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The mismatch between regulatory ideals and practical implementation: the challenges faced by national regulatory bodies in pursuit of the single European railway area

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ABSTRACT

The Single European Railway Area (SERA) is an ambitious political project aimed at liberalising domestic passenger networks and fostering cross-border traffic. Yet, even after a legislative and regulatory process that spanned over 25 years, the liberalisation of domestic markets remains shallow when compared to other utilities that have undergone a similar treatment. Regulatory bodies (RBs) were instituted by the legislator as the new enforcers of market liberalisation. Although previous research has shown a positive correlation between the creation of RBs and the liberalisation of railway markets, this article argues that the challenges faced by RBs bar further progress towards the establishment of SERA. Using an innovative theoretical framework that includes the 'infrastructure' as an institution generating path dependencies in policy-making, the research compares the actions of RBs in France, Poland and within the Independent Regulators Group-Rail to show the misfit between pre-existing infrastructural commitments, national policy choices and EU regulation.

Keywords

Liberalisation; regulatory state; railways; agencification; enforcement

1. Introduction

The Single European Railway Area (SERA) is an ambitious project consisting in the opening of national railway markets into a fully integrated space connecting without hurdles the networks of all European Union (EU) Member States. It consists in liberalising national markets by providing competition on the tracks, and allowing for unhalted circulation of trains across borders. SERA was subject to ample regulations by the EU with the SERA directive¹ and four railway packages adopted between 2001 and 2016 that completed a legislative process started in 1991. Among several measures, the last package obliged Member States to open domestic high-speed lines to full scale competition by December 2020, after international passengers' market was liberalised in 2010. The Commission was set to chaperone this process, first by surveying the development of liberalised markets, and second by associating the competent authorities in joint administrative networks that would promote the exchange of good practices and adopt common regulatory standards facilitating the development of SERA.

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If some little progress occurred in the last few years in that regard, the entry of new undertakings in domestic passengers' markets for commercial lines remains scarce, with a market share of only 6,6% vis-à-vis incumbents (i.e. the former state monopolies that exclusively run rail services before the opening of markets, such as Deutsche Bahn in Germany or Société des Chemins de Fer Français [SNCF] in France). The figures have remained steady from 2015 to 2020, even showing a slight decrease of 1,9%, meaning that the adoption of the Fourth Railway Package did not trigger much change in that regard, even if its full implementation was due for commercial lines by the end of 2020.² Besides, the study of international passengers' services shows that SERA did not favour the entry of private undertakings into the network, but rather allowed incumbents to circulate on the tracks of their neighbouring countries. This opening did not follow a pure market logic (with incumbents competing against one another), but mainly resulted from alliances between incumbents via joint ventures such as Alleo or Eurostar which allowed them to preserve their dominant positions in their respective domestic networks (Bergantino 2015). SERA is far from being established, and some even doubt if it will ever come to fruition (Mischi and Solano 2024).

If the incremental inner dynamics of EU railway policy may be explained in historical institutionalist terms (Dyrhaug 2022), its specificity compared to the other utilities sectors remains underexplored. Indeed, the sectors of electricity (Meeus 2020), aviation (Dobruszkes 2009) or telecommunications (Hou 2015) were under state control for decades and were all subject to liberalisation processes driven by the EU. Contemporary European integration was subject to the European Commission's and the legislator's³ willingness to open up utilities to competition in order to foster a consumer-friendly market characterized by cross-border servicing. For example, the opening of the electricity market led to a competitive market with several undertakings, in which fourteen EU Member States declare that the share of the largest generator does not surpass 50% of the entire market.⁴ After the entry into force of legislative instruments specific to each field, the European Commission became a major monitor of liberalised markets ensuring, along with the Court of Justice of the European Union (CJEU), that Member States would abide by their commitments (Rangoni and Thatcher 2023).

Moreover, the opening up of markets to cross-border competition is also accompanied by the reshuffling of Member States administrations. Indeed, the legislator promotes the creation of 'autonomous public bodies' (De Somer 2017) or 'independent regulatory authorities' (IRAs) (Thatcher 2002) that orchestrate the liberalisation process at national level. These bodies are separated from the executive and would thus ensure a smooth transition from state-run monopolies to full-fledged markets. The successive EU railway packages have also empowered at Member state level two types of IRAs: infrastructure managers and regulatory bodies (RBs). These are independent authorities from governments and must ensure compliance with the *acquis* in their respective sectors.

Railways are in that regard no different from other EU-regulated policy sectors. They are also part of the 'European administrative space' that has characterised contemporary European integration over the last two decades (Trondal and Peters 2015). In order to achieve liberalisation, the EU has instituted this double-layered system in which infrastructure managers distribute slots to several undertakings and RBs review these decisions in an impartial manner. As ultimate arbiters of the competitive process, RBs are theoretically the ultimate and most efficient enforcers of railway liberalisation.

Indeed, previous research on EU railway policy showed a correlation between the existence of RBs and the liberalisation of railway markets (De Francesco and Castro 2018). However, this liberalisation process in the sector of railways has remained shallower than in the other EU liberalised utilities. This state of affairs thus remains puzzling and prompts the central research question of this paper: why is the EU-led liberalisation of railways so scarce, despite the existence of regulatory bodies monitoring this process?

This article will combine an historical-institutionalist perspective with Actor-Network Theory to answer this question. It will focus on the role of RBs in two Member States, namely France and Poland. RBs are institutionally the central actors in the liberalisation process of railways. France and Poland have different socio-historical trajectories regarding the administration of the railway sector, allowing for a comparison of RBs facing similar challenges in two different environments. This article will argue that the challenges faced in this policy field by RBs established at national level are precisely explaining the slow liberalisation of railway passenger markets in the EU. If IRAs are indeed accompanying the liberalisation of markets, they are also in charge of the running of railway services that remain a '*public service*', which leads them to favouring the incumbents' services in several competitions for the market, and therefore to slowing down the potential entry of new undertakings in domestic networks. Their concerns and challenges are mostly driven by the state of the existing rail infrastructure, which exhibits barriers to entry in domestic markets.

