On the relationship of regulated intra-modal railway competition and land traffic substitution competition

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1. **The topicality of the issue**

The railways have largely been placed at a serious disadvantage through land traffic substitution competition in the Western World during the past half century. This probably happened, in territorial terms, to highly divergent extents in Europe between the extreme cases of Switzerland (lowest) and Great Britain (highest). In contrast to North America rail freight transport proved to be least competitive, losing mainly to motor transport but also to inland waterway freight transport.

EU transport policy definitely intends to help in that it attempts to “revitalise” the railways through intra-modal competition. However, it does not consider that there is an alternative to this means, namely concentration of the forces of the railway system in a European enterprise. This contribution therefore examines the extent to which intra- and inter-modal competition can counteract each other in land traffic, that is, the extent to which competitive forces in the former can erode the latter. This possibility accepted and deemed to be important, the next question to ask is which of the two forms of competition is to be preferred as regards the existing enormous transport plight arising from road transport?

The pushing forward of intra-modal competition by the transportation policy may have its origin in the fact that, historically, the market-economy direction of economic processes via decisions of functioning competing suppliers and demanders seems more reliable than the alternative of administrative economic direction of the supplier side by a monopolist. However, recourse to the latter should in principle not be excluded where intra-modal competition weakens inter-modal competition to such a degree that other branches of the economy and/or non-commercial areas of activity suffer (e.g., spatial and temporal mobility, housing, health, protection of the natural and social environment).

2. **Individual road transport crisis situation**

The singularity of road transport crises is that they only partially solely affect every producer and consumer having caused them. They also affect

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third parties. That is, they find expression in external costs for individual third parties or for smaller or larger or even largest publics. That the external costs (charged to the causers) are not internalised more rapidly than they have thus far is partially explained by tolerant transportation policy; partially it founders because of the impossibility of the great problem of economising highly individual and social goods such as human life, freedom from bodily harm or leisure activity options through their monetary valuation.

This is not the place to offer a comprehensive explanation of road transport crises. A brief outline must suffice. The most obvious is mutual obstruction in road traffic that also affects road transport users and possibly makes them beneficiaries through attractive offers of rail transport and omnibus services. Similarly obvious are the great differences between the transport branch-specific accident rates whereby road passenger and freight transport score by far the worst and rail transport, under civilised circumstances, cuts a more positive figure after air transport with large aircrafts.

The crises determined or jointly caused by road transport and inadequacy of town and country planning and protection policy are less obvious due to their long-term development. Significant in town and country planning terms are the contributions to spatial concentrations of the population and economic forces and to overdevelopment, particularly in the peripheries of large conurbations. Spatial concentration is especially indirectly co-encouraged by the decline of public transport possibilities serving the area. Individual road traffic has a direct effect on overdevelopment by creating a condition for it to happen. It is indirectly involved once this overdevelopment undermines the economic viability of the public transport services.

Regarding social (social policy) crises mentioned the increasing differences in spatial and temporal mobility are emphasized. The more public transport loses economic viability through substitution competition from individual road passenger and freight transport (the latter “work transport”), the more persons and companies not capable of motorised self-service become

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“transport beggars” (Gerhard Isenberg) unless they are willing and able to relocate (change of home or place of work) to areas and places that still have economic viability for transport services no longer provided at home. When they are older and more in need of help, they may admittedly, even in those places, encounter a supply policy problem due to badly managed transport companies, making access to their services dependent on the ability to battle with information and ticket machines with perfectionist software programs and to know your way about e-commerce.

Of more recent date than the social protection policy (“social policy”), currently understood to be in the process of disintegration, is the natural. It aims to stop the overexploitation of non-renewable natural resources and non-renewable or only slowly regenerable soil conditions and prevent pollution of the natural fauna and flora with toxic emissions. The two objectives coincide where fossil fuels or atomic energy are squandered thus causing levels of pollution of the (natural, partially also social) environment that could be avoided through more intelligent use.

The more obvious transport crises can be experienced every day. They are, to put it another way, highly visible. The less conspicuous protection policy crises are observed as long-term development processes only on closer inspection. They are less visible. Since the present policy of many communities is inspired by a misunderstood “marketing” with which priority has shifted to high-visibility processes, those with low visibility only very belatedly (perhaps too late) become a hardly ignorable political issue. Consequently an enormous amount of catching up must be undertaken in the relevant policy areas that represent non-commercial debts that are even now becoming incalculable and in which the piled up financial debts of careless public budget policies considerably distort the view.

