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Transportation Infrastructure Planning  
in Europe –  
Pitfalls and Opportunities



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## Abstract

While the EU wields significant influence over transport markets (e.g. by means of the framework for infrastructure charges or the rules for non-discriminatory access to railroad infrastructure), no common approach to infrastructure planning exists at the Community level. In fact, while the European Commission has, since the early 1990ies, presented several proposals to promote the development of Trans-European Transport Networks (TEN-T), the modalities for funding and realising these projects have not yet been fully clarified. Even more striking is the fact that there is no generally accepted evaluation mechanism – comparable to the well-established methodology of the German Federal Transport Infrastructure Plan (Bundesverkehrswegeplan – BVWP) or similar national procedures – to select and rank the proposed TEN-T projects in a consistent manner for maximum socio-economic benefit.

The purpose of this paper is, first, to provide evidence for our hypothesis that transport infrastructure policy at the Community level currently follows a strictly political rather than an economically substantiated planning regime. This issue is especially important because of its potentially detrimental consequences for the transportation sector and the economy as a whole. The second part of our paper will assess the current institutional framework of EU's transport infrastructure policy. In addition, we will put special emphasis on the various shortcomings of the current funding mechanism for TEN-T, which, in our view, can only be addressed by means of a radical institutional redesign to improve the TEN-T selection process as well as the programme's overall economic outcomes.

## 1. Introduction

For many years the European Union's transport policy has strongly influenced the legal and political framework for national transportation policy strategies and the development of the European transport sector in general.<sup>1</sup> The deregulation and liberalisation of the formerly closed national transport markets is a case in point. Without the EU's activities the abolition of the former, extremely restrictive national and cross-border market regimes, especially in the road haulage and air transport sectors, certainly would not have happened. This is also true with respect to the (slowly) proceeding liberalisation of the rail transportation markets. In addition, the EU has also pursued a policy of re-regulation and political guidance of transport markets. For example, several initiatives were launched to create a more sustainable, environmentally friendly transport industry in Europe, beginning with the Green Paper on sustainable mobility to the White Paper on transport policy (European Commission 2001, 2006).

In spite of these broad competences with respect to the transportation sector, infrastructure policy and development were not under the responsibility of the Community when the Treaty of Rome took effect. Therefore, in connection with the European Single Market project of 1986, the idea emerged to develop Trans-European Networks (TEN) in the transport, energy and telecommunications sectors. But the completion of the Trans-European Transport Network (TEN-T) programme is wearing on – numerous action programmes and ambitious political rhetoric notwithstanding. Another controversial issue is whether the scores of infrastructure projects which were eventually included in the TEN-T programme were selected on the basis of sound and consistent transport planning principles and economic analysis.

Against this background, we endeavour to analyse the European transport infrastructure policy from a politico-economic perspective. In particular, we will analyse why a common infrastructure policy does not exist at the European level in spite of the obvious deficiencies of the current, largely uncoordinated national infrastructure policies of the member states. This issue is especially important in the context of

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1 A draft version of this paper was presented at the Second International Conference on Funding Transport Infrastructure in Leuven (Belgium) on September 20<sup>th</sup>, 2007.

the completion of the Single Market and the Eastern enlargement of the EU. International transport volumes have grown much faster than domestic traffic has ever since, and will continue to do so in the foreseeable future. As a result, national infrastructure planning and development frequently run afoul of the investment requirements and priorities of cross-border transport markets. In addition, we will discuss the consequences which might result from a possible shift of the infrastructure planning and funding competences to the EU-level. In this context we will, first, present some evidence for our hypothesis that infrastructure development at the Community level is guided by obscure political wheeling and dealing rather than being based on economically substantiated rules and procedures. Second, we will put special emphasis on the current funding mechanism for the TEN programme, which, in our view, should undergo a comprehensive institutional redesign to improve the TEN selection process as well as its economic outcomes.