Section 2 will expose the recent developments of railway policy in the EU and assess the literature on IRAs in that field. It will show that these authorities play a dominant role in policy framing that surpasses a simple implementation of the *acquis*: they make independent regulatory choices, which are shielded from external interference. Section 3 will detail the theoretical approach, which combines the historical neo-institutionalist perspective already applied to railways (Dyrhaug 2013, 2022) with Actor-Network Theory. This theoretical approach broadens the concept of 'institution' by incorporating infrastructure – and its physical components – as a source of path dependencies that shape regulatory decision-making. It will also display the methodology used to follow the activities of the RBs in France and Poland. Section 4 will present the empirical findings of the research which focused on the activities of the RBs of France and Poland, and detail their relationships with all other relevant stakeholders such as the European Commission, private undertakings or governments. Section 5 concludes by arguing that RBs are as much veto players as they are facilitators of market liberalisation despite the pressures arising out of EU legislation, and will propose alternatives towards the realisation of SERA.

2. The slow liberalisation of high-speed railway passenger markets and the role of independent regulatory authorities in the process

The liberalisation of railways in the EU started in the early 1990s. The unbundling of the railway sector in 1991 was meant to favour liberalisation early.⁵ The first railway package took a major step when it established RBs as independent authorities in charge of assessing the fairness of competition *in* or *for* the market.⁶ These new measures would reflect the aggregation of national policy preferences regarding railways (Héritier 2001) and would follow up on some innovations already supported by some Member States

(Knill and Lehmkuhl 2000). But the real first step of liberalisation process occurred with the Third Railway package that introduced mandatory competition for international passengers' routes by 2010. While this step was mostly about creating a new market via the establishment of new lines across the EU, genuine competition started with the introduction of 'cabotage', allowing an undertaking to make several stops in a single Member as long as the whole journey was cross-border. The Fourth Railway Package sought to replicate these rules on international travel to domestic markets. Adopted in 2016, the package included several transition periods for the liberalisation of domestic networks, most of which ended in 2023.⁷

The EU provided for IRAs at national level to accompany the process, in a fashion similarly found in the liberalisation of other utilities such as telecoms (Thatcher 2002, 2005). The voluntary transfer of competences from elected officials to independent bureaucrats was intended to facilitate a smooth transition from a state-run monopoly to a credible competitive market, providing reassurance to both market participants and voters. Following this Principal-Agent framework, governments would see their policy choices adopted in the Council materialised at national level, while retaining formal control over bodies ruled by national public law (Thatcher and Stone Sweet 2002). Independent authorities would only enjoy some structural and behavioural autonomy in their daily activities (Gilardi 2008; Verhoest 2010). They also embody the modern regulatory state, which serves as a cornerstone of contemporary EU democracies. In this model, agencies are seen as a valuable complement to the functions of the traditional branches of government (G. Majone 2005, 1999) – a phenomenon that has been extensively developed at the EU level (Chamon 2016; Egeberg and Trondal 2016).

Yet, some authors stress on the contrary that the independence of IRAs has reached an unprecedented level. The EU *acquis* shields them from external influences, not only from the executive but also from the legislative power, a fact strongly asserted by the CJEU in 2021.⁸ Their decisions also encompass more than a simple implementing function, since they take discretionary choices that have a direct impact on the life of citizens (De Somer 2017). Their decisions imply some leeway, which would however only be amenable of judicial review. Member States would therefore be unable to overturn decisions of these authorities, or to 'de-delegate' competences from them (Rangoni and Thatcher 2023). The debate on the autonomy and wielded power of IRAs remains open.

On a transnational scale, independent authorities are meant to foster implementation as 'double-hatted' bodies (Egeberg 2006), since they participate in either dedicated European Administrative Networks (Martinsen, Mastenbroek, and Schrama 2022) or EU agencies' boards in which they forge and share common standards and practices (Yesilkagit and Jordana 2022). If IRAs can enhance harmonisation at EU level, they are also able to act as veto points to further European integration. IRAs can oppose 'agencification' at EU level in their specific sector and persuade the Commission and legislator to stick with a loose cooperation in an European Administrative Network, since national experts from independent authorities hold a central epistemic authority in their policy field (van Kreijl 2022). In these networks, the *acquis* only provides for vague obligations in terms of cooperation.⁹ This means that the effectiveness of each European network must be assessed empirically. If some have proven to be new transnational governance fora in which key decisions are taken under the guidance of the Commission (Maggetti and Gilardi 2014; Vantaggiato, Kassim, and Wright 2021), other administrative networks may

actually impede the establishment of a Brussels-based cooperation by favouring a loose network of national authorities that firmly retain their competences (Kelemen and Tarrant 2011).

For railways, this agencification led to the rise of two types of regulatory authorities: the infrastructure manager, responsible for maintaining the infrastructure and allocating slots to undertakings on the tracks, and the RB, responsible for overseeing the actions of the infrastructure manager and assessing the applications of undertakings to competition for and in the market. RBs therefore add another layer to the agencification process, which also occurs for the electricity market (which provides at national level for Transmission System Operators and RBs). They must ensure that the infrastructure manager does not unduly favour the incumbent vis-à-vis new entrants (e.g. slots allocations or charges for use of the infrastructure). That is why their requirements in terms of independence are strongly emphasized in the SERA Directive (art.55), since they epitomize in this specific sector the purposes of SERA regarding high-speed traffic, i.e. the transnationalisation and liberalisation of the market.

If the rise of RBs has yielded some results in terms of liberalisation in the EU (De Francesco and Castro 2018, 380), the claim that their existence is 'conditional' to the liberalisation of the railway market is debatable. Rail RBs were created by legislative instruments specifically aiming at liberalising high-speed markets. The correlation between liberalisation and RBs is logical, but does turn into a causal relationship. The political will of the EU legislator created momentum for market opening, but this does not necessarily mean that liberalisation could not have been achieved by the infrastructure manager alone or even by a ministerial body. The overarching look of liberalisation figures in the EU is thus insufficient in developing a causal relationship between the existence of RBs and liberalisation.

