Funding tomorrows's transport systems

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Summary

1. Scope and objectives of the study

The following study treats the questions "who is funding what in Swiss transport policy" and "who should be funding what in the future". The study

- makes a survey on transport funding in Switzerland, the challenges Swiss transport policy is facing, and some trends in European transport funding,
- analyses the weaknesses of the present transport funding system, mainly in the field of road infrastructure,
- presents a range of institutional and financial reforms that lead to a more cost-efficient and user-paid transport system,
- shows the time-horizon needed for the political implementation of those reforms.

The study is based on economic theory as well as on an empirical database from Switzerland and abroad.

2. The present funding of the Swiss transport system

2.1. Funding of road infrastructure

A part of national and cantonal taxes and excises, of which fuel tax and vehicle tax form the overwhelming part, are institutionally earmarked in favour of road infrastructure. The analysis of earmarked taxes and expenditures toward road infrastructure shows:

- *Cost of road infrastructure covered by earmarked earnings*: Cost for road infrastructure is roughly covered by earmarked taxes.

- *Disequilibrium between the federation, the cantons and the municipalities*: This equilibrium does not hold vertically: Whereas the federation has a surplus of 1.2 billion sFr., the municipalities have a deficit of around the same amount.

2.2. Funding of public transport

The federation, the cantons and the municipalities cover the deficits of the Swiss National Railway and all other transport enterprises. In 1998 a special funding system (FinÖV) was adopted with earmarked taxes. This system is similar to the one used for road infrastructure funding.

The analysis of revenue and expenditures for public transport shows:
• **Large deficits in Public transport**: The public transport enterprises only cover about 45 percent of their expenditures.

• **High degree of centralisation**: The federation is covering around 40 percent of uncovered expenditures.

### 2.3. Which challenges is the funding system facing?

Swiss transport policy and the funding system are facing the following challenges:

• The general scarcity of public funds.

• The Fiscal Federalism Reform which has a strong impact on transport policy

• The construction of new railway infrastructure

• The maintenance and completion of the motorway network whose costs will rise sharply in the next few years

• The internalisation of external cost and the question of how to use the revenues from environmental taxes

• Further steps in the railway reform which changes the financial and institutional relationship between state and transport enterprises.

• A neat separation between transport policy and regional policy.

### 3. Funding in international comparison

Comparing Swiss transport funding with other countries reveals:

• **High per-capita expenditures**: Swiss per-capita expenditures are highest compared to all investigated European countries.

• **Advantages of earmarking**: The percentage of earmarking of fuel taxes and the level of expenditures for road infrastructure are correlated.

• **No public-private-partnerships**: Swiss transport policy does not use any public-private-partnerships in infrastructure management, unlike most other countries

• **No user fees**: Switzerland does not use any user fees on its road network, unlike most other countries.
4. Basics of a theory of funding of transport infrastructure

Answers to the question of an "optimal" funding of transport systems rests on welfare economics, institutional economics and public finance. Using these three approaches, one may say that Swiss transport system has got the following features:

- **No "real" pricing**: Taxes and duties on fuel are pure average cost, the cantonal vehicle tax is a pure fixed cost.

- **No independent motorway firms**: Motorways are completely integrated into public administration; there are no independent management firms.

- **Earmarking**: Earmarking of fuel taxes for road infrastructure fulfils the requirements of the beneficiaries-pay-principle. However, earmarking of fuel taxes (or the Swiss tax on heavy vehicles) for rail infrastructure is awkward.

5. Transfers between the federation and the cantons

Fiscal federalism plays an important role in Swiss transport policy. The federation, the cantons and the municipalities have their own revenues and expenditures for transport purposes. Furthermore, they are interlinked through a large number of horizontal and vertical transfer payments or grants. Analysing fiscal federalism in transport policy is one of the main tasks of this study.

5.1. Road infrastructure

The federation pays different grants to the cantons. The objective of these grants is manifold: a fair share of the national taxes, compensation for the cost of maintaining roads of national significance, and regional equalization. The system of the present transfer system - the federation pays around 30 to 40 different grants - has a number of weaknesses:

- **Gap between the "network hierarchy" and the "funding hierarchy"**: The funding of road infrastructure is overcentralized: Whereas the part of "external traffic" (traffic stemming from another canton) amounts to an average of 48 percent for all cantons, the federation is paying 62 percent of the cantonal road expenditures.

- **Strong regional redistribution**: The present transfer system leads to a strong redistribution, mainly - but not only - between urban and rural, mountainous cantons. Transport policy at present has a strong regional aspect.

- **Cost-inflating transfer mechanisms**: The transfer system has a number of features that increase its costs and that have undesired side-effects. These features are: A discrepancy between the right to spend (which lies mainly at the cantonal level) and the obligation to fund (which lies mainly at the federal level); grants proportional to cost; grants depending on financial capacity; grants fostering...
construction and neglecting maintenance; a strong earmarking allowing the cantons no flexibility in selecting appropriate infrastructural investments.

5.2. Public Transport

Although the government in 1996 adopted an efficient revision of the law on railways, some weaknesses of the transfer system remain. These are:

- **Transfers depending on financial capacity**: Grants are still depending on financial capacity of the cantons. Promoting public transport and regional equalization are blurred.

- **Transfers depending on cost**: Grants still depend on cost instead of revenue of the transport firms. There are no incentives for a better use of public transport.

- **Exclusion of local traffic**: Local traffic is excluded from federal grants. This disfavours mainly the larger towns.