## **2. TEN-T – more than just a political vision?**

### **2.1 TEN: concept and basic facts**

The TEN concept has its political roots in the efforts to create a Single Market in the European Union. TEN were supposed to boost regional economic development and improve social cohesion in the Community. Preparatory work to develop proposals for modal and intermodal development plans had begun in the early 1980ies (*Frerich/Mueller* 2004, 473 ff.). The 1992 Treaty of Maastricht eventually established the legal foundations of the EU's TEN activities. According to Article 154 of the Treaty, the aim of the Union's TEN policy is

- to spread the benefits of the Single European Market to every EU citizen; and
- to interconnect national transport networks and to ensure their interoperability in order to link peripheral and disconnected areas to the central regions of the Union.

The EU expects meaningful positive socio-economic effects from the realisation of the TEN projects throughout the Single European Market. Its infrastructure policy is considered to substantially contribute to

the economic development and the social cohesion of the Community. In addition, Article 145 of the EC Treaty established a Community competence for infrastructure policy for the first time. Before, only a general obligation for consultation, coordination and financial aid between the member states existed (*Frerich/Mueller* 2004, p. 477). Article 155 includes the measures and competences of the EU to fulfil the aims of the common infrastructure policy. It authorises the EU to develop guidelines for projects of common interest, to implement activities which are designed to improve interoperability and to support projects of common interest by financing feasibility studies, bond guarantees or interest benefits. Additionally the possibility exists to support specific infrastructure projects in the member states with resources from the cohesion fund. Article 155 also affirms the general obligation to coordinate those national infrastructure programmes which may be relevant for the realisation of the objectives stipulated in Article 154.

The first step towards an ascertainment of the various proposals for action under the TEN-T framework was the resolution of a list of 14 projects at the Essen Council in 1994. The estimated financial volume of this package was ECU 90 bn; later on the cost estimates were increased to ECU 110 bn (*Frerich/Mueller* 2004, p. 484). The first guidelines for the TEN-T were established in 1996. These guidelines (resolution 96/1692/EC of the European Parliament and the European Council from 23/07/1996) define the structure of the TEN-T on the basis of the goals of the Community's transport policy. The resolution stipulated the following policy objectives: sustainability of passenger and goods transport, interoperability, optimal use of existing infrastructure capacities and (socio-economic) development of peripheral regions. The document also substantiated the projects of common interest as well as possible common activities in this policy field (*Frerich/Mueller* 2004, 486 ff.). It is noteworthy in this context that resolution 96/1692/EC had been controversially discussed for more than two years before it was finally passed. Obviously, it had been politically difficult to find a stable compromise at the Community level which could satisfy the heterogeneous interests of every member state. Furthermore, and even more importantly, the resolution is addressed to the member states and does not allow for comprehensive activities of the European Union itself (*Ebeling/Kirsch* 2000, p. 304). To be more precise, it remains the responsibility of the member states to realise the TEN-projects, even though the Union will offer financial

support. This peculiar arrangement may be the principal reason why the implementation of the TEN programme has been vexed by substantial delays.