3. Theory and methods: redefining 'institutions' in contemporary EU studies: the inclusion of infrastructural considerations

This article will focus on the role of RBs as alleged agents of liberalisation of railway markets, and will trace their activities. In order to do so, it will adopt a renewed perspective of historical neo-institutionalism which draws from the work of Dyrhaug (2013, 2022). Her work is instrumental in explaining the slow liberalisation process that occurred between the first attempt in 1991 and the final regulatory package of 2016. It lays the ground for further explanations after that date, not least with the full liberalisation of high-speed traffic in 2020. Besides, this piece will update the theoretical framework in EU regulatory governance concerning IRAs, and provide a new in-depth empirical account on the regulation of railways, which remains largely overlooked in contemporary EU studies and still presents a puzzle when assessed against the backdrop of other utilities sectors.

The theoretical shift from historical neo-institutionalism as classically applied in EU studies is twofold. First, the focus will leave EU institutions in favour of national authorities, rail RBs in France and Poland in this case. Once enacted, liberalisation policies must be enforced at national level, and RBs are set to be the primary enforcers of the railway acquis. National administrations are and remain the primary enforcers of EU policy (Hofmann 2011). RBs are in that regard the final touch of the 'layering' process (Thelen 2003) in the long overhaul of the railway sector. The incremental implementation of EU

policy will occur at national level before it may loop back in at EU level via renegotiation by the legislator, infringement proceedings initiated by the European Commission or referrals to the CJEU. RBs are also set to cooperate with one another, along with EC officials, in a dedicated European administrative network: the European Network of Regulatory Rail Bodies. This group convenes twice a year in Brussels in meetings chaired by officials of the Commission's Directorate-General for transports (DG MOVE), with the aim of sharing good practices and defining new standards towards better implementation.

Second, the theory will use a broadened definition of 'institution' as a guiding concept. Hall and Taylor defined institutions in the historical neo-institutionalist strand as 'formal or informal procedures, routines, norms and conventions [...] They can range from the rules of a constitutional order or the standard operating procedures of a bureaucracy to the conventions governing trade union behavior or bank-firm relations' (Hall and Taylor 1996, 938). This list enumerates a set of properties that refer to societal and behavioural arrangements. Here, 'institutions' will also refer to the physical component regulated by railway policy: the infrastructure. The purpose of liberalising and trans-nationalising railways is to change the use of a pre-existing infrastructure from a state-built and owned network to an infrastructure shared by several undertakings without internal borders. EU regulation aims at redefining the use of an 'object' previously instituted for different purposes. This research also wants to include the 'object' that is being reframed as a 'European object' (Laurent 2022). The focus on 'objects' or 'non-human actants', which comes out of Actor-Network Theory (Latour 2010) and is embraced by the field of *Science and Technology studies*, allows for another entry of research into the field of the EU's regulatory machine. It aims at unpacking the effects of EU policy on an object that was already *instituted*.

This broadening of the definition of institution allows, when it comes to the study of EU law implementation, to unveil a potential new 'misfit' (Börzel and Risse 2003) that is not exclusively attached to the properties of the political and administrative bodies of Member States: the misfit between a specific set of regulations (liberalisation and trans-nationalisation) and the object being regulated (the railway infrastructure for passenger services).

For Börzel and Risse, policy and institutional misfits should trigger a change of practices at national level and induce the Europeanisation of national governance. It also raises challenges in terms of implementation, since Member states structures are not necessarily equipped with the sufficient resources to cope with the demands of the EU legislator. Indeed, there are 'multiple veto points' that may impede the implementation of EU policies. This was precisely the case for years in the transport sector, since veto players such as trade unions blocked the liberalisation process (Héritier 2001), explaining the incremental development of the EU's railway liberalisation process (Dyrhaug 2022).

To overcome implementation deficits by inducing domestic change, the EU may foster the creation of 'facilitating formal institutions' (Börzel 2003). RBs are precisely meant to be that type of institution. They are equipped with sufficient staff and resources to steer the opening of the railway market. Their independence vis-à-vis not only governments but also incumbents make them core players in inducing domestic change. This paper therefore focuses on the role of Regulatory Bodies (RBs), which are theoretically designed to facilitate the implementation of the SERA Directive and the Fourth Railway Package, and are equipped

with the means to overcome veto points when engaged (De Francesco and Castro 2018). Their privileged status also means that RBs can display some agency in shaping implementation practices, which must be highlighted in order to understand their actions in the European multi-level administration system. Indeed, the extent to which RBs are ‘facilitating’ implementation or not cannot be presumed but must be assessed empirically.

Methodologically, the paper adopts an inductive variant of process-tracing that focuses on the activities of RBs of two Member States: France and Poland. The choice for France and Poland is based on a willingness to compare countries with different trajectories when it comes to European integration. France entered the EU before the establishment of an EU railways policy, whereas Poland had to integrate the *acquis* of the 1991 unbundling directive and of the first two railway packages when joining the EU in 2004. These two countries also have a different history of running railways in the last decades. France has enjoyed facilities regarding the availability of different transportation modes since the 1960s. The rise of the automobile as the privileged mode of transport happened early in the second half of the 20th century in Western Europe, whereas Central and Eastern European countries such as Poland were having a strong public transportation network where rail played an important role. Poland still has a strong and thick railway network coming from the communist times, whereas France has a depleted and partially abandoned network focused on the connections of major hubs. However, these countries display similar figures in terms of (lack of) liberalisation, allowing only a few undertakings other than the incumbent to circulate on their tracks.¹⁰ This comparison allows for a most-different system approach, which is suited to a design focused on the dependent variable (Anckar 2008; Gerring 2017).

