

EUROPEAN TRANSPORT REGULATION OBSERVER

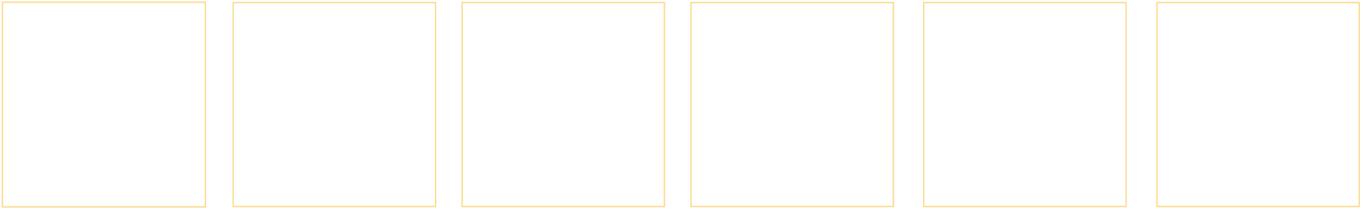
Private Financing of Railway Infrastructures

Matthias Finger, David Kupfer

Highlights

European railways are receiving a substantial amount of public funding. Necessary infrastructure upgrades and European Railway Traffic Management System (ERTMS) deployment are further increasing the amounts needed. The benefits of an interoperable European railway infrastructure will outweigh those costs on the long run but on the medium term the funding needs of railway infrastructure are challenging. The European Commission has been exploring tools to further the role of private investors yet there are still not many successful examples of private funding for railway infrastructure.

As discussions about the future EU's Multi Annual Financial Framework (MFF) are slowly beginning the 15th Florence Rail Forum addressed examples, opportunities and open issues with different forms of private as well as public funding of railway infrastructure.



This Policy Brief reflects upon the discussions at the 15th Florence Rail Forum that took place in Florence on 24 November 2017.

Private Financing of European Railway Infrastructure?

A Comment by Matthias Finger

Can private financing solve the investment gap into railways infrastructures? This was the guiding question of our 15th Florence Rail Forum. And the answer is rather sobering: yes, it probably can, but the overall price tag, and the cost for the taxpayer, will be higher than if government or the infrastructure managers did it on their own. So, what can or should the EU do?

Can railway infrastructures be attractive to investors?

But let us develop our argument in more detail: rather than thinking from the financing needs of the railway infrastructures which are indeed impressive (the cost for ERTMS deployment alone is currently estimated at 80 billion¹). Let us first think from the perspective of the private investor. And there is indeed (a lot of) private money looking for long-term investment opportunities, and infrastructure projects, including railway infrastructures, could be as good an investment opportunity as many others.

But it is private investments after all, meaning that the private sector is ultimately looking for a profit. The profit that is sought after is the higher the higher the risks associated with the investment are. And these risks are proportionate to the complexity of the project (e.g., building the infrastructure, operating the infrastructure, operating the trains) and the amount of actors that have to be coordinated in order to make it work.

PPPs in other network industries, such as highways, ports, airports and water and wastewater infrastructures have shown that the private investor or the consortium that builds and operates the infrastructure typically seeks to transfer the risks to government. I would be astonished if this were different in railways infrastructures.

Adding to these risks are adjacent policies that determine the degree to which railway infrastructure investments are going to be lucrative or not: the most important one pertains to access regulation to railway infrastructures. The second most important adjacent policy pertains to access pricing, i.e., the price railway undertakings will be paying to the infrastructure manager. As a result of railway liberalization in Europe, such policies are now typically fixed in separate regulations: private investors, however, would most likely insist on them being part of their contractual arrangements. The third most important adjacent regulation pertains to road. Indeed, the attractiveness of road transport will determine to which degree railways infrastructures are actually going to be used. It is in these adjacent policies where the European Commission can actually play a decisive role in making railway infrastructure more (or less) attractive for private investors.

