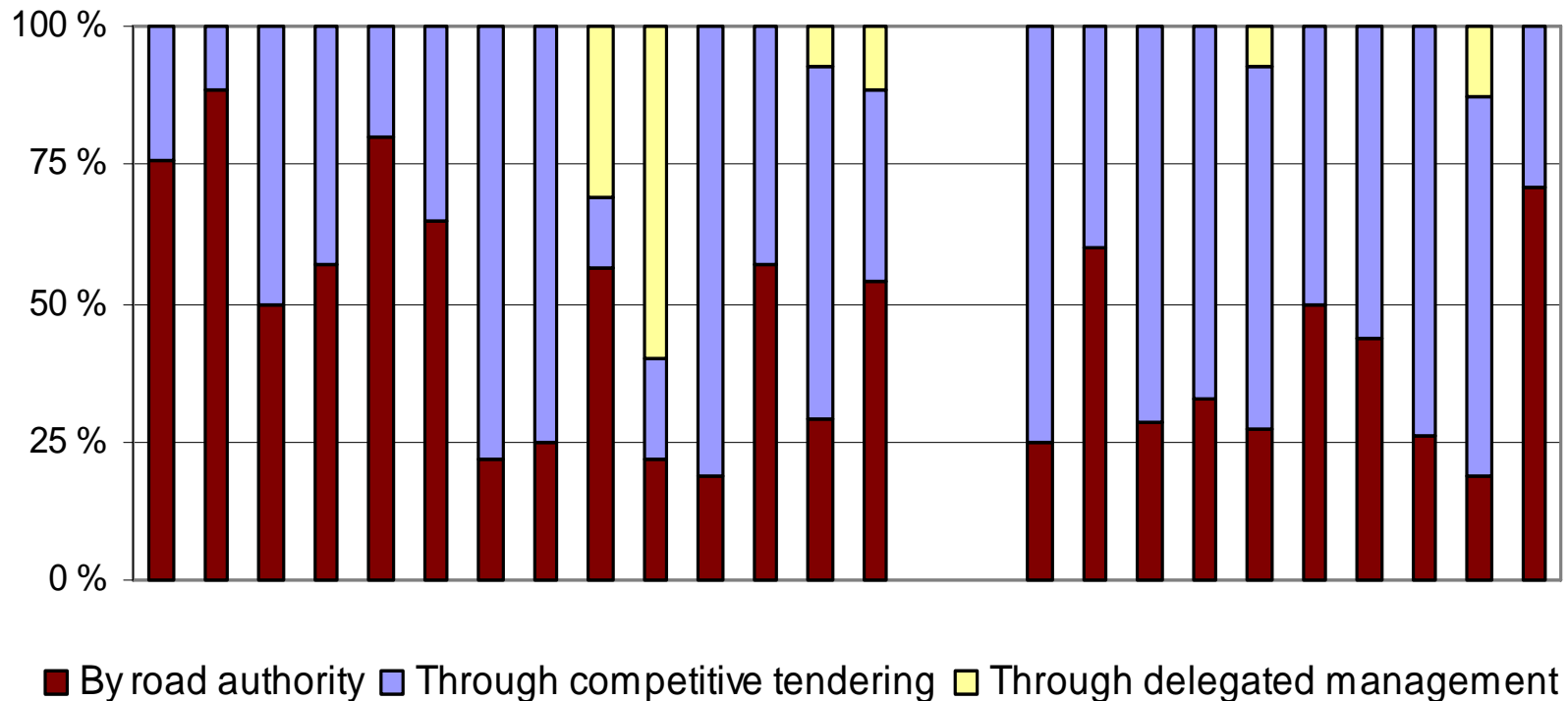
Allocation of funding

- Road asset valuation has been done in 46 % of the countries, $n = 26$
- 25-29 % of the countries use asset management systems for allocation of funding
- Only 5-6 % are utilising asset values or accounting