The research relies extensively on the archives produced by the French and Polish RBs, as well on the reports produced in the transnational spaces that connect them along with the RBs of other Member States: the European Network of Regulatory Rail Bodies and the Independent Regulators Group – Rail (IRG Rail). The European Network publishes the minutes of their biannual meetings ever since its inception in 2013.¹¹ IRG-Rail publishes yearly reports and position papers which are signed and approved by all members of the network (including the viewpoints of the French and Polish RBs analysed in this paper), which convey their views and practices regarding the various instruments of the railway *acquis*.¹² This archival work was accompanied by a set of nine interviews carried out in Warsaw (April 2023) and Paris (March 2024) with anonymised civil servants in charge of carrying out the transnationalisation and liberalisation of railways. If most interviewees expressed the desire to be kept off the record (only three are cited here), they pointed out towards sources that are backed by several press releases used here as evidence. This combination of sources allowed for an understanding of the facilitating possibilities possessed by RBs, and also for the objectivation of their role as independent steering bodies. These sources also allowed to pinpoint the challenges faced by RBs when confronting veto players such as infrastructure managers, but also when interacting with other facilitating institutions such as the European Network of Regulatory Rail Bodies.

4. Re-assembling regulatory bodies within the railway network: infrastructural and regulatory clashes

RBs from Poland and France establish different kinds of relationships with the other players involved in railway policy. These are of varying nature, and include the

infrastructure framing the possibilities and limits of competition on the tracks. The material element of railways generates a strong path-dependence in the slow transnationalisation and liberalisation of the network. It is invoked as the main challenge of this policy area, and perceptions surrounding the administration of the infrastructure shape the discretion that RB officials and their counterparts possess. All these assemblages also alter the perception regulators have of themselves. Overall, the actions of RBs in Poland and France are alike, despite their differentiated trajectories in terms of European integration. The comparative analysis of these two countries will thus be presented jointly, while pinpointing their specificities when required.

4.1. How RBs view themselves: 'the state, and us'

The perception of institutional independence among officials from the French and Polish RBs is notably unique. Established under the first regulatory package, RBs had to be legally created as 'independent' bodies cooperating with one another, with the 'support' of the Commission. These must assess applications for entrance in the railway network without interference from any other state organ. For rail officials, independence seems to mean complete insulation. They clearly distinguish themselves from the 'State', even though RBs are legally state organs. As clearly pointed out in IRG-Rail position papers, they keep governments and legislators to a distance.¹³ Their officials thus refer to the specific nature of their functions. When I asked the question 'but don't you consider yourselves as the state?' in Warsaw, the answer of one official was a clear 'No'.¹⁴ RB officials clearly follow their own course of action, which seems to be a strict following of established rules. They unanimously support promoting competition as the core principle behind their establishment and express concern over the exceptions granted to governments under the Fourth Railway Package, particularly regarding the direct awarding of market segments..¹⁵

More interestingly, their perception of independence leads them to believe that the creation of further bodies, especially at EU level, would undermine their own role. Administrative networks should remain loose forms of cooperation rather than a forum where common rules are forged. If such a forum were to be erected, it should then be composed of the RBs themselves, as they possess the on-the-ground knowledge and experience necessary to advance technical standards. This stands in clear contrast with the technical pillar of EU railway policy, where the authority of the EU Agency for Railways is accepted.¹⁶ The proposal of the Commission to create a Single European regulator prompted the creation of IRG-Rail, whose first task was to lobby extensively the Council in order to see the proposal dropped in the SERA directive (they eventually succeeded). The main statement was the following:

As already stated in IRG-Rail's second position paper of 9th September 2011, we believe that the establishment of a rail regulatory body at European level would not offer sufficient flexibility and room for manoeuvre at national level which are essential for taking specific national conditions into account. Rail regulation is most effective and efficient when performed by strong and independent national regulatory bodies. They have the knowledge, flexibility and proximity necessary to establish and ensure non-discriminatory access to railways.¹⁷

IRG-Rail symbolises this loose form of cooperation promoted by RBs. RBs agree on a mutual set of principles and summarise them in position papers sent to the Commission and legislator. In that regard, they act like a pure Brussels-based civil society group.¹⁸

Finally, their perception of ‘independence’ is linked to the perceived ‘unique’ blend of each national railway system. RB officials stress the varying histories of their country in a comparative manner, and insist that only common denominators should engender agreements. If safety standards do not generate dissensus and that interoperability is mostly welcome (although the establishment of the European Rail Traffic Management System generates bilateral difficulties), the intricacies of passengers’ markets would seemingly be nationally specific. This specificity remains a matter of perception as there is no further evidence to back it up in policy and regulation terms. It seems to be more correlated to the state of the existing infrastructure, and the way it shapes subsequent regulatory choices.

4.2. Rail infrastructure: the remoteness of the single European railway area as a European regulated object

Material or non-biological objects do not seem to display their own form of agency. These are human-made ‘monsters’ (Law 1991), and their creators remain theoretically able to adapt the infrastructure to their needs. Yet, the existence of a material network established over decades, involving large sums of money and requiring the intrusion of the state in societies dominated by private property, gives materiality a prominent weight when attempting to reshape a pre-existing network. That is why institutions also refer here, according to Actor-Network Theory (Latour 2010), to the pre-existing infrastructure of the railway network. The establishment of SERA led to the rise of new cross-border lines, whereas the fourth package aims at applying liberalisation rules to pre-existing domestic markets. However, the rules on liberalisation and track access may not be fully compatible.