Should PPPs be realized in railway infrastructures, the concrete contractual arrangements will most probably be done at the national level, namely between the government and a consortium which will create a Special Purpose Vehicle (SPV) to that effect. Typically, this will take the form of project finance, i.e., the consortium will define a project that is limited in time and space and will seek to receive the necessary government guarantees, so as to make it as little risky and as lucrative as possible. The government, in turn, will have to decide how much risk it is willing to bear and whether it cannot find a cheaper way to finance the same infrastructure. In normal circumstances, it will however not be cheaper for the government to have private investors, no matter how creative the construct, than taking a loan to finance the railway infrastructure. Also, such private financing will always only cover certain – namely the most lucrative – lines and never be able to cover the entire costs of a national (or regional) railway infrastructure. In other words, the government will always be left with remaining infrastructure financing needs. This leads to a second, perhaps more fundamental consideration about private financing of railway infrastructures.

1. [European Court of Auditors \(2017\): Special report no 13/2017: A single European rail traffic management system: will the political choice ever become reality?](#)

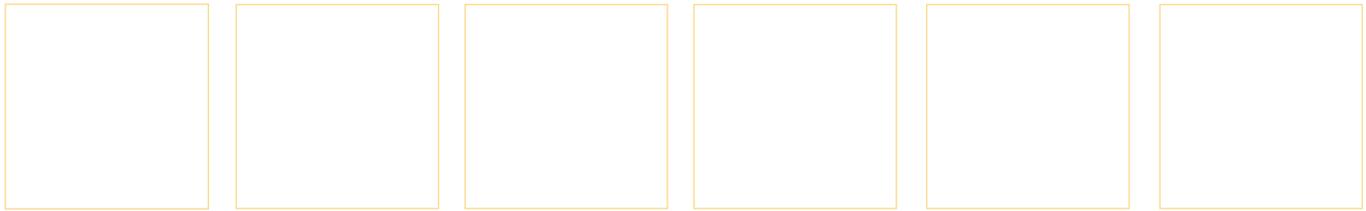


The challenge of (further) fragmentation

Because of railway liberalization, especially because of unbundling, the railway sector has already been considerably fragmented. This is problematic to begin with because railways is ultimately a system which needs to be operated as such. The fragmented system was subsequently held together by regulation and regulators ... with mixed effects. If in addition now also railway infrastructure is being separated into privately and publicly financed parts, and the privately financed parts are put up by different consortiums, this will lead to additional fragmentation and to additional needs for coordination - with additional costs and risks for the overall system. While, in the short term, private infrastructure financing may indeed appear to be an attractive solution for national governments, mainly keeping public debt off the balance sheet, this may well be a problem in the medium and long-term, both financially and in terms of system governance.

It may be a financial problem because ultimately the costs of private financing will most likely be higher, considering that the remaining potentially non-lucrative part of the railway infrastructure will still need to be financed and that the profits from the more lucrative parts will have gone to the private investors.

But, in my view, the main problem will be the further fragmentation of the railways system, at least in the European context. While private financing may be interesting in countries where lines can be isolated (e.g., freight lines in the case of the United States), in countries with integrated railway systems, privately financed (and operated) railway infrastructures will contribute to further fragmentation, and thus making the national railway systems more fragile and creating additional costs for coordinating the fragmented parts, most likely by way of additional regulation and regulatory bodies.



Private Financing of Railway Infrastructures

A Summary of Discussions by David Kupfer

The goal of the 15th Florence Rail Forum was to discuss the role private financing can play, specifically in the context of the post-2020 EU financial framework. Representatives of the European Commission, major stakeholders as well as leading academics and other experts engaged in the discussions which addressed four central questions:

1. What are the biggest railway investment challenges and how can public and private funds address them?
2. Connecting Europe Facility 2 (CEF2), European Fund for Strategic Investments (EFSI) and Multiannual Financial Framework (MFF) – which role for private investment in the context of the EU's future financial framework?
3. How can the rail sector attract private capital? How to ensure that private investment in infrastructure will guarantee sustainability?
4. Private money for (public) infrastructures what can be learned from past experience, other sectors and other regions?

What Are the Biggest Railway Investment Challenges and How Can Public and Private Funds Address them?