3. Advisable distinctions for the discussion of transport crises

If transport crises are to be reduced, then clarity of thought regarding their products and the remedial measures is just as necessary a condition as the existence and readiness for deployment of financial means. Lack of clarity may easily lead to financial resources being used too little or without effect

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or even in a counterproductive manner. Some basic distinctions must be made before any discussion of the themes. They concern (1) the products of transport, (2) the means of control of economic, _ergo_ also of transport-economic processes and (3) the types of competition in transport, especially those not specifically or inevitably mentioned when discussed in political and/or scientific terms.

(1) In economic terms, traffic products serve to cover transport needs. The latter appear not only as person- or company-specific, but also as public needs, carried by smaller and larger publics alike. Both needs concern, one, the provision of transport production possibilities (immobile and mobile transport infrastructure) and, two, transport services that take up (use) the provided capacities. Both needs are further partially covered by the interested subjects (persons, households, companies) themselves (especially the mobile infrastructure and transport services in private passenger transport and work transport), and partially offered by third parties (especially immobile infrastructure hitherto largely by polities or communities and individual or public transport services by transport companies under private or public ownership).

(2) Economic processes, transport-economic also, can be steered along market-economic or administrative channels or by any combination of the two. The steering process concerns the means and not the objectives of the operation. In national economy and private budget terms, these direct themselves towards the covering of needs; in commercial enterprise terms, on the other hand, they are directed towards the covering of needs of third parties. From a national economy viewpoint the market-economy steering is a “natural free trade means”, whereas the administrative task is a “natural protection policy means”\(^5\). (This does not necessarily mean that commercial enterprises of the free trade persuasion also apply the former internally. They are free to manage partially or totally by administrative-economic means like others - _inter alia_, like private households and public budgets.)

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(3) When we speak of market competition we usually think in the first instance (if at all) only of competition among suppliers. However, the market has two sides, and there is competition also on the demand side. A distinction can be made on both sides between current and (currently only) potential participants on the market. Perceptible migrations from the one to the other role change the competition structure on the respective side of the market. The wait-and-see position of potential market participants may prevent the full utilisation of actually available market freedoms for manoeuvre detrimental to the opposite side of the market. Behind the market demand competition stands the commercial (budgetary, entrepreneurial) competition of needs\(^6\). This decides the characteristics of the respective market demand of a participant including its role as actual or only potential. It also establishes whether and to what extent market provision may be replaced by self-service, supposing that the possibilities actually exist (e.g., still do not exist or no longer exist regarding individual motor traffic for many person depending on age).

The items for which market participants might compete are different according to the respective side of the market. Suppliers compete for market share. Demanders mostly compete only for offers with their preferred and affordable characteristics. Competition among big demanders will sometime extends to market share, so that competition may be thinned out to their own advantage. Spatial competition between publics stands distinct from commercial competition between individuals (persons, companies). It directs itself to the maintenance or increase of positive home or workplace characteristics and the fending off of negative characteristics. The positive characteristics include, for the local authorities, multiple options as regards transport for local inhabitants and their current or potential external reference persons, groups and/or companies. Just how big these margins are determined in particular by the number of locally available forms of transport, the networking situation of the immobile transport infrastructure, the intensity of its use for collective transport services and the division of transport volumes between these latter and individual transport.

Where several forms of transport compete for the transport volume, their respective markets are embedded in mutual substitution competition. Intra-modal competition takes place between members of the same branch of transportation. The substitution competition is not amenable to full market-

economy control. Even if it succeeded in taking over the immobile infrastructure, it could not manage without administrative-economic competition. This is partially explained by the admission of vehicles and vehicle drivers in road traffic. Given civilised conditions, this is not negotiable, but requires decisions on applicable standards for all involved parties. How these decisions should be shaped is the object of that described as political competition in the broader sense. This kind of competition does not occur, as that one in the more restricted sense, between the parties of a democratically governed state, but around the exertion of influence of the number and intensity of the standards and control of their due observation. In this political competition public and private interests compete with each other, for instance, in disputes as to whether the road transport crisis should be approached by stricter or by more lenient traffic admission rules. Here private interests, because expedient, are frequently presented in collective formation of associations against general interests (in this connection, briefly, we may speak in terms of collective competition, or more precisely: collective involvement in political competition in the broader sense). More generally speaking, individual interests seek favourable state-policy conditions of life for demanders and/or suppliers who, given civilised conditions, will always be present alongside the commercially created, maintained or mutated, even in highly market-economy-oriented societies. Political competition in the broader sense may be pursued openly or concealed. The latter form works with residues and derivations (Vilfredo Pareto). With their help attempts may be made, for example, to present private interests in the guise of public interests.