**Table 1: TEN-T priority axes and projects 2005**

- |     |  |
|-----|--|
| 1.  | Railway axis Berlin–Verona/Milan–Bologna–Naples–Messina–Palermo                    |
| 2.  | High-speed railway axis Paris–Brussels–Cologne–Amsterdam–London                    |
| 3.  | High-speed railway axis of south-west Europe                                       |
| 4.  | High-speed railway axis east   |
| 5.  | Betuwe line (Rotterdam–Germany)  |
| 6.  | Railway axis Lyons–Trieste–Divaca/Koper–Divaca–Ljubljana–Budapest–Ukrainian border |
| 7.  | Motorway axis Igoumenitsa/Patras–Athens–Sofia–Budapest                             |
| 8.  | Multimodal axis Portugal/Spain–rest of Europe                                      |
| 9.  | Railway axis Cork–Dublin–Belfast–Stranraer   |
| 10. | Malpensa airport (Milan, Italy)  |
| 11. | Øresund fixed link   |
| 12. | Nordic triangle railway/road axis  |
| 13. | United Kingdom/Ireland/Benelux road axis   |
| 14. | West coast main line (UK)  |
| 15. | Galileo  |
| 16. | Freight railway axis Sines/Algeciras–Madrid–Paris                                  |
| 17. | Railway axis Paris–Strasbourg–Stuttgart–Vienna–Bratislava                          |
| 18. | Rhine/Meuse–Main–Danube inland waterway axis                                       |
| 19. | High-speed rail interoperability on the Iberian peninsula                          |
| 20. | Fehmarn belt railway axis  |
| 21. | Motorways of the sea   |
| 22. | Railway axis Athens–Sofia–Budapest–Vienna–Prague–Nuremberg/Dresden                 |
| 23. | Railway axis Gdansk–Warsaw–Brno/Bratislava–Vienna                                  |
| 24. | Railway axis Lyons/Genoa–Basle–Duisburg–Rotterdam/Antwerp                          |
| 25. | Motorway axis Gdansk–Brno/Bratislava–Vienna  |
| 26. | Railway/road axis Ireland/United Kingdom/continental Europe                        |
| 27. | ‘Rail Baltica’ axis Warsaw–Kaunas–Riga–Tallinn–Helsinki                            |
| 28. | ‘Eurocaprail’ on the Brussels–Luxembourg–Strasbourg railway axis                   |
| 29. | Railway axis of the Ionian/Adriatic intermodal corridor                            |
| 30. | Inland waterway Seine–Scheldt  |

Source: European Commission (2005).

The observed difficulties regarding the realisation of the TEN-T projects led to a revision of the guidelines in 2001. It was intended to concentrate the Unions' activities on bottlenecks on the main transport routes and of the priority projects. The revision took place in connection with the announcement of the EU Commission's White Paper on transport policy 2010. These difficulties notwithstanding, the long-term plans for the TEN-T programme remain very ambitious. The selected projects include a road network of 89,500 km, a 94,000 km rail network and 11,250 km of inland waterways. Moreover 366 airports, 210 inland ports and 294 seaports are now included, as well as traffic management systems and the satellite navigation system GALILEO (Deutscher Bundestag – Wissenschaftliche Dienste 2006).<sup>2</sup>

In April 2004 another revision of the TEN guidelines was carried out after it became apparent to the European institutions that, 10 years after the Essen Council resolution, only 3 of the 14 approved projects had in fact been realised; as a result, by that time only about one-third of the projected network had been completed. In the process, and based on proposals from the member states, the EU then defined a package of 30 priority axes and projects which also included vital connections to the new member states from Central and Eastern Europe which joined the EU on May 1<sup>st</sup>, 2004. These so-called priority projects – summarised in table 1 above – are scheduled for completion by 2020 at estimated costs of around € 225 bn, whereas the budget for the complete TEN-T programme was set at about € 600 bn according to the guidelines of 2001 (European Commission 2005, p. 2).

Furthermore, the idea of establishing the post of European coordinators for crucial TEN projects was introduced. Ever since, for the largest projects, all of which are located on the major European transport axes, the Commission, after consulting with the affected the member states, has designated individuals who are in charge of all coordination tasks. These European coordinators, acting on behalf of the Commission, are supposed to encourage cooperation with users and operators, promote the projects amongst private investors and financial institutions and provide the EU with progress reports on an

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2 It should not be overlooked in this context, however, that the amount of infrastructure which must be built from scratch is a great deal smaller. The realisation of the TEN-T requires the construction of 4,800 km of new roads and of 12,500 km of new railroad tracks. Approximately the same amount requires refurbishing (*European Commission 2005, p.6*).

annual basis. The first coordinators were appointed in July 2005 (European Commission 2005, p. 8).

## **2.2 TEN-T: setbacks and obstacles to implementation**

Obviously, the actual implementation schedule for TEN-T substantially lags behind the ambitious political agenda of the European Union. We hold that the main reason for this delay is the lack of adequate financial resources at the Community level. As was briefly mentioned above, financing for the TEN projects may only be drawn either from the TEN-item in the EU's general budget, or the European Regional Development Fund (ERDF), or the Cohesion fund. Furthermore, funds may also be bankrolled by the European Investment Bank (EIB).