The financing needs of the European railway system are immense. In fact, the beginning of the discussion at the Florence Rail Forum focussed on the progress of ERTMS deployment and the corresponding financing needs of the future. While some significant progress has been made it is clear that a lot more is needed also in terms of financing. So far costs have been high and the progress too slow. The current level of deployment is only at about 10% in spite of being 20 years in the making already. According to a recent calculation by the European Court of Auditors investment needed for ERTMS alone will be €80bn by 2030. Yet, in particular from the commission it was pointed out that there is a **business case for ERTMS deployment**. There is a new focus on the business case for ERTMS deployment based on the European rail freight corridors where different scenarios have been calculated

to point out the economic benefits of deployment. In the context of ERTMS deployment a special focus was also put on the role of the Infrastructure Managers (IM) in the complex system of actors in the railways. IMs play a crucial role in delivering the benefits of ERTMS and must be incentivised to increase the speed of deployment for instance by restructuring the relationship with the railway undertakings (RU).

The discussions at the 15th Florence Rail Forum highlighted that diminishing public budgets will likely not be sufficient, yet there are many constraints for private involvement. The historically grown dependence of the railway sector on public money was pointed out in conjunction with the still present market failure in intermodal competition: public support of the rail system is necessary and legitimate as the other modes do not internalize their external costs.

However, it also became clear that private financing for railways currently has many downsides most of all it appears to be a **more costly way of financing infrastructure on the long run than the traditional grant finance**. This is especially due to the extremely low interest rate at present.

Railways receive funding through a mix of sources; the usage-based access charges that are reinvested and additional government grants. As it was put by one participant, funding for railway infrastructure can ultimately only come from two different sources: the passengers or the taxpayers.

While this is generally true the statement neglects the role of one group that, at least in Europe, does not play a very significant role in railway financing yet: **more and more rail companies actually have customers that are not travellers**. The Japanese JR East bases 35% of its revenue on non-transport business namely customers of shops in railway station and other clients in the field of real estate.

At the Forum it was also pointed out that, as digitalisation unfolds, system costs will go down significantly across the board and may bring down the cost of future upgrades below the levels currently estimated.

PPPs currently don't play a significant role in the railway sector. Private involvement is however present at the urban (light rail) level and for stations. The discussion



henceforth addressed various examples of financing infrastructure and of private sector involvement.

There was broad agreement at the Rail Forum that the rapid uptake of ERTMS throughout Europe is the most crucial funding priority at present. It will significantly bring down costs but only on the long run which is why for the time being public support is indispensable. ERTMS is offering a technological “window of opportunity” that is slowly closing, if implementation is not accelerated.

CEF2, EFSI and MFF – Which Role for Private Investment in the Context of the EU’s Future Financial Framework?

The discussions in Florence took place at an early stage in the process of determining the next EU Multi-annual financial framework (MFF). Overall, however, it seems clear that **funding is more likely to decrease** and from the perspective of railways the goal will be to maintain current levels of funding rather than increasing them. In the discussion it was pointed out for instance that currently 75% of CEF-Transport funds go into railway. Therefore, the most important goal must be for the sector to demonstrate its capability of making viable progress with the help of these resources and to demonstrate that these investments will be useful also in the future.

As the budget negotiations slowly approach, the railway sector needs to lobby for funding also with regard to the fact that other policy areas are in need of funding as well. One of the budget lines in competition with transport is defence policy. Although, it was pointed out in the debate that there can be significant synergies. In view of potential threats on the eastern border of the EU an efficient European rail network plays an important role from a military standpoint. Currently the system is not capable of moving equipment and troupes sufficiently fast across Member States.

The commission will look for ways to foster more involvement of the private sector. Therefore, it uses more innovative financing tools (blending) which seem to be delivering benefits already. For this an important role will be played also by other actors such as the European Investment Bank which is already facilitating a range of financial and advisory services.