Allocation of funding

➔ Percentage of road management based on different procurement methods , n=24



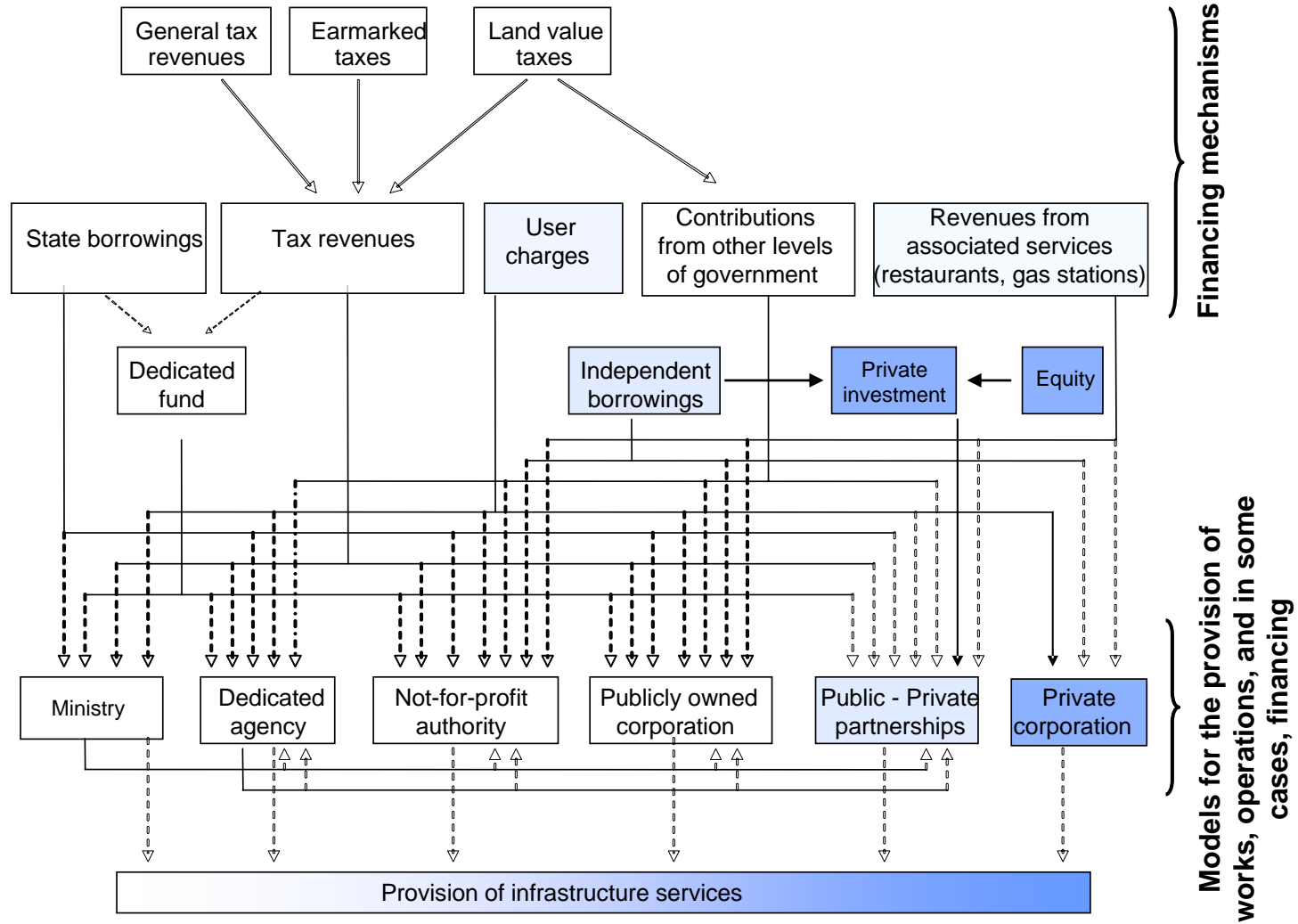
5. Conclusions; sources of financing

- There are only two sources of payments – the taxpayer or the user
- Governments are transferring towards off-budget financing
 - traditional budgets only source in 34 % of the countries
 - only 18 % of the costs covered by general tax revenues
- Off-budget financing is most often used for
 - Organisations managing core road networks with high traffic volumes
 - Organisations managing roads through competitive tendering, PPP's and concessions
 - Countries in transition due to the huge need of investments
- Instead of financing road management only, governments are facing the need for traffic management and transferring towards road pricing