Directive 2236/95/EC stipulates the fiscal rules and procedures for the use of resources from the EU budget for TEN-T projects. To begin with, it is possible for the EU to co-finance feasibility studies (by up to 50% of the costs). Infrastructure investments, by contrast, may only be subsidised by up to 10% of the project's funding requirements according to relevant provisions of the original version of directive 2236/95EC. Since 2004, this threshold has been increased to 20% for all priority projects, especially cross-border infrastructures (i.e. railway projects on cross-border sections characterised by natural barriers or cross-border sections linking the old member states with the new Central and Eastern European members). Finally, in December 2006, the European Council accepted a proposal that permitted another increase of the co-financing share to 30% for specific projects, with funding provided out of the Common budget.

Between 2000 and 2006, a total of € 4.2 bn were drawn from the EU's budget for funding TEN-T projects. Additional financial resources were provided through the European Regional Development Fund (ERDF) and the European Cohesion Fund. For the period from 2007 until 2013, € 8 bn have been earmarked in the Community's budget to co-finance the further development of TEN-T during this period.

The European Commission expects the amended financial rules to significantly stimulate the prospects for realisation for the pending TEN projects. But this optimism may quickly turn out to be wishful thinking if we consider a fact brought forward by the Commission itself: that EU funding will not exceed around 5 to 6% of the total investment budget. Even when we bear in mind that the percentage of

co-financing for specific measures could rise to 30% plus potential co-funding from the ERDF and the Cohesion funds, it will still be the member states which will have to bear the financial brunt with respect to TEN-T projects on their territories. In other words, it appears quite naïve to assume that member states will have any meaningful incentive to pursue TEN-T projects infrastructure projects which at the same time do *not* have priority status in their national infrastructure plans.

Germany is a case in point. Here, investment decisions are usually based on the priority list of the Federal Transport Infrastructure Plan (Bundesverkehrswegeplan – BVWP). Regularly compiled since the 1970ies, it provides a ranking of all Federal transport infrastructure projects, based on a thorough cost-benefit analysis (complemented by an environmental impact assessment and an assessment of potential regional development effects). It has been updated at irregular intervals and on average less than once in a decade; the current version was passed in 2003. As a rule of thumb only projects with an estimated benefit-cost ratio greater than 3.0 will be realised. However, national transport infrastructure planning in Germany (and most member states as well) has never sufficiently accounted for the effects of national infrastructure projects on international connections. To be more precise, the evaluation outcome is only marginally affected by the criterion “contributions to promoting international relationships (NR4)”. In other words, no systematic evaluation of the benefits of an infrastructure project for a neighbouring country has ever been performed (*Aberle* 2003, p.467). Against this background it is therefore safe to generally assume that national infrastructure requirements and priorities will not necessarily coincide with the EU’s TEN-T requirements and priorities, simply because the respective planning processes differ substantially with respect to their methodology and objectives and do not follow the same rationality.

More important still, the selection and prioritisation of TEN-T projects primarily follows political considerations. At the moment, no integrated macroeconomic evaluation methodology for the assessment of the infrastructure programmes is in place at the EU level. Even if an evaluation of individual projects has taken place and produced a positive benefit-cost ratio, the final selection of the projects which are to be realised is a political one as it does not follow any binding economic criteria.

The strictly political character of the selection process was already one of the characteristics of the initial TEN programme as agreed upon at the Essen Council in 1994 (*Haubold* 1995). Not only was the final list of projects drafted on the basis of a political compromise between the member states. What is more, neither the methodology nor the results of cost-benefit analyses performed for the 30 priority axes of the TEN-T programme which made the cut were made public. Furthermore, political decisions at the Community level follow extremely complex legal rules and informal routines. More often than not the frequently resulting deadlocks must be broken through complicated package-deals and log-rolling which cross-link decisions in several disparate policy areas (e.g. transport, agriculture and environmental policy) to 'fairly' reflect the respective national interest of all member states. Finally, another serious obstacle to the switchover to the proposed rational decision-making process is the strong presence of a plethora of lobbying organisations (including numerous NGOs) – in particular the extremely influential and overwhelmingly state-owned and/or state-controlled railroad operators – in Brussels, Luxembourg and Strasbourg, all of which strive to influence the results of the EU's decision-making process in their favour.