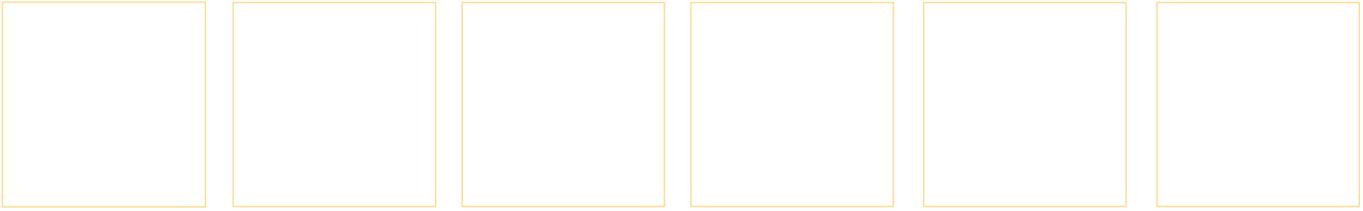
One of the most crucial factors for the success of international infrastructure projects involving different stakeholders is the project management. At the Florence Rail Forum different forms of public and private funding of infrastructure were discussed. The Brenner Basis tunnel project was discussed in some details. In fact, one of the defining elements of the governance structure of the tunnel was seen as the crucial element and as an example to successfully manage such projects. The managing company, the so called special purpose vehicle, is independent of any of the governments involved in the funding and plays an essential role for the success of the project.

Another policy feature that was prominently discussed at the rail forum is the cross-financing of railway infrastructure through road charges. This is enabled by a provision in the Eurovignette-directive and is practiced in several countries in various forms. It was recalled that the Italian arrangement for the Brenner Basis Tunnel, where road operators supported the construction in exchange for an extension of their operating concession, had caused some friction with the Directorate General for Competition of the European Commission.

In terms of further developing the EU financing tools it was pointed out that the EFSI was successful in leveraging private funds overall but less so in the rail sector. Especially for railway infrastructure projects the right incentives for bigger involvements are not yet present. For Rolling stock there is already some private money. The biggest success story for EU funding can perhaps be found in the area of research funding namely the Shift2Rail program.

A few proposals were made based on national experiences: Germany has recently launched an [action plan for rail freight](#) – this could be taken as a model for a similar initiative on the European level . In Switzerland a Railway Fund was established dedicated to safeguard future investments in railway infrastructure. The fund had been created after a popular vote on the proposal.

There could also be a more sophisticated system of incentivizing the Infrastructure Managers to equip tracks with funding, for instance by holding back funds until a certain level of progress has been achieved. One proposal foresaw the establishment of a deployment fund for ERTMS to facilitate this.



How Can the Rail Sector Attract Private Capital? How to Ensure that Private Investment in Infrastructure Will Guarantee Sustainability?

The preconditions for private investment do not seem ideal. However, the discussions at the Forum showed that looking at Japan there is a clear case for close cooperation with private investors. The novelty for many European countries lies in the active and deep involvement of the railway operator in the businesses that are not directly connected to transport. The right planning of commercial activities such as location of shops and offices within railway stations can contribute a lot to increasing the revenue that can be extracted from people passing through stations and surrounding areas.

The panel furthermore addressed how investors could manage technological changes and accurately respond to future trends. As the railway system in Europe evolves it is becoming more and more complex in large part due to the changes in the railway governance structure and technological development. Railway companies are not monopolies anymore and coordination of the different actors in the system has become a different challenge. As digitalisation and digital platforms are developing, ticket distribution is changing dramatically as well as the interaction between railway companies and their customers in general. The call for better integration of ticket offers and the call for more competition within the system can be conflicting demands. This situation creates a confusing picture that is not conducive to private investment.

Private Money for (Public) Infrastructures What Can Be Learned from Past Experience, Other Sectors and Other Regions?

Drawing parallels to other sectors the question was raised whether railway stations should become more like airports as airports have been able to attract significant private funds in recent years. The discussion showed that there are several problems with that given for instance that railway lines aren't as flexible and can't be opened and closed as easily as air-connections.

More importantly it was pointed out that currently, without subsidies, railways would not be able to compete with the other modes of transport which would create undesirable outcomes for society and the environment. Investments in rail are also justified by their broader economic and societal benefits. The fact that for the foreseeable future the sector will depend on public money makes it inherently difficult for private investors to step in.

However, as more parts of the system become more market based the private sector can play an increased role on a project level. For the time being however the state level, or better yet the EU level, is needed to provide the right incentives for infrastructure renewal and innovation.



