

## THE ROLE OF ECONOMIC INSTRUMENTS IN INTEGRATING ENVIRONMENTAL POLICY WITH TRANSPORT POLICIES IN HUNGARY

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### I. INTRODUCTION

One of the main shifts of the past 25 years in environmental thinking is the general recognition that an environmental approach cannot continue to be one of external control of the sectorial activities, but that it has to penetrate them to have a greater effect on their everyday performance. There was also a shift from the end-of-pipe approach of looking at products and polluters to a more preventive control of technologies, investments (EIAs) and by now also to a harmonization at the policy level.

Looking at the infrastructure branches it was the energy sector where this convergence started first, partly due to the coincidence of growing environmental concern about raw material shortage and the oil price shock in the early 1970s. Since – at least in policies and declarations – it belongs compulsorily to the energy priorities that not more energy, but more effectively-used energy, more service with less energy is the target.

The same process started later in the transport sector and even now it is not self-evident that the sector policy should declare that generally *not more movement, but similar service with less movement would be advantageous*. This declaration is general already in urban transport, or at local, protected, resort areas, but has not yet become part of the general

priorities; or if it has, it is sometimes understood at a logistical/technological level, considering the demands as a given fate to be served in the long term by transport tools, and the aim of the environmental approach should be to ensure that these tools cause less harm.

This situation is also characteristic for Hungary. The environment as a chapter is an important part of any transport policy and also appears among the priorities; but its meaning is a kind of technical development and an elimination of emissions rather than a real policy-level environmental approach. There is a more advanced approach in the new Transport Development Plan of Budapest, where the general target is to reduce traffic in dense urban areas; and the plan aims to differentiate the possibilities between different land use and protection zones (and naturally also between transport modes).

### II. THE ROLE OF ECONOMIC INSTRUMENTS

The second part of the title of the workshop relates to the role of economic instruments. If I want to declare my approach in brief I have to say that *economic instruments have an*

*important, but limited role*: they can well promote a socially and governmentally accepted policy, sometimes also a not declared but accepted one (sometimes also something that nobody expected...); but if the declared targets are socially clearly not accepted, generally the system does not work. It is also not sure that an instrument that worked perfectly in a developed industrial or post-industrial society would produce the *same* effects when adopted by the east-central European region

It is therefore unavoidable that, speaking on the role of economic instruments in present eastern European countries, we focus our attention not only on operating developed systems but also on the heritage that creates the environment where the economic instruments should play their role. (See chapter II.)

### II. 1. Effectiveness and sustainability

Here we also have to touch another aspect, namely the differences between economic and environmental targets. The aim of many economic instruments is to promote a partial effectiveness within the whole transport process. Such important tools are different tax measurements influencing vehicle or fuel efficiency; and it is also a declared aim of market deregulation that the cost per ton/km should decrease. We have to point out that the effectiveness in such understanding can promote that the given short-term demands for transport should be satisfied with less cost (fuel, energy, time, pollution) while it is a general experience that in the long term these economic (and technical) effects result in more transport: society uses the new possibilities (higher speed, less unit-cost, etc.) in a way that the earlier expense or time frame achieves a greater transport performance. (Greater distance, more goods, bigger vehicles, more movement). As a result the long-term environmental conditions are not improving, even if, fortunately, they are not worsening either.

What we need to introduce here is the distinction between *partial effectiveness of the process* (fewer expenses for the same transport performance) and a *total or external effectiveness* (less transport for the same service, or for the same well being). On the long-term policy level and from the environmental point of view only the latter really promotes a better future and cohesion between environmental and transport targets. In any case if partial cost-effectiveness increases in itself, the gap between the direct costs perceived by the users and the total (external and direct) costs is also increased. This gap gives a mistaken signal to users and promotes more transport loading further expenses to the environment. The only possibility of harmonizing sectoral and environmental targets is if this gap is decreasing and not increasing. This can be a key element in evaluating whether or not economic instruments help environmental targets.

## III. THE HERITAGE

The Hungarian future development possibilities are greatly influenced by two aspects: the different patterns of more developed countries and a strong inertia of the past historical development. Especially in the case of such slowly changing structures as the transport network, the effects of the past can be very important, sometimes the last century's development structures – such as the density or direction of railroads – can

determine present possibilities. However, there are also conservative structures in social, cultural or institutional systems that react specifically to economic changes.