A good indicator of the latter's substantial political clout is the extraordinarily high share of railway-related infrastructure projects on the list of priority projects, both in terms of the sheer number of projects involved and the share of the available funding earmarked to their implementation. This allocation of financial resources is in stark contrast with the frequently very poor economic benefits produced by most major rail infrastructure projects, including quite a few high-speed rail-links (*de Rus* 2008). An exemplary case is the proposed 56 km long Brenner Base Tunnel, which is a vital section of the European rail axis Berlin–Verona/Milan–Bologna–Napoli–Messina–Palermo (transport axis Nr. 1). Currently budgeted at € 6 bn, the financial and economic feasibility as well as the environmental impact of this mega-project, which will reduce travel time between Innsbruck and Bolzano from 2 hours to 50 minutes, is subject to a very controversial debate (*Kummer/Nagl/Schlaak* 2006; *Süddeutsche Zeitung* 2007).

To summarise, 18 of the 30 projects currently included in the priority list are railway projects. 12,500 km of new railroad lines will have to be built to put the TEN-T programme in execution; this figure amounts to two and a half times the volume of new road infrastructure projects. The ratio rises to 3.5 if the infrastructure which is due for

overhaul is included (European Commission 2005, p. 6). Obviously the overriding political concern behind the TEN-T programme is the promotion of rail and intermodal transport links and the shifting of traffic patterns from road to rail on environmental grounds. This objective is openly referred to in all pertinent EU documents, citing the concern that selected projects shall promote the more sustainable modes of transport. It explains the preferential treatment of rail and inland waterways, which consume less energy and generate fewer greenhouse gas emissions per transport than road haulage; the Commission estimates that the realisation of the 30 TEN-T projects will reduce transport-related CO<sub>2</sub> emissions by 4% or 6.3 m tons per year (European Commission 2007, p. 8).

However, this argument, although not without its merits, neglects the simple and obvious fact that environmental effects (and the external costs to society they generate) are only one factor which must be included and carefully scrutinised in the economic evaluation of infrastructure projects. While the (political) importance attached to environmental evaluation criteria is still rising, they nevertheless have to be balanced with the economic and transport-related objectives and benefits of infrastructure investment. To reflect and to fairly balance all of these effects, Germany's Federal Transport Infrastructure Plan, by way of example, specifies the following main criteria for the evaluation and selection of proposed transport infrastructure projects (*Aberle* 2003, p. 488):

- reduction of transportation costs;
- trip length reductions;
- improvements of traffic safety;
- improved accessibility of destinations;
- environmental relief; and
- fulfilment of non-transport functions.

In other words, the macroeconomic assessment of infrastructure projects requires a much broader analysis than just a narrow focus on the environmental and ecological advantages (or disadvantages) of a project. The fact that no information whatsoever on the criteria and the results of the evaluation process which lead to the final list of 30 priority projects has been disclosed to the public by the European Commission cannot but raise strong doubts about the scientific objectivity of the entire process (*Wenzel* 2005, p. 70).

### **3. The relationship between national and EU-wide transport infrastructure planning**

#### **3.1 National vs. supranational infrastructure planning – a normative assessment**

In the past few decades, substantial competences in several key areas of economic policy have been transferred from the member states to the Community level, although to differing degrees. In some areas such as trade policy, but also monetary policy – at least in the Euro-zone –, national competences disappeared completely (*Lammers 1999, 10 ff.*). In others, including transport policy and fiscal policy, they can only be executed within the tight framework of European rules (such as the so-called stability and growth pact for national fiscal policies).