Closing the Funding and Financing Gap in European Railways

Lorenzo Casullo, OECD, ITF

Following governance reforms at the European level, including the unbundling of infrastructure assets (natural monopolies) and train operations (competitive segment), the funding and financing of rail infrastructure has been at times overlooked. However, there is little doubt that achieving and preserving financial viability is one of the main challenges for European rail infrastructure managers, if they wish to retain and enhance their role in sustainable mobility and ensure high levels of connectivity, safety and quality.

European rail infrastructure managers receive funding through a mix of grants from public budgets, revenues from access charges and income from commercial activities. Public funds are classified as operating income in the profit and loss accounts of infrastructure managers but not all national accounts provide clear indications of their exact amount. The lack of comprehensive makes it difficult to analyse value for money and to compare efficiency across countries; however, recent research shows that total infrastructure subsidies have increased in absolute terms between 2005 and 2012 while operating costs have not decreased substantially (European Commission, 2015).

In the presence of high costs and rising debts, maintaining and upgrading existing networks must take place within tighter budgets. Today, infrastructure costs represent around one-third of total rail system costs in Europe, and a growing share of those costs (up to 50% in mature networks) are arising from maintenance and renewal needs. Therefore funding gaps are widening. The ability of railway companies to raise debt further in order to finance new investment is constrained – both by the already high levels of indebtedness¹ and by the deterioration of credit ratings for some government bonds following the sovereign debt crisis, to which railway companies' ratings are closely aligned. Some projects in high-density, high-frequency rail lines have attracted private investment, but no new Public Private

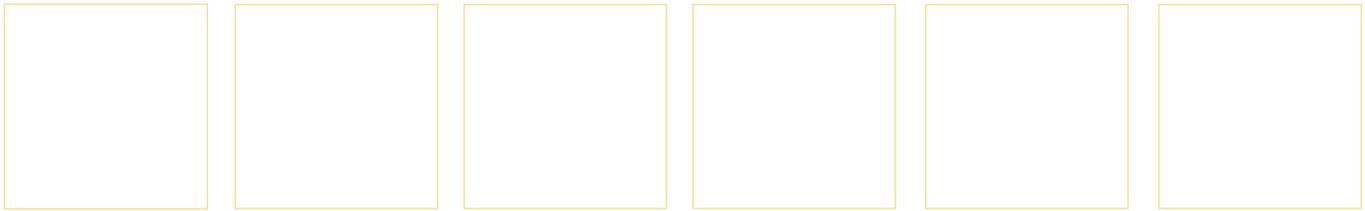
Partnerships (PPPs) have been signed since 2014. Unless the fundamentals change, PPP in railways will continue to replace the State only on very specific segments only and will not grow the size of the pie of rail funding.

Efforts to reduce the funding gap are under way at both national and EU level. More and more State departments are entering into long-term contracts with their infrastructure managers. Countries such as Switzerland and Germany go further than that by earmarking 15-year long investment funds with contributions from other economic sectors too. Independent regulators, some of whom have powers to enforce performance regimes, are being established. European rules (notably Directive 2012/34/EU – the 'Recast') support both objectives above. Work is also ongoing to harmonise data definitions and data sharing. Once this is achieved, efficiency comparisons across European networks can provide useful information on where productivity improvements could be made.

More needs to be done on funding, including through innovative solutions and good practices that have worked elsewhere. While structurally different, Japanese and American railways can provide some insights. For example, European infrastructure managers can adopt more commercial practices, for example by setting specific goals under an incentive-based regime and developing more customer-oriented infrastructure plans. Revenue synergies between rail and non-rail assets such as railway stations can be better exploited as in Japan. Reducing the overlap between passenger and freight operations by developing dedicated corridors can also be done mirroring the American experience and building on the experience of Rail Freight Corridors.

European railways have embarked on a long path of reforms. The result is that publicly-owned infrastructure monopolies provide a host of services to a growing number of competing train operators. The basic goal of financial viability for the infrastructure component requires closing the funding gap, which in turn can help infrastructure managers attract private funding including through new PPPs. The sequencing of policy initiatives is important.