The establishment of international connections relies on the existing major domestic network lines, which are already served by high-speed trains such as IC and TGV. These lines connect the major hubs in their respective countries, meaning the East-West line between Poznan and Warsaw in Poland, and the Lille-Strasbourg-Marseille through Paris configuration in France. These were established following salient political decisions at a time when rail became a vector of industrial modernisation. In France, the system is referred to as the ‘Legrand star’, bearing the name of the engineer that designed a system where Paris would constitute the ‘centre’ of the modern world and therefore had to be the most prominent (if not exclusive) node in the network.¹⁹

These lines are already characterised by a high level of activity, almost leading at times to saturation. At peak hours, the traffic is really dense and does not allow for more capacity allocation, causing potential tensions between RBs and infrastructure managers on the issue (see below). This means that competition in the market can only be limited, and that only a few undertakings may compete on a single line.²⁰ Some even suggest that international traffic is causing even more congestion: international trains cause delays disrupting the full time efficiency of the network, leading infrastructure managers to contain the potential amount of allocations.²¹

The rest of the network consists of secondary or tertiary lines. These do not connect the major hubs of Member States. Capacity allocation is not an issue there: most lines are subject to a reduced service by the incumbent, and increasing the traffic would likely not generate any issue. But these lines are often not generating any profit and are therefore subject to the ‘public service obligation’ (PSO) regime. These allow Member States to directly award a contract to any undertaking (incumbent or otherwise) and to provide a compensation for the loss generated by the activity, because the investment exceeds the returns generated by the service. RBs are excluded from this process. Governments (held to maintain close historical ties and political interests with the incumbent) choose the undertakings winning the competition for the market in that case, pursuant to the PSO regulation.²² But this exception to the market is subject to a more burdensome attribution process, not only in terms of bureaucracy but also regarding the precise nature of the service to be provided, e.g. specific rolling stock and pre-determined (i.e. not by the undertaking) passenger quotas. These limit the potential number of applicants, which led the EU legislator to adopt a further transition period of 10 years (until 2033), allowing some Member States to designate the incumbent for the next decade.²³

Infrastructure considerations are closely linked to rolling stock. Although the technical framework includes the implementation of the European Rail Traffic Management System, which harmonises safety standards and allows foreign rolling stock to enter domestic networks without border obstacles, some challenges still persist. In France, trains must possess a ‘KVB’ box transmitting information about train speed. The European Rail Traffic Management System was supposed to substitute this national equipment, but only a minority of trains (40% of high-speed trains and 7% of classic trains in 2021) are equipped with European Rail Traffic Management System technology. Access to KVB boxes was provided by the French constructor Alstom, which possesses the patent to produce the technology. But Alstom had ceased to produce KVB boxes and only relaunched the production in 2024, thereby limiting the potential access to new undertakings.²⁴ Besides, access to rolling stock overall remains complicated, as regularly denounced by IRG-Rail. It is also not possible to rent rolling stock in France. The mandatory buying of wagons and locomotives, whose maintenance is usually provided by a single operator, is also an impeding factor to liberalisation.

The analysis of infrastructure reveals three cumulative features that make railway infrastructure an institution generating path dependencies, which slow down the liberalisation and transnational integration of SERA. It generates a mismatch between the aspirations of the EU on the one hand and the practical possibilities that RBs must deal with on the other hand. First, the rail infrastructure is a *closed network*. Competition traditionally referred to the increase of available goods and services provided to the consumer, which is only a limited option for utilities. The network is characterised by two extremes: the first refers to attractive but overcrowded segments of the market, whereas the second refers to available but unattractive segments.

The second institutional feature of the infrastructure refers to its *national physical anchoring*, which does not bear a functional need for transnationalisation. More than 90% of the network concerns domestic service, which in turn conditions the development of signalisation and management of rolling stock.

Third, there is *no functional pressure* to harmonise railways and to pursue transnational cooperation. This is where rail stands in clear contrast to the electricity market. The latter is

nowadays partially regulated by the Agency for the Cooperation of Energy Regulators because the production of electricity across borders allows for a multiplication of generation points, which allows for a diversification of energy sources (gas, nuclear, etc.) that reduces marginal costs and prevents shortages in a Member State (Newbery, Strbac, and Viehoff 2016). Functional pressures often translate in the delegation of competences to the EU, and electricity is a clear illustration of that trend (Mathieu 2016). Therefore, the absence of such delegation regarding the market pillar of railways illustrates this lack of functional pressure when it comes to the infrastructure, contrary to the technical pillar of the Fourth Railway Package which is steered by the European Union Agency for Railways (Versluis and Tarr 2013). Cross-border traffic in SERA thus results from a pure political impulse, which does not immediately fit the pre-existing landscape of railways. In sum, the state of the infrastructure acts itself as a veto point impeding the quick liberalisation of the market.

4.3. Regulatory bodies and infrastructure managers: differing purposes

The respective activities of infrastructure managers and RBs should cumulatively lead to an opening of passenger markets. RBs have to manage the specific state of the infrastructure with the duty to liberalise, without disrupting the freight market either. RB officials will proceed with their own calculations about the efficiency and potential allocations to access the network. But the decision of access to tracks belongs to infrastructure managers. The relationship between RBs and infrastructure managers is competitive and at times conflictual. Infrastructure managers are in charge of capacity allocation and levying charges. These two factors come into play when fostering or impeding liberalisation.

Capacity allocation is mostly dependent on the state of the infrastructure detailed above. What matters here is the agency exercised both administrative authorities. Each will assess it with different objectives in mind. RBs try to ensure that the network is used to its fullest extent for segments where competition in the market is possible, meaning that an increase of available services leads to an increase of undertakings on the tracks. Infrastructure managers must ensure that the traffic is not congested and that the infrastructure remains fit for purpose. The calculations of both authorities will sometimes differ. This leads to the de facto non-application of an RB-approved application by the infrastructure manager, even if the RB is legally monitoring its activities.

Infrastructure managers levy charges paid by undertakings, with a repercussion on fare tariffs. Charging practices have generated tensions between both authorities, because RBs have accused infrastructure managers of favouring the incumbent. Infrastructure managers must levy fees to maintain the infrastructure, and they do so by adapting to changes in the network. RBs contest this practice on the ground that undertakings need a clear and stable charging plan in order to propose a suitable business project. The *City Rail* case is a clear example.²⁵ The Czech regulator contested a charging practice of the infrastructure manager but was not accepted as a legitimate body possessing the prerogative to ask for a preliminary ruling before the CJEU (Mattioli 2023).