### III. 1. Clusters of heritage: Global, developing and command economy features

It would seem to be practical to assemble the elements of the Hungarian heritage into several groups, to make it easier to understand why the reactions can be different from those in more developed countries.

There are problems that *newly emerge in the whole world* due to extended globalization, to environmental recognition or to new technical possibilities, and that also need new solutions in the most developed economies. These types of problems are widely negotiated between high-level experts, and new instruments (also new economic instruments) are created to handle the problems. As these new instruments promise solutions for the most serious problems in the given sector of the highly developed countries, the experts are inclined to suggest these instruments as general solutions for other countries too, without more respect to special local circumstances.

In the heritage of the Hungarian (transport) economy we have to distinguish those elements that *originate from the given general development level of the Hungarian economy*. If we compare different transport supply indexes of Hungary with other countries, there are many that fit well to the trend of those other countries at similar GDP level in South America or south and central Europe: but there is a gap between all these countries mentioned and the more developed countries. In these cases the differences can be explained with the development level, and the experiences of similar or slightly more developed market economies can be studied and sometimes also adopted.

There is a general belief that in Hungary the infrastructure sector was extremely neglected, but many comparisons show that relative to the GDP this quantity gap is not so significant, while within the sectors there are really huge differences between those constructions of great political importance and the others.

This leads us to another type of Hungarian heritage where the supply indices differ sharply from those of the above-mentioned market economies, and show similarities with the neighbouring eastern and central-European cases. In these cases we can speak about a special heritage of these countries that goes back to the marketless command economy development of the past half century. We consider it important to mention three major consequences of this special infrastructure past that affects also present perspectives:

(a) Extremely low service prices causing also a huge over-demand for services. That fact was perceived by the sectors as a lack of supply possibilities due to the lack of investment and financing, while the potential users also met with an underdeveloped infrastructure relative to their expectations and (monetarily not limited) demands;

(b) *A general territorial and institutional centralization* that (in Hungary) partly has its roots in the last century during the development of the capital, Budapest, to make it capable of competing with Vienna, was a political target; the development after the Second World War fully used and strengthened

the centralization well-fitted to the forming political centralization ("tree-structures": development of hierarchical links, neglecting horizontal relations and local poles);

(c) In the general circumstances of central redistribution the way to prosperity for a branch was not achieved through better supply of the (non-existing) market, but through getting more and more central resources. In the competition for new resources, how to manage and maintain the existing tools was secondary; even near-crisis situations proved to be useful in demonstrating the urgent need for new financing. It is general by now that *both infrastructure elements and equipment are poorly maintained, over-used and faced with quality problems.*

The three above-mentioned main pillars as a legacy of the past also influence the Hungarian transport economy's ability to adapt to newly-introduced regulations and instruments.

### III. 2. Changes and examples in developed economies

When we are speaking about the environmental policy we are speaking about a kind of thinking frame or paradigm.

At an early phase of the transition period there was a kind of illusion both in the west and the locally that, in the newly-transited eastern and central-European region, the environmental consciousness is general and that these societies can start at a thinking level that can be compared to that of the most developed west-European countries. As the adaptation to the world market meant also that these countries have to be measured on the scale of the market economies, and as by that comparison their place was among the lower and upper middle-income economies, it soon became clear that their possibilities for economic development were also not far from those with similar incomes. It has now become clear that the economic problems in the transition economies (lack of local capital, growing disparities in income, low wages, inflation etc.) determine the everyday thinking, comparable to other market economies of similar development level and give environmental problems a recognised but secondary priority status.

#### a) User-pays principle

The most developed countries reached a kind of post-industrial development phase, where the basic service networks already exist and the main task is to construct parallel networks of special quality to satisfy special demands (mobile, ISDN, TGV (high-speed train), motorways, Concorde etc.) At this stage, it was generally recognised that the construction of the new, expensive, special networks has to be paid for by their potential users and that the operation and maintenance of the already constructed basic networks can also be charged to their general users as a principle. Otherwise this situation was similar to the last century's starting position of the European local (electricity, gas, paved roads, etc.) networks: Generally, these were developed from private money, and only later, as they were extended (and also served strategic and power interests) did they become the subject of State and public investment.

Although the user-pays principle is very evident in the above cases, it is not as clear that, in a country where 70 or 85 per cent of the inhabitants have access to certain basic infrastructures (that were constructed earlier from public or at least mixed sources) and which the poorest

15-30 per cent have not, whether the user-pays principle can be introduced in a similar way to that advised by more developed economies, or whether there are other equity and temporary regulations that could modify the original principle in certain cases.