1. in 2012-13, non-current liabilities stood at roughly €40 billion for Network Rail in the UK, €50 billion for RFF in France and €20 billion for ADIF in Spain [Schäfer, 2016]



Outside Look: Challenges and Chances for European Rail Finance

Matthias Klumpp, Visiting Fellow at the Robert Schuman Centre for Advanced Studies, European University Institute Florence

Taking the 'broader picture' into account, the specific tasks and questions regarding European rail infrastructure finance are connected to at least four different outside and innovation areas:

First, there are large challenges at hand regarding the overall societal and economic setup in the wake of sustainability, climate change and resource depletion developments. And this requires two major mindset shifts, regardless whether with public or private actors: One, we all are required to strengthen rail infrastructure to be able to implement a major modal shift in any functional carbon emission reduction scheme in order to achieve climate change mitigation objectives. Therefore, public as well as private infrastructure investment has to increase significantly in order to tackle this. Two, we also have to prepare the rail infrastructure for the impacts of climate change and resource depletion like with already experienced hurricanes, storms, and flooding. This, again, requires increased investments in fortifying and upholding rail infrastructure facing such events, increasing general transport resilience levels and capabilities. Similarly, public and private actors are necessary to work hand in hand for this challenge.

Second, model split and competition will be severely affected by market as well as technology developments. Though it can be assumed that rail will always play a major role in any passenger and cargo transport setting in Europe, the exact market and supplier structure might change significantly. As for example automatization and online platform innovation and consolidation will draft competitive rules anew, rail infrastructure managers as well as rail operators will have to adjust and innovate fiercely in order to stay in the game. As for example predictions for automatization in road cargo speak of up to 50% reduction in labor cost levels, this highlights the threat level for rail in general in future co-modality setups – and again, especially automatisations and connected Internet of Things (IoT) potentials should be the subject

of large parts of public as well as private investments in rail in order to allow for intermodal competitiveness. At the same time, it might be worthwhile to adapt diversity and open innovation concepts from other sectors in order to prevent single large automatization investments prone to fail due to monopoly structures, e.g. implementing a larger group of venture capital settings for a high number of competing automatization projects and concepts in rail: A publicly regulated and backed venture fund for IoT rail innovations might be a good idea to attract investments as well as ideas, including also large logistics and industry actors for example.

Third, a critical evaluation of monopoly and competition segments is warranted to align the public-private funding mix with outside challenges: Public funding has to rise significantly as outlined above – but at the same time also has to be reviewed as regard to which areas are supported specifically, avoiding a possible crowding out of private investments. For example, rail electricity infrastructure as well as servicing and maintenance are neighboring perfectly functional private markets in energy and engineering. New approaches bringing those private market forces, actors and investments into rail might be of use in order to strengthen the rail sector in general.

Fourth, the perspective and impact of the end customer – be it private persons for passenger rail services or corporate customers for rail cargo transportation – has to be valued in order to achieve significant increases in financial investments. As final customer demand and use is crucial to public as well as private investment by the way of market attractiveness, any strengthening of end customers in rail is supporting an increase in financial volumes available to rail. Simply put: If more private and corporate customers use rail transportation, public as well as private financing motivations will increase in the long run. Because a comprehensive risk evaluation of any public or private investor is paramount to the availability of funds – and the largest risk of all is a decline in market volume and intermodal market share of rail transportation in general.



Further Readings

[Florence School of Regulation Transport Area, 2017, '15th Florence Rail Forum Summary of presentations'](#)

The goal of the 15th Florence Rail Forum was to discuss the role private financing can play, specifically in the context of the post-2020 EU financial framework with different stakeholders operating in the broad railway sector.

Representatives of the European Commission, major stakeholders as well as leading academics engaged in the discussions which addressed four central questions:

- What are the biggest railway investment challenges and how can public and private funds address them?
- CEF2, EFSI and MFF – which role for private investment in the context of the EU's future financial framework?
- How can the rail sector attract private capital? How to ensure that private investment in infrastructure will guarantee sustainability?
- Private money for (public) infrastructures, what can be learned from past experience, other sectors and other regions?

[Florence School of Regulation Transport Area, 2014, 'Rail infrastructure and rolling stock: investments, asset renewal and regulation', European Transport Regulation Observer, n. 2014/03](#)

This issue of the European Transport Regulation Observer reflects upon the topic discussed at the 8th Florence Rail Forum in May 2014, where regulators, operators and network managers came together to discuss investments in railway infrastructure and rolling stock. In light of frequently pointed out investment backlogs in the rail sector the central question was how regulation on the European and national level can provide the necessary incentives for more investment.