Commercial competition among suppliers and among demanders, where its advisability is propagated, is often tacitly presumed as being drastic and therefore as working well. But such competition in fact frequently displays functional defects. They arise, in the first instance, from the difference in action scopes, i.e. in size of freedom of manoeuvre available to the participants on the market who exist in a state of dependence on competition structure (the market form, Walter Eucken) on their side of the market. Here the spectrum ranges from the marginless, only rarely occurring atomistic competition to the single supplier or demander and the bilateral monopoly with apparently unlimited room for manoeuvre. The use made thereof must be distinguished from the margin-determined

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competition structure (or more precisely: competitor structure). Their total take-up is not even in any way explicable in commercial or monopolist terms, perhaps because they encourage potential alternative suppliers to enter the market or open the door to state monopoly control. (A more detailed account of competition structures is given by Erich Gutenberg\(^9\); see Hans Möller\(^{10}\) for monopolistic restraint).

4. **Differentiating or uniformising view of branches of the economy and transport**

The prevalent economic policy and economic doctrine would have it, in its preferred uniformising way, that transport is a sector of the economy like any other, and analogically one branch of transport like any other. The author has always opposed this position since the beginning of his activity. He rather dedicated himself (siding with, say, Erich Schäfer\(^{11}\)), typologically and thus institution-economically, to the differentiating approach\(^{12}\). This leads for example to rejection of the pushing forward of intra-modal competition in all branches of transport, railways included. He considers them to be an individual economic “patent remedy” for the containment (or even solution) of collective (political, better: public) economical questions. He considers that they fall into the same category as the disregard of spatial competition between communities, the neglect of political competition understood in the broader sense for the formation of state policy-determined living conditions of market participants and the overlooking of concealing collective actions in this competition.

Uniformising constrictions of the field of vision may allow elegant formulations. However, they lead to conceptual problem reductions that do not do justice to the real problems. When propagating intra-modal competition between railways many specificities (characteristics) of this

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\(^{11}\) Schäfer, Erich, Der Industriebetrieb – Industriebetriebslehre auf typologischer Grundlage, Vol. 1 Köln und Opladen 1969.

transport branch remain, so to speak, “on track”. However, paying attention to them would considerably relativise with regard to its relation to the role of the transport branch in substitution competition.

Branches of the economy that, like the railways, are bound to an immobile infrastructure network have particular difficulties with the spatially very differentiated and temporally very mutable intensities of need and demand. Thus it is that a parallel competition between railways on their own networks, if at all in the initial period, will be risked only on a private-commercial basis where there exists a very dense demand and a day-night equalisation between passenger and freight transport is possible. Furthermore only few lines and stations perhaps can be used jointly for parallel private commercial competition in the long term due to declining stamina. As a replacement for this kind of competition recourse is therefore often taken - under the principle of intra-modal competition - to successive competition, which proceeds via competitive tendering\(^{13}\).

Where networks can be jointly used by competitors and the non-owners among them have a third-party access to this end, there is no purely commercial competition. The same applies where local public passenger transport services are put out to tender for longer periods. A monopolistic residue remains in both cases in the form of a state regulator and/or a public owner of the immobile infrastructure. If we wished to eliminate this, which parallel sections and stations required, the railway as a substitution competitor would have extremely low displacement capacity against the causers of the bemoaned road transport crisis as a consequence of the small scale of its networks and their low density.

The fact of the matter is that intra-modal railway competition on a larger scale is largely not possible by purely commercial means. It is rather mixed with political competition around public decisions made by regulators or contracting authorities.

EU competition policy is explained by the concern to keep internal cross-frontier passage of goods, services, work and capital as free from discrimination as possible. The results of (functioning!) commercial competition are considered to be objective inasmuch as they are the results of a multiplicity of free elective actions of the competitors on the market. True, this characteristic is lacking where one side of the market contains a

\(^{13}\) Compare to this: Cox, Helmut (ed.), Ausschreibungswettbewerb bei öffentlichen Dienstleistungen, Schriftenreihe der Gesellschaft für öffentliche Wirtschaft 52, Baden-Baden 2003.
monopolistic residue from which unilateral decisions (sole decisions) are made.