In eastern Europe there is a mixture of pressures in which there are paths of rational recognition of the above facts, but mixed with a more general pressure against the emerging prices, just remembering the "good old days" when the services were very cheap. For a politician, and in the short term, it is not the rationality of the pressure but rather the strength of it that counts; so even the irrational or unrealistic part can temporarily win in a postponement of price changing or in the choice of an investment construction. Our task here in speaking about the role of economic instruments in eastern Europe is also to select those special circumstances where this role can differ from those in more developed countries, understanding the rationality both of the western approach and of the local economic background in our countries.

### IV. BEFORE ECONOMIC INSTRUMENTS: PAST AND PRESENT POLICY PRIORITIES

Economic instruments affect *how* the money is spent; but there is an equally interesting question, namely: *Whose* money is spent (and by whom)?

It is clear that in all command economies there was a starting position where most of the investment was centrally collected and redistributed by the State budget. As for the *services* (and manufacture also) the change was clear and huge: whereas goods transport in 1980 from the total 68 related organizations in Hungary there were 43 State-owned enterprises and another 13 direct-budget organizations, by 1990 more than 30 000; by 1994 nearly 67 000 companies and (mainly) small enterprises had appeared on the goods transport market. This change explains in itself the growing importance of economic instruments in the whole economy, as there is no longer any other way to make an effect on such a huge number of actors.

At the same time, the changes were not as rapid in the development of the infrastructure, even if the directions were very clear. The legal framework was changed by the early 1990s and by adopting the Concession Act in 1992 the construction and operation of networks became possible through concession.

The Act proved to be followable as in 1996 the first motorway in the Eastern-Central European region based on concession was completed. It was part of the Vienna - Budapest M1 motorway, a 42 km missing section between Győr and the Austrian frontier.

Although the theory was clear, the situation was still unique: This western link of Budapest had been encouraged to a great extent by both the West and Hungary; and even if the investment was formally free of State budget, the implementation was mixed with implicit political State guarantees. The result was a special example that cannot be repeated: formally 100 per cent private capital investment, with a toll rate that is close to double the average western-European toll price per km.

If we look at the situation from an environmental point of view, the result is attractive: *We can see the real price of the motorway, and also that the domestic users are not willing to pay that price for the advantages they can gain in the given section.* So it is clear that those urging the construction of the motorways would like to use it at a cheaper price than its "real" (at least present market) cost. The pressure was very clear and strong: The users (through their representatives such as the Hungarian Automobile Club) claimed lower tariffs and would have liked the government to be involved in ensuring these lower prices.

The situation became much more complicated, as in other parts of the Hungarian motorway network the concession agreement mixed the construction of new sections with the rehabilitation or enlargement of existing motorway sections, which had been constructed earlier from State budget. While in the above-mentioned M1 case the road toll appeared at a section that did not exist before, and would not have existed at all if the concessionaire had not constructed it, in the other cases (M5, soon also M3) the toll gates also appeared at earlier free used sections and those not willing to pay were pushed back to roads crossing towns already long free from transit traffic.

This situation underlined an important and hardly analysed fact. Those earlier constructed motorway sections unified two functions up to now. On the one hand they are high-quality roads with motorway characteristics, ready to fulfil the needs of the long-distance inter-regional road transport; but on the other they are part of the basic national road network that ensured the capacity extension of the national roads and also the by-pass of the settlements touched. Without the earlier construction of the motorways it would have already been necessary to construct by-pass roads at the settlements, since the traditional national road network would have caused conflicts with local life. If the new toll gates tax the long-distance inter-regional transit traffic, they also push back the rest of the traffic to the old road, and makes clear that earlier a step was skipped: the country constructed motorways for solving also the by-pass function at settlements.

We could learn two things here.

*We could learn from the M1 case that, seemingly, there was no real demand (willingness to pay) from those who wanted to use the motorway, or at least they tried to shift the bill partly to non users.* From an equity and environmental standpoint, but also from an economic point of view, the answer is clear in this case: The private operator is given, those willing to pay are given and it is the market that has to ensure the regulations. The operator has to find a tariff that would be optimal for him in this case; and he and others can also decide whether in the circumstances further investment among the given is attractive or not.