Investments in rail infrastructure and rolling stock require clear, stable and predictable rules because of their very long-term nature. With the 4th Railway package there are several proposals to improve conditions for investments such as strengthening the role of the infrastructure manager to allow a more sustainable investment planning

and harmonizing technical standards to improve interoperability.

[Casullo, L., 2017, "Rail infrastructure funding and financing: Europe and beyond" \(pre-publication. The paper was presented at the 'workshop on Financing and Performance of the European Rail Sector', University of Gießen, 11-12 May 2017\)](#)

Funding and financing arrangements for railway infrastructure in Europe are often perceived as complex and opaque. Given the large sums of public money involved, greater transparency on inputs and outputs is required.

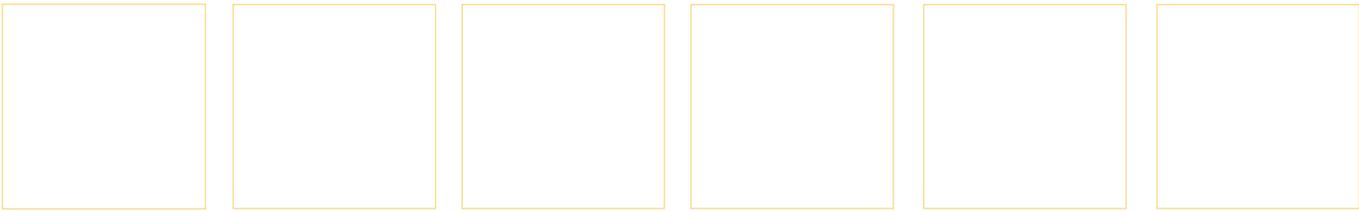
This paper presents an overview of rail infrastructure funding in Europe based on recently emerged evidence and draws comparisons with the systems in the US and Japan. We discuss a number of policy options to address the issues of poor value for money, inefficiency and long-term viability of current arrangements raised by the literature.

[Doll, C., Rothengatter, W., Schade, W., 2015, 'Study for the CONT Committee - The Results and Efficiency of Railway Infrastructure Financing within the EU', European Parliament, Policy Department for budgetary affairs, Brussels](#)

Upon request by the Committee on Budgetary Control (CONT) this study analyses the results, efficiency and effectiveness of the EU investment in rail infrastructure with a special focus on cross border rail projects. Beginning with a discussion of the reasons for the moderate success of EU railway policy it investigates four case studies with a focus on effectiveness of funding schemes and success of removing bottlenecks, particularly at border crossings, to improve attractiveness of the railway mode. Recommendations are given for a more efficient joint development of a European rail network by the Member States and the EU and a further development of funding schemes tailored to railways.

[Makovšek, D., Veryard, D., 2016, 'The regulatory asset base and project finance models: an analysis of incentives for efficiency', ITF/OECD Discussion Paper 2016-01](#)

Governments world-wide have sought value for money by augmenting the traditional approach to public infrastructure delivery and management by introducing private capital. Two well established platforms for



private capital participation are the Regulatory Asset Base (RAB) Model and the Project Finance Model (broadly termed PPPs). This paper reviews available evidence on the efficiency in delivery and operation of major infrastructure of each platform relative to the traditional approach. Overall the basic concern with the RAB model is that its application might lead to excessive capital expenditures, to strategically inflate the base on which the return is being calculated. By contrast, given the complexity of PPP projects and the inherent uncertainty associated with such long-lived contractual commitments, it is questionable whether competition leads to efficient outcomes. Both approaches have some potential advantages and this paper investigates, whether it is meaningful to merge them.