The core tension however between RBs and infrastructure managers is the alleged proximity of the latter with the incumbent. RBs deplore the absence of 'vertical separation' between them in most Member States, as if unbundling never fully occurred. In

France and Poland, the infrastructure managers and the incumbent are part of the same holding company. In France, ‘SNCF Réseau’ is the infrastructure manager whereas ‘SNCF Mobilités’ is the incumbent. In Poland, PKP Polskie Linie Kolejowe S.A. is the infrastructure manager whereas Polskie Koleje Państwowe (PKP) is the incumbent. Infrastructure managers and incumbents are often subject to a separation of accounts but also often remain within a single overarching structure, and share the same premises. While the separation is legally supposed to be strict, RBs throughout the entire EU denounce the ‘Chinese walls’ that would allegedly allow for the circulation of asymmetrical (and therefore anticompetitive) information between both branches of the organisation, allowing incumbents to possess privileged information before it is made public to other undertakings.²⁶

Nonetheless, RBs also understand the difficulties faced by infrastructure managers in terms of financing. The original directive of 1991 led with the unbundling process to a shift of the debt historically accumulated by the incumbent to the infrastructure managers’ accounts. These must therefore not only find ways to maintain the infrastructure sharp, but also find sources of income to reimburse the debt. In some countries such as France, the financing of the rail infrastructure occurs almost exclusively via tolls, which are charged to the undertaking but are eventually passed onto the price of the fare.²⁷ Even if the state absorbed 35 billion euros of debt, the infrastructure manager must repay a debt that raised as high as 52 billion euros.²⁸ The RB accepts that tolls must be levied in order to provide SNCF Réseau with sufficient resources, and accepted a raise of charges that was contested by eight French regions.²⁹

4.4. The newcomers: distrust towards private undertakings

Private undertakings and foreign incumbents willing to enter domestic networks must establish a business plan assessed by RBs. The latter then perform a key evaluation called the ‘Economic Equilibrium test’,³⁰ i.e. a balance of economic interests regarding the public service to be provided. The applicant must submit a proposition reflecting the net financial gain foreseen by the activity, and the potential upside of replacing the operator already performing the service (which is *de facto* the incumbent). The operator already performing the service has a right of response. This test defines the procedural conditions that RBs must follow. Precise thresholds however remain at their discretion, deemed to know better the economic realities of their domestic markets.³¹

RBs are granted leeway in their assessment, defining their thresholds and methodology as long as these remain transparently established. They can therefore adopt strict thresholds in that regard. The reason lies in the lack of faith on the reliability of private undertakings by RBs. The latter must ensure that a service is carried out, and for example the Polish regulator has already faced a withdrawal of a private undertaking (having in Poland a notification period of 6 months). The profitability (unilaterally established in Poland as being 1,5% higher than the current service³²) must be ascertained in order for the RB to allow access. This led the business association Allrail to denounce the instrumentalization of the Economic Equilibrium by the Polish RB. They stated that:

The Economic Equilibrium Test to “protect” PSOs is actually being abused – to “protect” against market opening.³³

This example shows that, contrary to the theoretical expectations arguing that RBs would always be facilitating formal institutions, RBs can also be viewed as veto points barring or at least delaying the opening up of the railway market.

4.5. *'The European Commission does not leave room for cooperation'*³⁴

Issues about interoperability (normally belonging to the technical pillar but having direct consequences on liberalisation), access to rolling stock and establishment of common practices about the Economic Equilibrium Test could be harmonised or at least discussed in the EU. The Commission has attempted to provide such a forum when it established in 2013 the European Network of Regulatory Rail Bodies. It is an administrative network similar to the European Competition Network where the Commission host representatives of RBs and discuss issues regarding the implementation of the liberalisation of passengers' markets. The analysis of the minutes of these meetings over the last ten years shows that exchanges are brief, if not succinct. DG MOVE officials usually present the points of their agenda and expose their views on the matter, but these hardly trigger responses from RB representatives.

These brief exchanges are in stark contrast with the pro-activity of IRG-Rail, where members have regular meetings and agree on common positions. Interviews revealed that RB officials believe that the Commission exclusively focuses on transnational lines and is not heavily concerned with domestic networks. For a Polish RB official, transnational traffic only represents 7% of the activity of the network, i.e. a marginal portion of their activities.³⁵ The part about cross-border cooperation where RB officials would hope for further Commission involvement is the possibility for a simple crossing of the border of one undertaking in order to enter their neighbour's network (e.g. the entry of the Belgian train up to Lille), without changing the regulatory regime in place.

The Commission noticed that its own network paled in comparison with IRG-Rail and advocated for closer relationships between both networks, not least by inviting the independent regulators' group to expose its arguments to EU officials.³⁶ This initial step however has not been followed by any further measure.

The growing and self-consolidating inner culture of IRG-Rail is shaping the distant relationship among RBs (including the French and Polish bodies) and the Commission. The latter wanted to empower a Single European Regulator, which is opposed by RBs. RB officials state however that, if the legislator were to convene on the creation of such a body, RBs would then obviously follow suit.³⁷ But as things stand, i.e. under the current regulatory regime of the fourth package and the SERA directive, RBs do not view the Commission or any other transnational institution as possessing the capacity of accounting for their own specificity. The fact that railway policy is mostly (if not exclusively) enacted at EU level does not mean that EU bodies take the lead in framing a common understanding of railway policy.

Tensions between the Commission and national authorities do not exclusively relate to institutional design, but also to proper policy implementation. Eager to see the achievement of SERA, EU officials constantly update the 'Technical Specifications for Interoperability' which are established to ensure the enforcement of the European Rail Traffic Management System. This regular update has been denounced as a form of 'overregulation' (Chavanel 2020): authorities and undertakings alike would not have the

time to process and implement the changes, and the Commission would provide updates even when the former specification was not implemented. This had led France to have only a slow implementation of the interoperability specifications, and to favour its own guiding system (see b) on KVB boxes.