Conclusions; allocation of funding

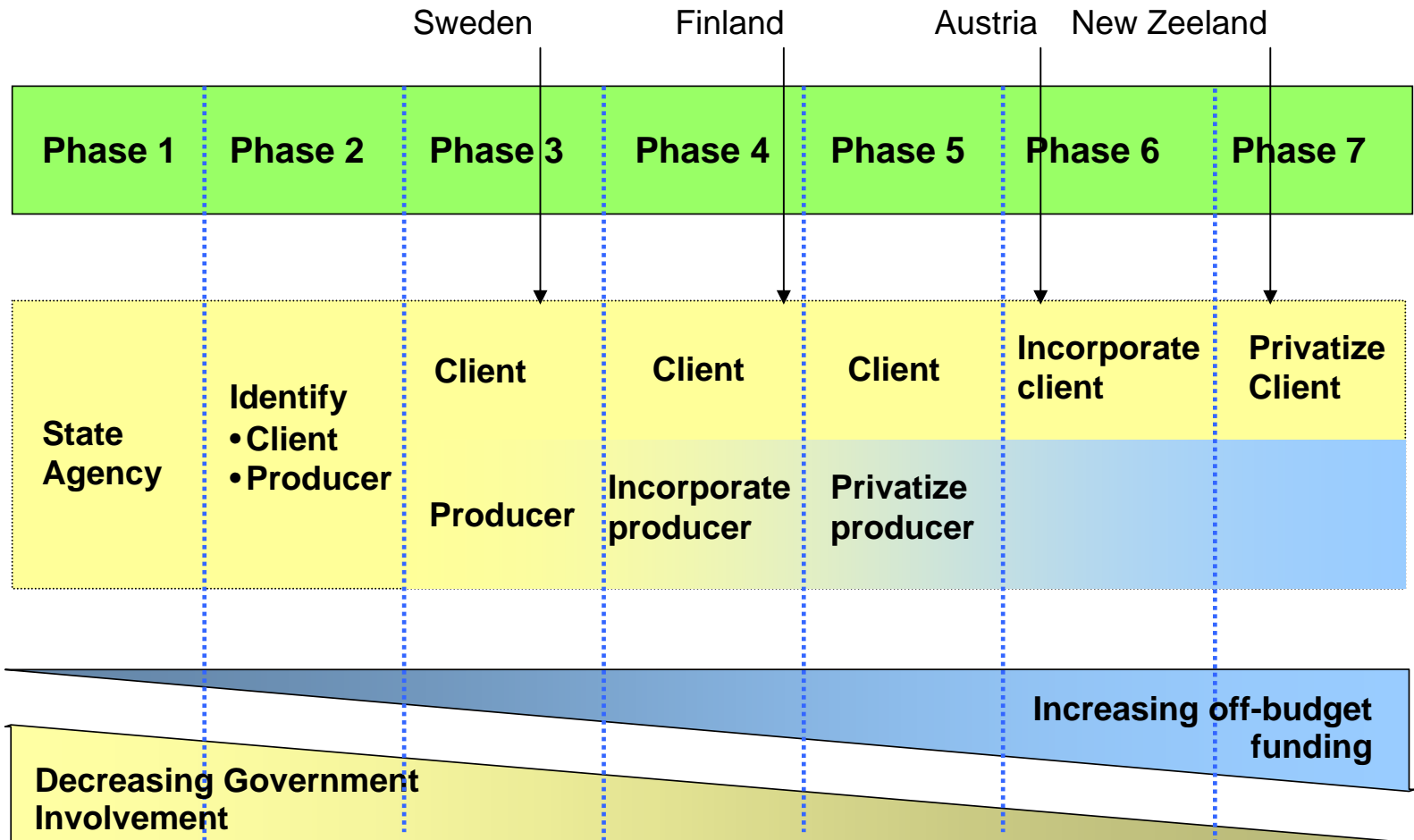
- Lack of maintenance in most of the countries
- High rate of investments in countries in transition
- Traffic operations are increasing in developed countries and in core network organisations - and often tied with oo-budget financing
- Allocation methods still quite traditional
 - use of management systems and asset management is increasing
- Allocation of funding is more often based on outsourcing, longer procurement contracts, PPP's or concessions