[Pittman, R., 2017, 'The Underappreciated Connection between Rail Restructuring Strategies and Financing' \(pre-publication. The paper was presented at the 'workshop on Financing and Performance of the European Rail Sector', University of Gießen, 11-12 May 2017\)](#)

The railways industry is a capital-intensive industry requiring very large initial and ongoing investment streams. This is as true for countries whose railways are primarily freight carriers as it is for those whose railways are primarily passenger carriers. Proposals to restructure the traditional state-owned monopoly railway in a particular country are often designed to address concerns not only regarding inefficient operations (especially overstaffing) and monopoly stagnation but also the long-term unreliability of government financing, especially of the expensive infrastructure. In this regard, the connection between the particular rail restructuring strategy chosen by a country and the ability of the restructured entity to attract financing, especially private financing, merits a closer look.

[Schäfer, J. T., Götz, G., 2016, 'Public Contributions to the European Rail Sector: An in depth analysis for eight countries' \(working paper\)](#)

This paper provides an analysis of the funding structure of the railways in 8 European countries. It updates and expands the well-known database on public contributions to rail which has been initially published by NERA (2004). The analysis shows that there are

large differences concerning the focus of granted funds which can be explained by different policy objectives, differences in the level and degree of network access charges and different cost coverage ratios of public transport services. We identify a tendency towards two main financing models. In our data-set countries either focus their support payments on the operation of the infrastructure, which implies lower network charges and thus a lower amount of necessary Public Service Compensations, or they focus on the support of transport services with a higher degree of cost coverage of network charges and thus a lower amount of operating contributions paid to the infrastructure manager. The structure of funds, different approaches of infrastructure financing and differences in the treatment of historical debt are likely to have an influence on the performance of the investigated railway systems.

[Finger, M., Bert, N., Kupfer, D., Montero, J., Wolek, M., 2017, 'Research for TRAN Committee – Infrastructure funding challenges in the sharing economy', European Parliament, Policy Department for Structural and Cohesion Policies, Brussels](#)

In this digital age, an expanding offer of smart applications and online booking platforms for travel has been very successful with customers. Therefore, there is a constant need to further adapt to and promote innovation with regard to new technologies in all modes of transport. These services, however, have financial implications: as they grow they take part of the revenue stream. This may mean that revenues flowing to transport companies are decreased, and that consequently the contributions to the maintenance and development of infrastructure are also reduced.

This study analyses the disruption created by shared mobility in the funding of transport infrastructure. While recognising the benefits of shared mobility in terms of reduction of private car use, the study identifies that there might be short-term negative effects on the revenues of long distance railway and coach operators. It also points out other potential risks, which include capturing the revenues through commissions charged by platforms mediating mass-transit services ('Mobility as a Service'), freeriding and lower tax contributions. The study makes recommendations to reduce these risks.

Florence School of Regulation,
Transport Area
Robert Schuman Centre
for Advanced Studies

European University Institute
Via Boccaccio, 121
50133 Florence
Italy

Contact:
FSR-Transport:
fsr.transport@eui.eu

Robert Schuman Centre for Advanced Studies

The Robert Schuman Centre for Advanced Studies, created in 1992 and directed by Professor Brigid Laffan, aims to develop inter-disciplinary and comparative research on the major issues facing the process of European integration, European societies and Europe's place in 21st century global politics. The Centre is home to a large post-doctoral programme and hosts major research programmes, projects and data sets, in addition to a range of working groups and ad hoc initiatives. The research agenda is organised around a set of core themes and is continuously evolving, reflecting the changing agenda of European integration, the expanding membership of the European Union, developments in Europe's neighbourhood and the wider world.

FSR Transport

The Florence School of Regulation (FSR) is a project within the European University Institute (EUI) focusing on regulatory topics. It works closely with the European Commission, and is a growing point of reference for regulatory theory and practice. It covers four areas: Communications and Media, Energy (Electricity and Gas), and Transport & Water.

The FSR-Transport Area's main activities are the European Transport Regulation Forums, which address policy and regulatory topics in different transport sectors. They bring relevant stakeholders together to analyse and reflect upon the latest developments and important regulatory issues in the European transport sector. These Forums inspire the comments gathered in this European Transport Regulation Observer. Complete information on our activities can be found online at: fsr.eui.eu

Views expressed in this publication reflect the opinion of individual authors and not those of the European University Institute.

© European University Institute, 2017

Content © Matthias Finger, David Kupfer, 2017

doi:10.2870/8903
ISSN:2467-4540
ISBN:978-92-9084-562-1