

## The Political Relevance of an Economic Concept: External Costs Come of Age

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The increasing number of studies carried out on the costs and benefits of political measures and infrastructure projects has triggered a debate on the value or otherwise of monetary valuations. Examples of this phenomenon include the monetary valuation of the external costs of transport and agriculture as well as the costs and benefits of landscape intervention. In this context, often the old economic request for an internalisation of external costs through policy design arises.

The six contributions to the debate give an insight into the extent to which a consensus exists within the scientific community with respect to the way externalities are surveyed and calculated and the effects on actual policy design. With transport policy, we have chosen as an example a sector in which economic research, the transfer between research and politics, and the influence on policy design are relatively well developed. To maximise the scope of the debate, in addition to the views of experts from the area of environmental economic transport research (Walter et al. and Maibach), we invited contributions of official representatives in Switzerland (Werder) and the EU (Howes), of a politician (Herczog), and of a transport technology expert and planner (Knoflacher).

These contributions provide a comprehensive view of the efficacy and limits of the economic concept in itself and with respect to its use in the political process. In this final contribution and conclusion the first chapter summarises the different views with respect to the effect of the monetarisation of external costs in transport on policy design. The second chapter identifies and discusses the factors that are likely to have favoured the political acceptance of scientific results. This is followed by an exploration of the general significance of external costs in the resolution of environmental problems.

### 1 The Adoption of „Economic Formulae,, in Politics

Knowing as we do that scientific studies and evaluations usually end up gathering dust in the drawers of their commissioning bodies, the use and adoption of monetary valuations in the area of transport reads like a real success story.<sup>1</sup> Attempts to integrate the concept of external costs from 1920s welfare economics into policy design, as a clear-cut basis of monetary valuation through the development of valuation methods, appear to have been successful.

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<sup>1</sup> Freiburghaus/Zimmermann (1985) state: „It will soon be evident that it is difficult to 'implement' scientific insights in political practice: either the projects yielded nothing that was considered useful in practice, they presented their insights at an inopportune moment, collaboration with the interested parties was undermined by unfavourable conditions or the results even led to political disputes.“

Hence, in its White Paper of 1998, „Fair Payment for Infrastructure Use“, the EU Commission took up the cause of social marginal costs as a determining factor in transport pricing. In this White Paper, the marginal costs rather than infrastructure costs are defined as the decisive factor in the monetary valuation of transport: this represents an actual paradigm change.

External costs can be applied in a wide variety of situations and contexts. Nowadays, for example, monetarised external effects are directly taken up in the assessment of infrastructure projects in that the expected benefits are compared with the project costs (cost-benefit analysis). Although there is still some dispute about the scale of the costs, the co-ordination and harmonisation of monetary valuations have reached a level whereby official standardised cost unit rates, e.g. for accident and environmental costs, exist in the form of evaluation bases in European countries. Most countries also have road statistics which provide information about cost-coverage for each mode of transport and which is extendible in terms of external effects. Another area is price policy in which monetarised externalities are applied. In this particular context, Maibach stresses that in no other country were external costs used as consistently as a basis for price policy in road transport as in Switzerland. The relevant openness of administrative and political circles might have been a precondition for this development. Thus, Werder describes monetary valuation „as an essential precondition for the new direction in Swiss transport policy,, and for the design of a distance-related Heavy Vehicle Fee (*HVF*), and describes Switzerland’s pioneering role in European transport policy. This open approach on the part of the Swiss administration was undoubtedly promoted by the consensus that existed with respect to the overall scope of costs noted by Walter et al. Hence, as concluded by Walter et al., research can now go one step further and tackle the implementation of political measures and the redistribution of the tax income.

Despite the general consensus on the scope of external costs, Walter et al. note that the basis for monetary valuations generally consists of complex interactive effects – the authors refer here to a "technical data set" ("Mengengerüst") – for which precise data is generally unavailable. Indeed, it is often easier to carry out economic valuations than to uncover scientific data on the relevant interactive effects. In this context, the problems involved in the monetarisation of the economic consequences of global warming for Switzerland are a good example (Meier 1998). With respect to the significance of the valuations, Maibach comes to the conclusion that they form an important strategic basis which is „generally developed in the context of one-off research and expert studies“. This again is completely in tune with what is known as the „enlightenment theory“, according to which the use of scientific results primarily influences conceptual ideas about facts and hence gives rise to long-term, unexpected and diffuse effects.

However, Herczog and Knoflacher are very critical with respect to the importance of monetarisation studies for the political process and problem resolution. Herczog stresses that

the external costs argument is now more likely to act as a hindrance in *realpolitik* as all it leads to is a tit-for-tat exchange of reports and counter-reports. In his opinion, the success of Swiss alliance policy in matters concerning transport and heavy vehicle fee has little to do with the external costs argument. Knoflachner blames the representatives of monetary valuation of inadequate system demarcation, of only considering a small part of the entire system, i.e. traffic flow, and hence being unable to contribute much to the resolution of the problem.

Thirty years of research in political sciences in the area of knowledge transfer has shown that the expectation of a one-to-one adoption of research outcomes in politics is unrealistic (Kissling et al. 1997). For this reason, the extent of the use and influence of economic reports in the political debate in the transport sector in Switzerland is truly astonishing.

## **2 The Factors behind Successful Transfer**

What are the factors behind the increased significance of monetarisation as a basis for political discussion and decision-making in Switzerland and also the EU? Directly linked with this is the question as to why the monetarisation of external costs in other policy areas remains in the shade. Unfortunately, the empirical basis of the contributions to the debate is insufficient to provide a definitive answer to this question. It is, however, possible to propose hypotheses on the possible interdependencies.