6. Spillovers and horizontal cooperation

6.1. Road infrastructure

The use of road infrastructure creates spillovers as users of canton A use the road network funded by canton B and vice versa. Such spillovers mainly concern larger towns and urbanised cantons. The analysis reveals that the respective burden for these communities amounts to 35 to 125 sFr. per capita and year. The spillovers have to be internalised within the region concerned.

6.2. Public transport

Horizontal collaboration among cantons and municipalities was analysed along the entity that is funding and organizing public transport in the Basle region (Tarifverbund Nordwestschweiz). Unlike road infrastructure, spillovers are negligible. This is due to the fact that - unlike for road infrastructure - users can be excluded, e.g. from cheaper prices or better connections.
7. Reform of transport funding in Switzerland

7.1. The national motorways: managed by firms and funded through user fees

This reform proposal has the following cornerstones:

- **Independent managing firms**: Construction and maintenance of the national motorways will be in the responsibility of managing firms that are independent from the public administration. These firms will get a concession sold in an auction and valid for 10 to 15 years.

- **Funding through user fees**: The managing firms are funded through user fees. The firms have the right to set prices freely. Prices are only subject to the existing regulations on cartels and monopolies.

- **"Financial equalization"**: "Deficit" motorways are equally run by firms and financed through user fees. The remaining deficits are covered by the "surplus" firms. For this purpose a national motorway fund is created.

- **Competition among firms**: The network will not be transferred as a whole but partitioned into single lines. Due to density of the network some spatial competition is guaranteed. Competition in time is guaranteed through the limited validity of the concession.

- **Strategic policies remain within the state**: The state restricts himself to strategic objectives: Itineraries, rules and terms of reference for the concession, and coordination between the management firms.

- **Reducing fuel taxes**: Fuel and other national taxes are reduced by the user fee revenues. The national taxes then mainly help to finance the grants to the cantons.

7.2. Simplified cooperation between the federation and the cantons in the field of road construction

This reform proposal has the following cornerstones:

- **Simplification of the transfer system**: The present 30 to 40 different grants from the federation to the cantons will we reduced to three. These represent respectively a share of the national taxes, the burden of road construction and maintenance, and financial equalization.

- **Keeping of the cantonal vehicle tax**: The cantons retain their right to levy a vehicle tax. This allows the population to decide on the tax level and therefore on the level of road construction. Furthermore, the vehicle tax is a kind of "contribution to the user club".

- **Grants to municipalities**: It is advisable to examine whether the cantons should be funding the municipal road network. This would ease the financial situation of the larger towns and cities.
7.3. Matching grants for regional public transport

The following reform proposals is a "soft" evolution of the reform of the railway act of 1996. It has the following cornerstones:

- **Matching grants for regional public transport**: Federal transfers and subsidies are based on the revenue of the respective transport firms. The grant furthermore allows for the equalization of different burdens due to the topographic or demographic structure. The grant is limited to a certain level per cantonal inhabitant.

- **Funding of local public transport**: Federal grants are extended to local transport. This mainly favours city and agglomeration transport systems which until now were excluded.

- **Merging investment and current expenditure grants**: Investment and current expenditure grants are merged. The cantons are free to use the grants either for covering current deficits or for new investments into public transport infrastructure.

7.4. Special transport bodies in the urban agglomerations

The political entities in the urban agglomerations are founding special bodies for transport purposes. Their task is to coordinate private and public transport, to ensure their funding and a fair redistribution of all costs in the long term. The cornerstones of these reform proposal are:

- **Special bodies as functional regions**: The new special bodies are restricted to the task of organising and funding public and private transport on their territory. The bodies are not necessarily linked to cantonal borders. They are based - subject to a commitment to join - on voluntariness.

- **Elaboration of a federal "agglomeration act"**: The federation elaborates an agglomeration act that sets the standards with respect to democratic control within the bodies, intercantonal or intermunicipal collaboration, funding rules mainly with respect to road pricing, and the commitment to join.

- **Funding of the special bodies**: The special bodies are self-funded. The principal sources are revenues from the transport firms, revenues from road pricing and some local taxes e.g. on the use of parking lots. In addition, federation, cantons and municipalities are paying some grants.

7.5. The "Fund for public transport infrastructure" as investment fund

The "Fund for public transport infrastructure", adopted in 1998, is currently a pure financial fund. We propose an evolution towards a more active management fund, exerting the function of a go-between the state and the rail infrastructure firms.
• **The Fund as an investment fund:** The task of the existing fund is extended towards an active investment and management role. The basic task of the fund is the funding of the different rail infrastructure firms. The fund grants no subsidies, but only loans during the construction period. The fund may also act as a guarantee for private capital.

• **Independent infrastructure firms:** Construction and management of the new railway projects is handed over to independent firms. The respective firms receive a concession, the terms of reference and ex ante subsidies. The concession is restricted to 10 to 15 years; after this period it can be sold to another firm.

• **Strategic management remains within the state:** The state is restricted to strategic tasks: Elaboration of the terms of reference and the concession, coordination between the infrastructure firms, coordination with the remaining network, and setting the rules for access.

**Table 1.: Overview on the five reform proposals**

<table>
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<td>Federation and cantons</td>
<td>Federation and cantons</td>
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<tr>
<td><strong>Coordination with...</strong></td>
<td>Special bodies in agglomerations</td>
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<td><strong>Awkward aspects</strong></td>
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<td>probably redistributitional effects between cantons</td>
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<td>Commitment to join</td>
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This financial reform entails institutional and administrative reforms, such as a reorganisation and reduction of public administration in the transport field. Together these financial and institutional reforms are aimed at a fairer and more cost-efficient transport system.