Nevertheless, and often at odds with this clearly observable centralisation drive of late, the notion of a “Europe of the regions” and the underlying principle of subsidiarity postulate that political decisions should be taken at the lowest governmental level that is competently capable to decide and bear the consequences of its decision. In other words, in the EU context the subsidiarity principle stipulates that it is up to the member states to solve a problem before the Community as a supranational body should take action (*Ronge 1998*).

Heeding the subsidiarity principle presents a fundamental dilemma regarding the planning and realisation of transportation infrastructures, however. This is due to the fact that long-distance and cross-border traffic movements continue to grow at much higher rates compared to purely domestic transport demand. In the case of Germany, these trends are clearly reflected by the official transportation statistics (*BMVBS 2006, 182 ff.*). While the cross-border volume of goods transported doubled from 1991 to 2005 – and the growth rate for transit traffic was even higher at roughly 300% –, domestic traffic only rose by roughly 50% during this period. The forecasts the Federal Transport Infrastructure Plan 2003 is based upon also project that the cross-border and transit traffic market segments are the fastest growing sectors of the goods transport market, by a wide margin (*Gresser et. al. 2001, p. 591*).

It is this massive growth of the volume of cross-border and transit traffic and the manifold cross-border externalities which has created that present a very strong case for a more intensive coordination and integration of the national transport infrastructure planning systems in Europe. At least, it seems adequate to establish a community-wide, supranational transportation infrastructure planning scheme for the most important international transportation corridors. Such an evaluation scheme should assess the projects on the basis of cost-benefit analyses which should incorporate a broad set of transport-related, economic, ecological and regional policy criteria. It is important to mention in this context that this evaluation scheme should also strictly follow the principles of integrated planning as well as incorporate the different modes of transport simultaneously. The prioritisation criteria for projects should then permit policymakers to choose the projects with the best benefit-cost ratios regardless of the mode of transport involved. The well-known and indubitably valid points of criticism with respect to specific aspects of its methodology notwithstanding (*Aberle* 2003, p. 497), the German Federal Transport Infrastructure Plan's macroeconomic evaluation method could serve as an extremely useful blueprint model for a novel assessment scheme that would allow for the overdue rationalisation and depoliticisation of the infrastructure planning process at the Community level.

Following the rationale behind the subsidiarity principle, another very convincing line of reasoning in favour of a common, harmonised infrastructure planning process for the key cross-border transport corridors may be derived from some of the basic principles of transport economics. From this perspective, a joint, tightly coordinated planning effort would avoid the economically wasteful duplication of investments while, at the same time it would accelerate the elimination of infrastructure bottlenecks. The mitigation of cross-border infrastructure bottlenecks, in turn, would substantially contribute to the further development of the Single European Market and speed up and deepen the integration of the Central and Eastern European accession states with the established member states in the West.

In addition, a common infrastructure planning process would also – though only over an extended period of time – provide a significant boost to the intermodal competitiveness of rail transport because it would finally address the enormous cross-border interoperability problems which have plagued the industry almost since its inception. Therefore, it is clearly not a coincidence that the interoperability issue

has been strongly emphasised by the European Union (*Frerich/Mueller* 2004, 494 ff.). It is noteworthy in this context that the railway system's cost and quality advantages in comparison with the other modes of transport (with the exception of inland and coastal shipping) rest upon its ability to transport bulk cargo over long distances with unrivalled efficiency – a significant competitive advantage that railway operators cannot exploit for lack of an integrated rail network in the EU. Obviously, this anachronistic status quo has so far effectively thwarted all the various initiatives by the EU and some member states to shift a substantial portion of the fast growing cross-border and transit traffic in goods from road haulage to the railways.

Bearing in mind the current legal and institutional framework of the EU's transport policy it is now necessary to scrutinise the political chances for implementing this quite radical reform proposal. To begin with, the most basic prerequisite for creating an effective and efficient common infrastructure planning process is, of course, the need to establish an adequate, dedicated institution at the Community level. The task of this new planning body should be to assess transport infrastructure projects of common relevance only by means of transport-related, economic, ecological and regional policy-related criteria which, in turn, are fed into an integrated cross-modal evaluation scheme. In short, infrastructure projects should be prioritised in preparation for the realisation stage irrespective of any other political considerations.