The contributions repeatedly stress that standard figures have emerged in politics and science for the quantification of external costs. It can be assumed that the high standard of the research is a reflection of the highly qualified scientific community. In the case of Switzerland, the latter will have had significant input from the National Research Programmes No. 25 „Traffic“ and No. 41 „Environment and Transport“ and other commissioned research. This research was also promoted, among other things, by the introduction of courses in environmental economics at the universities from the 1980s. Moreover, the way in which the studies were compiled shows that most of the know-how now resides in the private environmental research consultancies.

The extensive political relevance of monetarisation in the area of transport in Switzerland can undoubtedly be explained by the fact that from the 1980s, the relevant federal ministry was receptive to the idea of external costs of transport and hence commissioned studies in this area. As a result of this, co-operation between the administration and research became established over the years. What is astonishing is that hardly any of the studies carried out in recent decades have been seriously questioned. This acceptance and relatively broad consensus can be explained, among other things, by the fact that the only cost areas that are included are the economically significant ones, which have a demonstrable relationship between cause and damage, and for which methods for cost calculation are available. The

ministry in question was concerned that the values produced would be comprehensible and plausible (Werder).

The second explanatory factor for this successful transfer is the time scale. Work on the theoretical basis has been going on for more than twenty years. This made it possible to establish an agreed knowledge base within the framework of the institutionalised forms of policy consultancy. It must be assumed that the ongoing contact between researchers and actors from the political arena had a positive effect on the transfer of knowledge. Due to the lack of documentation, it is only possible to speculate about individual and social learning processes. It must be assumed, however, that new problem definitions and situation interpretations emerged from the interpretative and constructivist approaches based on the new knowledge.

The introduction of the heavy vehicle fee can probably be best explained using the policy window concept. As Herczog's presentation of the alliance policy shows, a very special constellation of factors arose in the late 1990s. The way for what is known as „policy stream“, which includes solutions, proposals and accumulated knowledge, had been paved over the years. Yet, the stream of political events and problems was in transition. Hence, the insight into the necessity of bilateral negotiations (Switzerland - European Union) and the acceptance of the initiative for the protection of the Alps (*Alpenschutzinitiative*) represented important political events. The problems and problem pressure were manifold and forged by different interests. Identified problems were the detour-traffic in Austria and France, the ecological burden on the residents along the Gotthard-route, the necessity to transfer traffic from road to rail, and the preservation of the competitiveness of the Swiss transport sector. The nationally and internationally negotiated compromise in the form of the distance- and weight-related heavy vehicle fee was designed in such a way that the prize for the Swiss opening up to Europe was the authorisation for the use of 40 tonne trucks on Swiss roads while the resulting productivity gain for road over rail was, however, balanced out by the heavy vehicle fee. The policy entrepreneurs succeeded in taking advantage of this situation, identifying the different interests and implementing an innovative concept in the form of an alliance policy. It is, of course, impossible to say definitively whether it would have been possible to achieve all of this without the basic economic studies. It can, however, be assumed that the preliminary work in the form of studies and the changing status of EU price policy were not unimportant factors in this process.

These explanations presented also provide first indications as to why monetarisation has penetrated to a lesser extent in the areas of landscape and biodiversity protection and other sectors. Because they are specific to the transport sector, the following factors should be noted: (1) the concentration on relatively unambiguous cause and effect interactions and suitability for the application of monetarisation; (2) the active development of the evaluation methods which enabled the definition of agreed minimum values; (3) the institutionalised contacts between consultancy and politics; (4) the policy window.

The political openness to economic studies was probably also promoted by trends such as new public management, the crises in state finances and the neo-liberal economic philosophy in terms of less state and more efficient use of public money.

### **3 Monetarisation at any price?**

The relevance and scope for the political application of monetarisation are doubtless limited. Even, it may raise moral issues if, for example, the value of a human life in a developing country is considered as being 15 times lower than that of one in an industrialised country.<sup>2</sup> Scientists agree that the relevance and acceptability of monetarisation is extremely limited, if, for example, only one service of an ecosystem is valued instead of the entire system, or when discounting is unacceptable due to long-term effects and damage (Seidl/Gowdy 1999: 111). This can be countered by the fact that studies exist which can demonstrate the dubious economic or ecological value of projects on the basis of the rudimentary quantification of certain components. Hence, many of the cases in which monetarisation was successfully applied, should actually give rise to political consequences.

The EU Commission goes one step further in its use of monetarisation in that it uses it for the design of transport fees which it deems an efficient instrument. According to Howes, the cost-related taxes represent an important instrument for the harmonisation of transport taxes in Europe. The EU steers the transport market by promoting the establishment of a consensus for upper tax limits between experts and member states, and by setting a corresponding tax framework.

While at EU level, there is a great need for harmonisation and development between the countries, in Switzerland, the political implementation of the quantification of external effects should play an increasingly central role. The state of the debate shows that in terms of knowledge use it is truly time to examine what is exactly achieved by monetarisation in particular policy fields. In terms of the European context, the question of policy transfer, which is gaining significance in a world increasingly stripped of its borders, should also be tackled (Dolowitz/Marsh 2000; Radelli 2000). To study how ideas or political concepts are spread in international networks and what preconditions are necessary for a successful transfer could make an important contribution to the realisation of economic levies.

In addition, the ongoing discussion on the concept of sustainability has also opened our eyes to evaluation criteria other than economic ones. In the context of a sustainable transport system, it should be demanded, for example, that transport policy and planning be divorced from narrow system limits and their focus on traffic flow and that the system as a whole be considered. It can only be hoped that the monetarisation of external effects can actually contribute to this aim.

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<sup>2</sup> Such as in a study by Pearce et al. (1996) on the economic consequences of climate change.

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