The immediate beneficiaries of EU competition policy are efficient European enterprises. They are supposed to be able to make headway on the market independent of ownership (private, public) and nationality. Their clients benefit indirectly from competitively improved supply characteristics. Both kinds of beneficiaries are (mostly) individual persons or organisations. Besides them, however, the regional and local authorities are also carriers of transport needs. They are - at their various territorial levels - in spatial competition with each other, among other things in the maintenance and increase of transport advantages. Their distribution is influenced by the manner in which substitution competition develops between the transport branches, either in the whole area (e.g., the EU or one or another Member State), or in more confined areas.

Instead of spatial competition there is necessity in certain existential fields of environmental protection and saving natural resources of solidarist spatial mutuality, be it at local, district, continental or global level. The cause is the pollution of the environment and the production of carbon dioxide, making it difficult if not impossible to contain pollution of the air, water and soil. Using non-renewable natural resources depletes the available supply for mankind and affects occasional and frequent users alike.

Road traffic as it has developed in the West represents a considerable share of the protection-policy needs of the States and communities\(^\text{14}\). Hitherto it has hardly been possible to cover these needs by commercial ways and means. Social contributions (taxes, charges for use) were applied by way of pretial makeshifts. True, they find expression in transport costs and prices, but they are nonetheless means of administrative-economic control. Equipment, basic and advanced training and behaviour standards are also imposed on transport participants. In order for them to be effective due observation must be controlled and non-compliance must result in sanctions. Pretial and non-pretial state intervention is undertaken because the market displays “systemic gaps”. Regarding the intelligent use of natural resources and the protection of the environment, such gaps necessarily result from the businessman’s “discounting horizon”, which is much too short in relation to long-term developments.

It may logically be expected of administrative-economic efforts to fill systemic gaps in the market economy as, so to speak, “replacement” (surrogate, "Ersatzvornahme") that the inequalities resulting from different types of transport-technical engineering in the generation of external costs would be respected in favour of whichever happened to be the more favourable. This has so far happened only insufficiently. It even occurs that the better providers are not rewarded, but to some extent indeed punished, as for example in Germany, in the mineral oil tax treatment of public and rail freight transport on the one hand (burdened) and air transport on the other hand (unburdened). The example is an expression of political “sacrifice competition” carried on between branches of transport to make or to reject sacrifices for protection-policy purposes. What actually happens between the transport branches is, for the rest, parallel to the sacrifice competition that takes place between the branches of the economy, in particular between industry, trade and commerce, agriculture, transport and private households.

5. **Choice between subordinate or priority relation of intra- and inter-modal competitiveness of railways**

The protection and resources policy objectives as regards transport concern influencing the division of transport volumes between the means and branches of transport in such a way that the performance-specifically worst polluters and most profligate users of resources are largely pushed out by the better, more intelligent performers in this respect. Compared with air and road transport these are, in the first approach, the railways and the (inland) waterways. In the second approach, such comparison should also take account of the fact that the accident rate of air transport by large aircrafts is the lowest, and that this rate for rail transport and inland waterways is only a small fraction of that for road transport. In a third approach account must be taken of the fact that the groupage or consolidation of journeys and runs in all branches of transport, according to their degree, is more sound as regards pollution and consumption than are small transports. In a fourth approach, it is finally to be observed that high-speed carriage processes in all transport branches with the given driving technology are more sound in terms of pollution and consumption than are those which respect the speed zones of the respective technically optimum consumption. Furthermore, refraining from very high speeds limits the intensity of the damage resulting from accidents.
If the protection policy objectives are taken seriously, constant attempts must be made to induce relocation effects to the least harmful means of transport. In a technical-natural respect there would be a “self-limitation” of the drive towards relocation through the intelligent use of the consolidation effects mentioned in point 3; in case of low take-up (acceptance) of supply of public transport services these could suddenly turn into disadvantages. This happens when the performance-specific consumptions and pollutions for low utilisation of journeys and runs approximate those of a rival means of individual transport, or even match or exceed them. It would then be expedient to run vehicles serving specific connections or following specific timetables (omnibuses, small buses, group taxis) instead of railway vehicles.