To date, infrastructure policy at the Community level primarily remains a highly politicised process with political wheeling and dealing tipping the scale in favour of (or against) certain projects. As discussed before, the TEN-T programme remains a case in point. First of all, and as mentioned before, there is no transparency regarding the results of the cost-benefit analyses performed for the 30 priority axes of the TEN-T programme for an external observer. Furthermore, decisions at the Community level often follow specific routines. The political aim is to reach an overall compromise by bundling together issues from diverse policy fields (e.g. transport policy, the CAP and environmental policy) into a single package-deal to safeguard all sorts of (allegedly) vital sector- and/or policy-specific national interests of individual member states. This problem is aggravated further by the efforts of lobbying groups and NGOs which attempt hard to push through their respective agendas at all stages of the decision-making process.

To sum up, there clearly is a need for an integrated infrastructure planning mechanism for projects of relevance for the Community from a theoretical perspective - on the one hand. On the other hand, there are strong arguments against an excessive centralisation of infrastructure policy, especially if one considers the substantially flawed institutional framework which is currently in place as well as the opaque wheeling and dealing approach to political decision-making at the EU level. Another problem is how to arrive at an analytically conclusive distinction between infrastructure projects which clearly serve the common interests and infrastructure projects which only cater to national transport needs.

### **3.2 A EU competence for transport infrastructure planning and funding?**

As a closer look at the conduct of transport infrastructure policy at the Community level reveals, there is a strong link between two crucial tasks: planning and funding. As already discussed above in chapter 2.2, the lack of adequate funding has proven to be the main obstacle to the realisation of the TEN-T programme. Expanding the EU's competences to include cross-border infrastructure planning as well would therefore backfire without a concomitant competence for funding which currently does not exist. Instead, an inefficient co-financing mechanism is in place which has vested member states with substantial leeway for discretionary behaviour. Although all member states approved the plan for TEN-T as such and formally cooperated with the Commission in setting up the list of priority projects there is a strong tendency among them *not* to attach priority to TEN-T projects which rank low on their respective national priority lists. The substantial delays which have plagued the TEN-T programme since its inception have their root cause in the lack of interest of (at least) one member state whose participation is essential for the completion of a TEN-T project which falls under its responsibility.

This key problem is best illustrated by the fate of priority axis no. 20 which includes the fixed rail/road link across the Fehmarn Belt ("Fehmarnbelt-Querung"), a 9 km wide strait in the Western part of the Baltic Sea between Germany and Denmark by 2018, the strait will be crossed by a 19 km long bridge which is supposed to replace the current ferry service. Whereas the Danish government has been very keen on its realisation for almost two decades, the project ranked

much lower on Germany's priority list. While first bilateral talks were held as early as 1992, it was only on June 29<sup>th</sup>, 2007, that both governments signed a letter of intent to finally kick off the project (Femern Bælt A/S 2008a and 2008b). Finally, on September 3<sup>rd</sup>, 2008, an intergovernmental treaty was signed by the two countries. It was preceded by several years of often inconclusive and contradictory feasibility studies, troublesome negotiations and a split public opinion.

At estimated construction costs of € 4.3 bn (as of 2007) it is obvious that the funding and cost-sharing arrangements – in particular the issue whether there should be any public guarantee for potential private investors – soon became the focal point of the debate. In fact, from an economic point of view it remains extremely doubtful, even in the very long term, that the bridge will ever yield an acceptable economic benefit (let alone be profitable), not least due to the existence of the long established excellent ferry link. We hold that the resources earmarked for this project could have been more usefully allocated to a selection of the many infrastructure projects which were included in the German Federal Transport Infrastructure Plan for their significantly higher benefit-cost ratios.