What happened is quite different. The users' representatives and the concessionaire together (when they were speaking to each other) were able to frighten the government and push it towards admitting the necessity of further contributions and to declare that the government should involve budget money into motorway constructions if the users say they are unable to pay the full costs. It is quite clear that this is State support for motorway constructions (and road users). Supporting the transit road constructions also changes the cost rates just at the expense of the railway, while for the Hungarian railway it would be just one of the most important

potentials for the future to gain back a bigger role in goods transit transport; and that tendency would also be good from an environmental point of view.

*We could learn from the M5 and M3 cases that the legacy of the past in physical structures, namely the existence or lack of elements of the basic networks has an important effect on present possibilities in financial modes too.* So when we try to learn from the practice of the developed countries, it is not enough to focus on several chosen elements, in this case to deal with the motorway network in itself. The motorway network in its present state is a kind of overlay network for inter-regional links, ensuring a special quality for those demands. Those really using it for that purpose have to pay for the extra level of service, while those who do not intend to do so cannot be forced to use a higher level than wanted. For this second, bigger and mainly domestic group, the key question is the state and existence of the basic level of the national networks, including the national road network.

It is really a government responsibility to maintain the integrity and operability of the basic networks. Although in the case of extra quality services the user-pays principle cannot be questioned, in the case of basic networks where the supply level is 80-90 per cent it can be accepted that it is of general interest that the supply level should be increased even if those potential users are not able to *fully* cover the costs. In these cases, those already using the service help (with their tax through State budget) those still in need.

There is another special case (e.g. Me and Me) when owing to past experience the basic network is not able to fulfil its basic role without certain elements of the existing high quality network. In this case the integrity of the basic network would be harmed if the regulation phased out the high quality sections. In such cases, the government must not privatise the section in question unless a substitution is constructed to maintain the integrity of the basic network. One possible solution if the double function section remains part of the national network with the same rules as other sections of the same network (in our case allowing free use), or it can be effective to construct *now* the missing by-pass sections of the traditional roads and *then* privatise the motor way section. It could be the concessionaire himself who constructs the by-passes, to make it possible for himself to use the motor way as a toll road.

In all above cases we were dealing with both *economic* and *legal* instruments (concession) and also with *financing* construction as an economic instrument. It is not widely accepted that this approach to the problems can be part of the environmental policy involvement into the sectoral policy. My personal opinion is that it is a fundamental question of environmental policy, determining how and why there is special financial support to high quality transit and overlay motor way constructions.

In the Hungarian case unfortunately it has become a main priority of the new Transport Policy (1995) [6] that we have to urge motor way constructions to ensure the crossing of more transit through the country. From an environmental point of view there are four basic objections:

- (a) It gives priority to special demands against the needs of the basic network;
- (b) It gives priority to development against the maintenance of the existing network;
- (c) It gives priority to transit against the needs of domestic transport; and
- (d) It gives priority to the road against integrated transport solutions.

If we speak about integration of environmental policy with sectoral (here transport) policy, we have first of all to ensure that the priorities of the transport policy can get closer those of the environment. Without that, no economic instrument is able to serve as a tool for that kind of harmonisation.

### V. GOODS TRANSPORT IN HUNGARY: TRENDS, MODAL SHARE, HIDDEN SUBSIDIES

In 1990 the specific transport demand projected to the G.P. [tonkm/G.P.] in Hungary was twice the EU average and 30 per cent higher than that of the southern members of the EU.

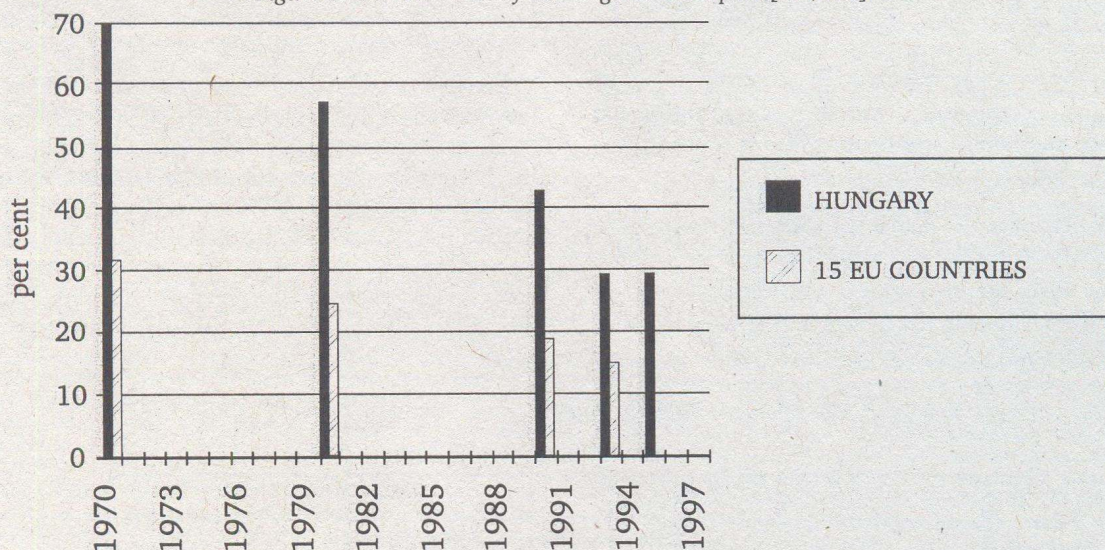
The main causes of this high transport intensity could be the following:

- Special structure both in industry and in transport of big State-owned enterprises;
- High raw material and energy demands in the whole economy, extended heavy industry;

- Inefficient organization;
- Mistaken land use, inefficient settled industry;
- Low- quality infrastructure services;
- Low transport prices.

Between 1990 and 1995 the G.P. in Hungary decreased by 20 per cent. During the same period goods transport [in ton/km] decreased by 31.7 per cent, which means that the specific transport intensity of the Hungarian economy decreased. All those macroeconomic pressures and regulations that have changed the enumerated conditions of the Hungarian economy can be considered as tools serving the environmental policy too, even if they were not introduced for that definitive purpose. In this case, that is looking at the total amount of goods transported, the changes in the command economy towards market economy brought in themselves positive results for the environment, decreasing a certain over-demand for transport.

Figure 1. Market share of rail in goods transport [ton/km]

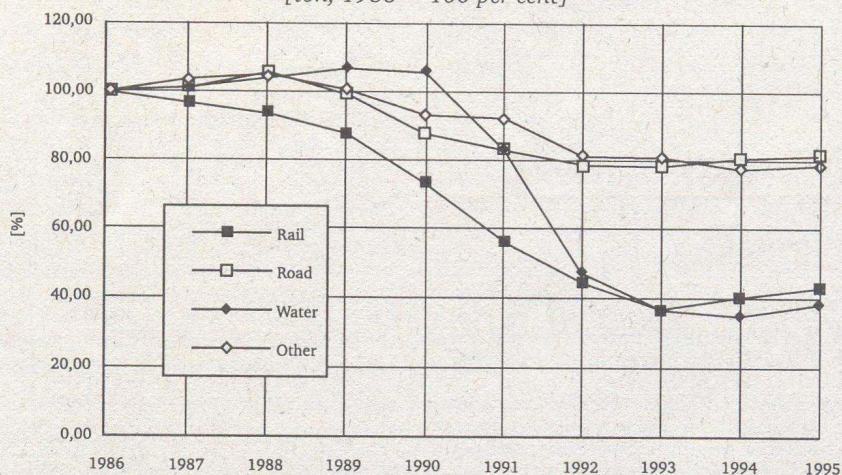


Source: *Infrastruktúra és szolgáltatásai Európai Tükör 9.* [2]

There were other changes in the same period that show very different results. The average age of the lorry fleet (as also for bus and car fleets) in a period of four years increased by three years and in all categories exceeded ten years. There was also an important shift in goods transport from rail to road

As we can see on *Figure 1*, this decrease in the rail share in Hungary is not a new trend and was more or less parallel with a similar trend in the A. countries; but the share of the rail in the transport of goods in Hungary was practically always double the EA. average. Just in the last years the decrease in share also stopped, and there has even been a slow increase.

Figure 2. Trend of the quantity of the goods transported in Hungary  
[ton, 1986 = 100 per cent]



Source: Transport Data 1986-1995. Infrastructure booklets. Ministry of Transport, Communication and Water Management 1996 [5].