The demand for public transport services is split according to varying degrees of flexibility or rigidity as regards supply characteristics. The presence of alternatives allows flexibility, their absence imposes rigidity. Alternatives could be supply-side competition, self-service options in private or group transport, friendship or neighbourhood services. Functioning competition between transport services is sustainable only where and when there is sufficiently dense demand. However, there is no reason why it should necessarily exist there, but it rather depends on whether there are several or many independent suppliers, that is to say, whether oligopolisations or monopolisations (voluntary, amidst difficulty or prohibited) are absent.

The situation appears altogether different where the demand for transport is weak. Here there is a lack of economic viability for sustained competition. Sole suppliers consequently emerge or stand their ground. These are to some extent “natural monopoly situations”. For passenger transport substitution competition of private and public road transport forced large sections of larger railway networks in such situations, and (until about the Second World War) lines and stations built in such situations were left without suppliers. (There were what Harald Jürgensen calls “railway-free areas”).

Railway freight transport behaves in a similar way. Unlike passenger transport, extensive replacement by road transport does not occur mainly through self-service from the home or place of work (here: work transport),

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but through suppliers who are in competition with each other and with the local train station to a considerable extent not (only) in local transport, but also in long-distance transport.

If, regarding the described retrograde competitiveness of the railway, we suppose a transport-policy equal ranking or synergy of intra-modal and inter-modal competition, as might be expected of the EU, the railways will be required to perform quite a stunt. They will have to force both kinds of competition. Intra-modally the railways will have to greatly increase the possible choices of their clients at the same time as substantially reversing the loss of demand. Wishing the former to occur at the same time as the latter is nevertheless comprehensible, to the extent that the relief of roads is repeatedly promoted from many quarters in transport policy over decades, whereas overloading the road network is continuous. The slow but constantly growing need to catch up is now so great and urgent that great speed is in order.

The recipe of using intra-modal competition as a lever to procure greater competitiveness for the railways in a substitutive regard, however, requires considerable time, quite apart from the coverage capacity and is anything but a certain undertaking. On the first point, competitors cannot be instructed to enter into service, they present themselves or they do not; if they do, then it is usually after involved and time-consuming calls for tenders. On the second point, the selection of applicants under the (still) existing railway connections would only worsen the unhappy situation of the entire sector. There are several reasons for this.

First, the number of connections capable of economically carrying a functioning parallel competition to serve the same lines and stations would be very small. Consequently, only the organisation of successive competition (awards of tenders through competitive tendering) would be left for most sections of the line. This obliges the partners to be contractually bound for longer periods (of ten or more years) for any planning security is to be ensured for the competitors and the (end-)clients demanding their investments (in mobile capacities supplier-side, in homes and places of work demand-side).

Second, according to EU transport policy rules, only local public passenger transport services enter into consideration for subsidy. However, subsidies are also required by freight transport services that could be produced together with the passenger transport services on the immobile infrastructure. They would be largely abandoned, however, because the subsidies from the regional or local authority would be oriented to local
public passenger services alone and therefore offer no incentive for freight transport services. The possible synergetic effects, without the earlier branch line services would not have been viable, would be thrown away on account of non-purposeful institutional regulations.

Third, medium haul transport largely falls between the stool of the subsidised local passenger transport and that of long-distance transport, which relies on the economic capacity of parallel competition\textsuperscript{16}.

These three reasons together mean that intra-modal competition firstly and over the longer term has only a very limited spatial range and, without institutional repairs, stands no chance, supported by other means, of winning an appreciably large transport volume share back for the railways. If this is to be done, the only remaining possibility is to accord substitution competition the priority that it would have received over intra-modal competition in any case according to protection-policy needs. This decision could focus the energies that still inhabit the railways which would in all cases otherwise, initially and in the long term, would be worn away in conflict in the attempt to cure the railways by intra-modal competition without any great chance of success over the longer term. The appropriate institutional instrument would be a European railway company of the Member States\textsuperscript{17} that would be advisable because of the mere fact that the railways as natural haul and long-distance transportation media have hitherto provided only very unequal offers of internal cross-border services, which are in great need of alignment\textsuperscript{18}. However, the EU just intends to overcome the internal borders.

\textsuperscript{18} See for example: Jäntschi-Haucke, Karin, Zusammenarbeit europäischer Eisenbahnen, Münchner Dissertation 1991.
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