A radical solution to this problem would be to establish an exclusive funding competence for the entire TEN-T programme at the Community level, thereby effectively disempowering the member states. Such a fundamental change of the funding regime would require a modification of the pertinent EC treaty provisions, however. Presently, Article 154 and Article 155 as well as the special fiscal rules regulating the use of funds from the EU budget for TEN-T projects – which are laid down in Article 4 of Council Regulation 2236/95/EC – permit the Community the partial co-financing of certain, clearly specified subtasks of TEN-T projects only (in particular of preparatory, feasibility and evaluation studies, of other technical support measures for these studies and of interest rate subsidies for loans granted by the European Investment Bank and other private or public financial bodies etc.).

Nevertheless, even if accompanied by the transfer of additional resources from the member states, a comprehensive EU funding competence in this policy area would raise some serious concerns and might eventually even turn out to be counterproductive, for the following reasons. To begin with, the sheer amount of funds needed to perform this new task would require a massive shift of resources within the EU's budget. Currently capped at 1.24% of the member states' total GNP,

is extremely likely that the political clout of the agricultural lobby alone would effectively frustrate any political consensus on this thorny issue. In other words, the member states would alternatively have to agree to create a new type of own resource for this specific task or change the EC treaty so as to permit the EU to take on debt. Either outcome, in turn, seems extremely unlikely, given the long-running controversial debate among the member states' governments regarding the scope of the (current and future) fiscal (and other) competences of the EU.

Furthermore, every increase of the share of EU funding for TEN-T projects would create strong incentives for the member states to engage in an inefficient 'race for subsidies' as it would tempt every member state to try and substitute EU resources for national tax revenues to finance infrastructure projects (*Wenzel* 2005, p. 69). In other words, a higher share of co-financing or even the exclusive funding of all TEN-T investments out of the EU's budget could be misinterpreted by the member states as a signal to substantially reduce national spending on transport infrastructures. In turn, the member states' efforts to secure funding for TEN-T projects might produce a special crowding-out effect: the realisation of those projects whose main attraction is the availability of EU funding, even if they fall short of the minimum benefit-cost ratios which must be achieved by national infrastructure investments to become eligible for funding from the national budgets (*Sichelschmidt* 1997, pp. 414 ff.).

To conclude, based on all these complications, we strongly advise against an extension of the EU's competences to also comprise the funding competence for infrastructure projects of common interest. While - on paper - a reasonable theoretical case can be made to centralise planning and funding competences for TEN-T projects at the Community level, the realities of the EU's political economy would, more often than not, bring about economically suboptimal outcomes. This means, however, that the fundamental dilemma facing the EU's transport infrastructure policy remains unsolved - and potentially unsolvable as long as a fundamental reform of the irrational EU's decision-making processes remains wishful thinking. Obviously, any effective reform would require the institutional separation of infrastructure policy from the 'normal' political process. This implies that all infrastructure projects would be evaluated and prioritised by an independent institution which, in turn, would have to be credibly committed to follow a transparent, scientifically sound, comprehensive and econo-

mically substantiated evaluation scheme. While this technocratic approach has worked reasonably well in the area of monetary policy, no political majority is in sight that would support such a radical reform proposal.

#### **4. Conclusion**

The main purpose of this paper was an economic assessment of a special area of the EU's transport policy: the Trans-European Transport Network programme. We were able to demonstrate that its current legal and institutional framework creates perverse incentives for the member states and identified the separation of planning and funding competences as the main issue in this context. Therefore, one possible solution would be the (complete) shift of both competences from the member states to the Community level. In favour of this proposal it may be argued that international transport movements in the EU have grown massively since the completion of the Single European Market and after the Eastern enlargement of May 2004. As a result, at least regarding many of the principal cross-border corridors, the member states' national transportation infrastructures and policies have failed to cope with this secular trend. However, under the EU's current institutional framework, this shift would very likely produce severe unintended consequences due to the massive perverse incentives which are inherent in and characteristic of the EU's extremely complex and often opaque decision-making processes. In conclusion, we hold that no simply solution exists to solve this dilemma, let alone one that would appear politically palatable for all parties involved.

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