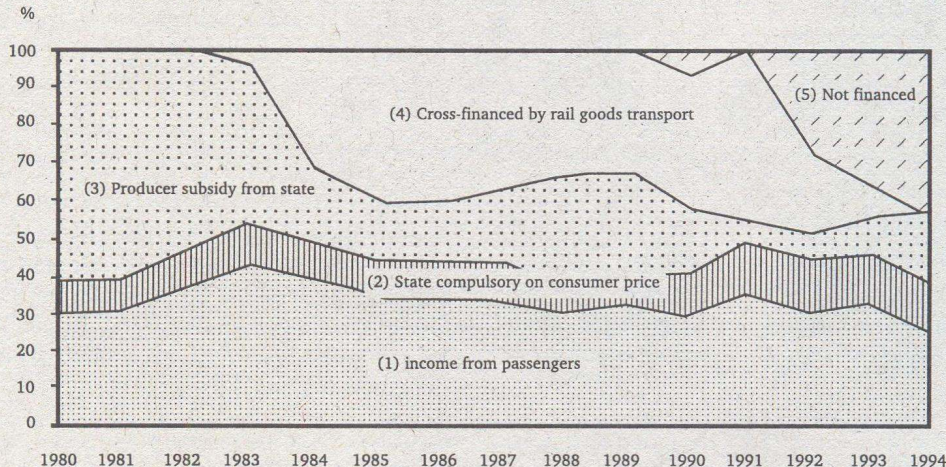
We can study this trend of recent years in Hungary better in Figure 2 but here we see the trend of goods transport in tons. While in the given period – especially between 1989 and 1992 – road traffic decreased by 20 per cent, rail transport decreased during the whole period until 1993, and altogether by 60 per cent. The accumulated decrease in inland traffic was also 60 per cent, but here the dramatic fall was concentrated in the four years between 1990 and 1993.

It is not our task here to make a general analysis of goods transport trends in Hungary, we rather try to state if there were economic instruments or direct subsidies involved to promote the changes during the period and how or whether these pressures have changed.

While the comparisons generally concentrate on rail and road goods transport in itself, the competition between them largely depends on internal, sub-sector cross-financing for road and/or rail.

In Figure 3 we can see the sources of the financing of railway passenger traffic between 1980 and 1994. The price of the tickets does not cover more than 25-35 per cent of costs; the State subsidy to users (students, the elderly) provides another 10 per cent. Although in the early 1980s this sum needed a further 50-60 per cent producer side price subsidy, by the mid-80s more than two-thirds of this price subsidy was changed to cross-financing within the railways, as railway goods transport income substituted that part of the State subsidy.

Figure 3. Sources and financment of the rail passenger transport between 1980-1994 [%]



Source: *Infrastruktúra és szolgáltatásai Európai Tükör 9.* [2]

As we saw in Figure 2, since the mid-80s the railway has lost more than half the goods transport, while the rest has not only to pay its full cost but also to support passenger transport. We can see (Figure 3) that from the early 1990s this was no longer possible in its earlier extension and the non-financed portion of the costs emerged, pushing the whole railway company to a near-crisis situation. Due to that cross-financing, goods transport costs by rail also became more expensive and this higher tariff pressed more consumers to use the road at a period when there was a spontaneous tendency to do so.

On the other side we have to look at road transit. It is a general argument that whereas rail transport pays for its track and these expenses are calculated into transport costs, road transport does not pay for the infrastructure. (or, to be more precise: pays in fuel tax but less than the real costs). In this paper, it is not our task to calculate the direct and external costs of road, rail, and other modes of transport: What we want to show are the real changes or tendencies of the last years. In that context, that is, in covering the infrastructure

costs, there were no changes in Hungary that would have altered earlier cost proportions.

If we look into the road sub-sector (and even if we accept temporarily that the fuel tax covers the infrastructure costs), we find that there is a cross-financing here too; but here car users support road transporters, as the use of the road is in reality proportional not to fuel consumption but to axle pressure on the road surface when in fourth gear. Earlier calculations estimated this cross-financing as similar in magnitude to that of rail, while the direction in both cases helps road goods transport. [3]

Another hidden support in road transport is the mutual release of transporters from the obligation to pay transit tax between the different countries. Here, the State budget suffers heavy financial loss just to make road transport cheaper for those who obtain the mutual permits.

Pavics Lázár [3] in a calculation estimated about 90 bn HUF in 1992 (900 million US\$ at that time) as hidden relative support to road transport, including also the loads on rail goods transport.

Here, we do not want to decide if the estimation was exaggerated or not. What we can state is that those issues giving the main part are not changed, so to the extent that the calculation was correct by 1992 it can also be valid now.

We could see that the tendency that rail loses a share in goods transport was general and not a special case in Hungary. There were calculations and research on this topic in Hungary. Policy suggestions were worked out, but, as in most western countries, the real changes are modest.