5. Conclusion: the generalised adversity to SERA

The EU has established a renewed administrative setting at national level in order to ensure the continuation of the liberalisation of railways, including in domestic markets. The EU legislator decided to empower RBs and infrastructure managers in order to achieve competition in the sector. The solution of empowering independent regulatory authorities had already proved fruitful in other areas of European governance, not least regarding other utilities. There are correlations supporting the connection between regulatory empowerment of RBs and liberalisation. Besides, the EU-led process of ‘agencification’ generating a ‘European administrative space’ has also given rise to further cooperation at transnational level and reinforced governance in various market areas, such as energy or competition.

Developments in railways show a very different pattern. RBs perform their mandate following the needs of their respective markets. If RBs are theoretically formal institutions facilitating domestic change, the analysis in France and Poland showed that their respective RBs can themselves act as veto points in this process. If the interviewed officials all displayed a relative degree of openness towards liberalisation, they also expressed that such a process may not come at the expense of the public service.

The development of railway policy in France and Poland is showing that agencification is not necessarily conducive to an increased compliance with EU rules, or to an enhanced cooperation with EC officials. Previous research on the domestic impact of European integration and on ‘misfits’ has emphasised the role of facilitating formal institutions – such as regulatory bodies (RBs) – in bridging gaps between EU policy and existing national structures. However, it has largely overlooked the potential for these institutions to act at the same time as veto players in the integration process. The empowerment of ‘independent’ bodies grants them the ability to define the parameters of their connection with other governing institutions, national or otherwise. In the case of railways, the separation between ‘state’, infrastructure manager and RB has generated numerous divisions. These organs pursue different economic and regulatory objectives that are at times hard to reconcile. EU institutions, not least the Commission, and national governments cannot anymore have the role of ‘principal’ as classically described in studies stressing the empowerment of independent administrative authorities in the early 21st century. This institutional status grants them leeway in defining the life of EU public policy at national level.

Regarding railways, liberalisation is an accepted principle but is not overtaking the need for a public service to be provided. Besides, the administrative setup adopted by the EU legislator may even impede the smooth development of competition on tracks, without much change possible under the current framework. The infrastructure, redefined here as an institution, generates strong path dependencies that prevent a swift opening of the market within and across borders. The separation between ‘market’ and ‘technical’

pillars established in the Fourth regulatory package is blurred if not set aside when it comes to the practical implementation of the *acquis* in this area of public policy.

Therefore, the achievement of SERA does not necessarily lean towards an increased independence of RBs, as argued by De Francesco and Castro (2018, 383). The administrative setup and the regulatory tools provided to RBs seem sufficient to increase liberalisation and transnationalisation of the railway market. The European Network for Regulatory Rail Bodies provides a platform allowing for genuine exchanges between Commission officials and RBs, and the challenges raised by national officials who run the daily implementation of railway policy could be addressed upfront. The challenges associated to SERA lay more on the technical side of railways that still generates barriers to entry in domestic networks, not least access to rolling stock and signalling devices. Regarding the latter, the Commission may tend to overregulate technical specifications for interoperability, which do not allow independent regulatory authorities or undertakings to take the new specifications on board. The investment in railways is costly and must be used for years before running a profit.

The analysis carried out has unveiled new terrains for further research not only on railway market opening, but more generally in EU policy implementation in the European administrative space. The prominent role of IRG-Rail as an obligatory passage point in the setting of regulatory standards in the field of railways remains a blind spot in the literature. Besides, existing research has mostly focused on the role of RBs as facilitating institutions of liberalisation, but has not addressed the role of infrastructure managers as key players and potential veto points. Such a focus does not lay exclusively in the field of railways, but also applies to all the EU-led liberalised sectors (e.g. for Transmission System Operators in the field of electricity).

The realisation of SERA seems to be more one of policy than of institutional design. The institutional measures establishing infrastructure managers and RBs have not sufficed in countering the imbalance in the market in favour of the incumbents, SNCF in France and PKP in Poland. Some authors have proposed temporary anti-competitive measures that disadvantage the incumbent for a limited period, as long as necessary to establish a level playing field in the market (Bougette, Gautier, and Marty 2021). Were such measures to be established, RBs would no longer possess veto powers to slow down liberalisation but would on the contrary be led to (finally) become the facilitating institutions steering this process.

Notes

1. Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area (recast).
2. See European Commission 2023 288 final, 'Commission Staff Working Document Accompanying The Document Report From The Commission To The European Parliament And The Council Eighth monitoring report on the development of the rail market under Article 15(4) of Directive 2012/34/EU of the European Parliament and of the Council', 13 September 2023, Part 2, 'Evolution of competitors' market share in the commercial passenger market', p. 45: [resource.html](#) (Accessed: 23/07/2025)
3. By 'legislator', I refer to the co-legislators of the EU, namely the Council of the European Union and the European Parliament.