A Framework for the Provision and Financing of Road Infrastructure



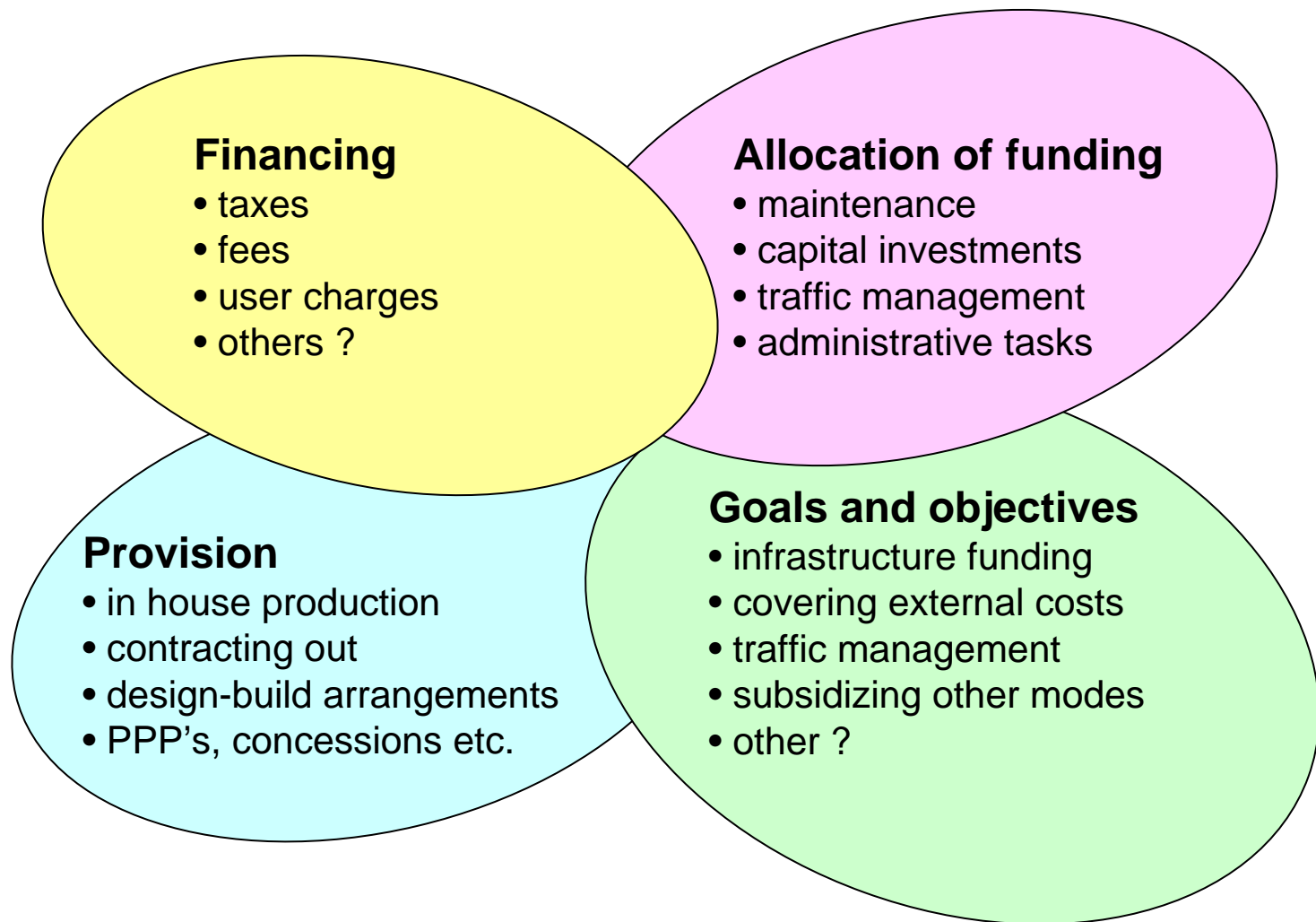
Source: Finnra and OECD and ECMT (European Conference of Ministers of Transport), Transport Infrastructure Investment: Options for Investment, Draft Final Report, June 2007 OECD, Paris

Phases in road reform



Source: World Bank, TNZ & Finnra & RAKLI

Framework of road management



Sources

- Finnish Road Administration, Juha Tervonen: *Models for financing, budgeting and implementing road management*, Finnra Reports, January 2005
- PIARC, TC 1.1. Road System Economics, Work Group *Pricing as One Tool for Funding and Regulation with Equity in Mind*, draft document, May 2006
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