We have to mention here first that the product fee, introduced four years ago as half a HUF in each litre of fuel has now risen to 2 HUF. There were also administrative instruments introduced in the last years promoting the equalization of the balance by hampering the opportunities for transport. Such instruments are the seasonal and weekend road transport restrictions for heavy lorries; and even if it were not an intended tool, the several hours', sometimes several days' delay for lorries at frontiers operates as such.

There is another tendency not directly appearing as an economic instrument, but in its effect works like that. As in EA countries environmental regulations raise the emission norms as a condition to take part in the traffic, more and more eastern forwarders are driven from the competition for international transport. If an eastern country wants to comply with

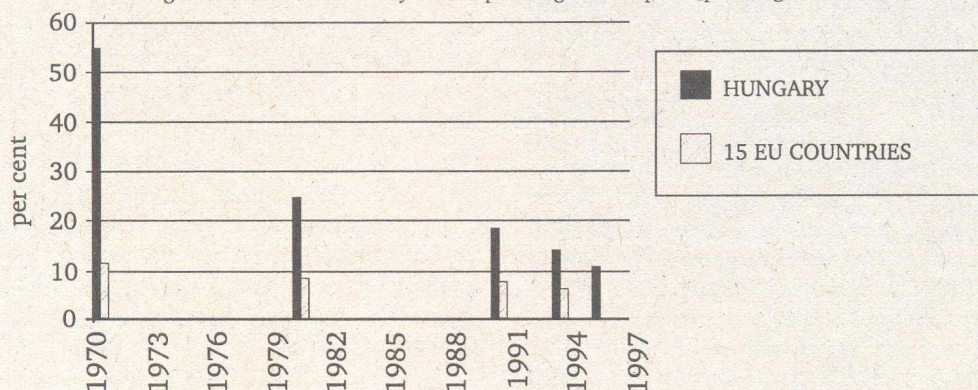
the regulations in environmental legislation, it phases out the majority of its existing lorry fleet and gives the market to those international forwarders using the more expensive but environmentally accepted fleet. From a strictly environmental point of view this more expensive transport and better emission norms are an improvement; but if the whole process is too rapid, and does not allow for a gradual replacement of vehicles by domestic transporters, the result is first of all the shift of the transport market to foreign enterprises and the phase-out of domestic competition.

Here *deregulation* means to phase out national prescriptions but at the same time introduce the European *regulations* also in domestic transport. (Otherwise the deregulation would prefer those forwarders using amortized and dangerous lorry fleets, thus achieving a higher short-term partial effectiveness in road transport!). The question that remains is whether the eastern forwarders can hope for a *transition regulation* that could ensure that neither their low-quality dumping nor their administrative exclusion would cause a one-sided advantage to eastern or western forwarders. Theoretically, it is a forced higher total transport price on a protected market that could create a source for a change in vehicle fleet and other equipment in a transition period. But this would need not fewer but *more* regulations; and there is no real guarantee that the higher income would really be used to change the structure. A further complication in the issue is that a consequent environment-friendly regulation would decrease the proportion of the road transport (together with the total decrease in goods transport) on both the western and the eastern sides, thus pressing the firms in advance to exist in a decreasing market.

## VI. PASSENGER TRANSPORT IN HUNGARY: TRENDS, MODAL SHARE, SUBSIDIES

In the period 1985-1995 the number of passengers transported on EA railways increased by 20.1 per cent, in southern EA countries by 31 per cent. That was already a kind of post-industrial, post-motorization development, starting at a very low level and due to the changing role of suburban rail and tariff associations, in addition to many other components. In the same period in Hungary the number of passengers transported decreased by 40 per cent.

Figure 4. Market share of rail in passenger transport [passenger km]



Source: *Infrastruktúra és szolgáltatásai Európai Tükör 9.* [2]

Figure 4 compares the market share of rail transport in the last decades in EA. countries and in Hungary. We can see that even if the number of rail passengers has increased in the last decade in EA. countries, the shift to road travel has not stopped; and the share of the rail is now no more than 6-7 per cent. The Hungarian share is still, after a significant decrease in passenger numbers, about twice as much.

If we focus on Hungary and look at the long-term trend from 1970 we can see the effect of the whole motorization period and, also, that until 1990 the domestic and Comecon international rail tariffs were kept at an extremely low price level (unchanged between 1951 and 1982!). Thus, similarly to earlier, here also we can say that the decrease in rail passenger traffic partly originates from the decrease of an earlier over-demand for rail transport. But if we look at the total passenger transport in Hungary, we can state that between 1990 and 1995 there was a decrease of 11.1 per cent (in passenger km), i.e. smaller than the decrease of the same period in G.P. (20 per cent). This means that there was no specific decrease in passenger transport demands if we compare it with the G.P., the main tendency in Hungary was still the shift from rail to road.