4. Electricity market indicators – Statistics Explained (Accessed: 23/07/2025).
5. Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways: Directive – 91/440 - EN – EUR-Lex (europa.eu) (Accessed: 23/07/2025)
6. Competition for the market occurs for segments of the market that are not commercial and are under the regime of 'Public Service Obligations'.
7. See the timeline exposed by SNCF, 'Rail market liberalization', 21/03/2024: Rail market liberalization | SNCF Group (Accessed: 23/07/2025).
8. C-718/18, European Commission v Federal Republic of Germany, 2 September 2021, ECLI:EU:C:2021:662.
9. e.g. the SERA directive provides at art. 57(1) that 'The regulatory bodies shall *exchange information* about their work and decision-making principles and practice and, in particular, exchange information on the main issues of their procedures and on the problems of interpreting transposed Union railway law. They shall otherwise *cooperate for the purpose of coordinating their decision-making across the Union*. For this purpose, they shall *participate and work together* in a network that convenes at regular intervals. The Commission shall be a member, coordinate and support the work of the network and make recommendations to the network, as appropriate. It shall *ensure active cooperation* of the appropriate regulatory bodies' (emphases added)
10. In 2021, liberalisation was inexistent in both countries (see Heinrich Böll Stiftung, 'Rail: The Challenges of a Single European Railway Area', 03/02/21: <https://eu.boell.org/en/rail-the-challenges-of-a-single-european-railway-area>. (Accessed: 23/07/25).
11. The list of minutes can be found here: European Network of Rail Regulatory Bodies (ENRRB) – European Commission (Accessed: 23/07/25).
12. The publications of IRG-Rail can be found here: Documents – IRG Rail (Accessed: 23/07/25).
13. In the strategic document for the period 2021–2024, RBs stress their independence vis-à-vis other state organs and detail the channels they plan to use to 'communicate' with these other institutions: IRG Rail, 'IRG-RAIL STRATEGY DOCUMENT 2021–2024', November 2020: [irg-rail__20__12_-_Strategy_Document_2021-2024\(1\).pdf](#) (Accessed: 23/07/25)
14. Interview 2, Warsaw, 12 April 2023.
15. IRG-Rail, 'Position paper on the conclusions of the trilogue negotiations on the Fourth Railway Package', 05/05/2016: <https://irg-rail.eu/download/5/14/IRG-Rail163-PositionPaperontheconclusionsofthetriloguenegotiationsontheFourthRail.pdf>. (Accessed: 23/07/25).
16. RBs refer directly to the safety standards drafted by the agency without stressing the need for fine-tuning at national level. This is in line with (Versluis and Tarr 2013).
17. IRG- Rail, '3rd Position Paper on the Recast Regulatory questions arising from the ongoing discussion on the Recast', 28/29 November 2011, p. 2: [2011-11-29_IRG-Rail_Third_Recast_Position_Paper\(5\).pdf](#) (Accessed: 04/12/24)
18. IRG-Rail can be found in the transparency register, showing their lobbying intent: organisation detail – European Union (Accessed: 23/07/25).
19. See the current state of the French high-speed network (FranceMap360°, 'Carte des trains en France': Carte de France des trains : lignes ferroviaires et train à grande vitesse de France (francemap360.com)) (Accessed: 23/07/25) where Paris is visibly the insuperable central node. See also the state of the Polish network (European Commission, 'Upgrading Poland's railway communications for competitive, safer transport': https://ec.europa.eu/regional_policy/en/projects/Poland/upgrading-polands-railway-communications-for-competitive-safer-transport) (Accessed: 23/07/25), which is not as centralised as the French system, although it is concentrated along three major lines.
20. The potential solution would be to reduce the incumbent's share in favour of other undertakings. But this is not what is happening, for reasons related to the actions of both RBs and infrastructure managers.
21. See for example <https://lequotidien.lu/a-la-une/retard-des-trains-un-reseau-sature-et-des-infrastructures-inadaptees/> (Accessed: 23/07/25) denouncing the delays in congestion of the Luxembourgish traffic caused by SNCF trains.

22. Regulation (EC) No 1370/2007 of the European Parliament and of the Council of 23 October 2007 on public passenger transport services by rail and by road and repealing Council Regulations (EEC) Nos 1191/69 and 1107/70.
23. The Belgian government has for example already decided to do. See (Andrien et al. 2024).
24. France Inter, 'L'ouverture du rail à la concurrence : une réalité qui peine à se mettre en place', 02/06/2023: L'ouverture du rail à la concurrence : une réalité qui peine à se mettre en place (radiofrance.fr) (Accessed: 23/07/25).
25. C-453/20, CityRail a.s. v Správa železnic, státní organizace, 3 May 2022, ECLI:EU:C:2022:341.
26. IRG-Rail, 'Position paper on the conclusions of the trilogue negotiations on the Fourth Railway Package', 5 May 2016, p.2: <https://irg-rail.eu/download/5/14/IRG-Rail163-PositionPaperontheconclusionsofthetriloguenegotiationsontheFourthRail.pdf>. (Accessed: 04/12/24).
27. The French infrastructure manager SNCF réseau had in 2023 an income of 7,5 billion euros, with tolls representing 6,4 billions of the whole total. See SNCF Réseau, 'RAPPORT FINANCIER ANNUEL DU GROUPE SNCF RÉSEAU', 1 March 2024, p.9: Untitled (Accessed: 23/07/25).
28. Finances | SNCF Réseau (Accessed: 23/07/25).
29. La Tribune, 'L'autorité des transports approuve les hausses des péages ferroviaires décidées par SNCF Réseau', 13 September 2024: L'autorité des transports approuve les hausses des péages ferroviaires décidées par SNCF Réseau (Accessed: 05/12/24).
30. See the modalities expressed by the Commission in Commission Implementing Regulation (EU) 2018/1795 of 20 November 2018 laying down procedure and criteria for the application of the economic equilibrium test pursuant to Article 11 of Directive 2012/34/EU of the European Parliament and of the Council.
31. Interview 1, Warsaw, 6 April 2023.
32. Interview 1, Warsaw, 6 April 2023.
33. All rail, 'POLAND: Once Again, The Polish Rail Regulator UTK Excels In Blatant Double Standards': POLAND: Once Again, The Polish Rail Regulator UTK Excels In Blatant Double Standards | ALLRAIL – The Future of Passenger Railways (Accessed: 23/07/25).
34. Quote from Interview 3, Warsaw, 6 April 2023.
35. Quote from Interview 3, Warsaw, 6 April 2023.
36. e.g. 17th meeting of the European Network of Rail Regulatory Bodies 28–30 November 2018, Prague: [fe4bf007-bbc2-4b4b-874b-84269cd412b8_en](https://www.enrb.europa.eu/media/174476/17th%20meeting%20of%20the%20European%20Network%20of%20Rail%20Regulatory%20Bodies%2028-30%20November%202018%20Prague.pdf) (Accessed: 23/07/25)
37. Interview 3, Warsaw, 6 April 2023.

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