Another important area of passenger transport is local transport. About half the total passenger traffic in Hungary is estimated as local traffic, and half of all local public transport takes place in the capital, Budapest. Here, the last decades have also changed the basic proportions of the public transport share from 80 per cent to 60 per cent.

If we look at BKV, the local transport shareholders company of Budapest, the first observation is that the price of the tickets covers only 33 per cent of the total of construction, maintenance, and operational expenses. On the one hand, this proportion seems to be too low; on the other, it was preceded by significant tariff rises exceeding the inflation rate and causing growing social burdens to a large part of the local population. Even if it is not the task of this paper, we have to emphasize that the main changes that are needed to get closer to a more liveable urban life do not depend on economic instruments alone but, rather, on policy, planning, and organizational steps. Such steps might include radical zonal speed limits, transport and tariff associations between different actors, better control on existing regulations (restrictions, bus lanes, parking), priority in planning and in construction for pedestrians, for public surface transport (including trams), better conditions at stops and changes at P+R parking facilities and a better road structure to make it possible to push car traffic out of protected zones, etc. Economic instruments can support only existing policy decisions.

BKV as an enterprise has to be able to react to the existing regulations and price rates. For the enterprise practically all tram operation is more expensive than the operation of bus lines; and even if there are long-term plans, practically all the tram lines are closed (have ceased to operate) one after another. A somewhat different case is the new construction or the rehabilitation of tram lines, as there is a possibility of gaining support for such action as trolleybus purchasing, or the replacement of bus engines for environment-friendly ones. The source of this support is the Environment Fund, which collects, among other things, production fees, environment fines and other State sources and redistributes the money for special purposes.

It is clear that, in the long term, massive support of public transport cannot be tolerated.

At the same time, it is only a high-standard, comfortable public transport that will be able to attract drivers and discourage the use of their cars; and that kind of public transport is necessarily expensive. For a good solution, the micro-economic tools are inadequate: It also depends on land use (urban surface use) policy and its social acceptance. The economic tools have to be used in parallel with these changes, and that evidently needs more time than the simple introduction of a higher tariff.

## VII. CONCLUSIONS

After a short survey on the role of economic instruments, the aim of which is to integrate environmental policy into transport policy in Hungary, we have to make some simple statements.

The environmental policy that should be integrated with transport policy exists or, at least, the more essential outlines and directions are clear.

The acceptance of such changes is more developed at the urban transport policy level and less at the country-wide transport policy level. Even at this level, however, acceptance is much better than in practice, especially in the case of big investments.

The great motor way investments or metro investments practically go their own way. There are even theories that these investments serve the general environment and that that is the reason public money is used for the construction. Relative to these expenses and future harm, all other environmental improvements in the transport sector can be considered as marginal. There is also a danger that environmental measurements could become a kind of device to enable the large investors to buy social support in order to obtain finance for their investments.

At the same time, there is significant development in recognition of the importance of environmental arguments and also in the measures that influence operations, and, hence, the present and short-term future environment. Many economic instruments belong to this category, such as those that make polluting goods more expensive on the one hand and help with supplying vehicles or engines of better technology on the other. There is also an additional important role for those tools: Those who introduce them begin to be proud of their action and to consider themselves as pro-environment warriors. We can only hope that this self-image will also determine further thought and action.

We have distinguished three elements of the Hungarian situation: the global lessons, the legacy of the relative underdevelopment and that of the special past of State socialism; but these elements also mirror existing thinking in the sector. Although deregulation and the free market can cause significant changes within each structure, they are hardly able to solve the transition from one structure to another. Those educated in a command economy (*more transport with less cost*) could interpret deregulation as the free use of deteriorated and outmoded vehicles and infrastructure; and that tendency evidently needs regulations to combat it. Similarly those educated in



the market economy ("*better transport with less cost*") would use economic tools to improve phases effectiveness (less fuel, less time, lower emission) hardly understanding that, in the long term, even a theoretic *zero-emission, zero-consumption, zero-cost car* would cause enormous environmental problems and unbearable living conditions.

Only those with the insight to look behind the economic targets, thinking macro-level and long term, will really be able to harmonise the environment and the sector economy at the policy level ("*better life with less transport*"), thus providing a framework within which economic instruments can promote real harmonisation targets.

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