

**Economic and Social Council**Distr.: General
14 September 2017

Original: English

Economic Commission for Europe**Inland Transport Committee****Working Party on Rail Transport****Seventy-first session**

Geneva, 27-29 November 2017

Item 14 of the provisional agenda

Railway Reform**Railway Reform in the ECE Region****Note by the secretariat****I. Background and Introduction**

1. Historically,¹ most European railways were managed as vertically integrated state-owned monopolies, which were responsible for the direct provision of public services, ownership of infrastructure and utilities and often, other non-rail activities (Community of European Railway and Infrastructure Companies - CER, 2011). A decline in rail market shares and financial difficulties — leading to growing public funding requirements — called for change. From the beginning of the 1990s, a profound restructuring process has taken place, with the aim to promote gradual market opening through non-discriminatory access and interoperability standards and the goal of reversing the industry's negative traffic trends and, in some cases, inefficient operations.

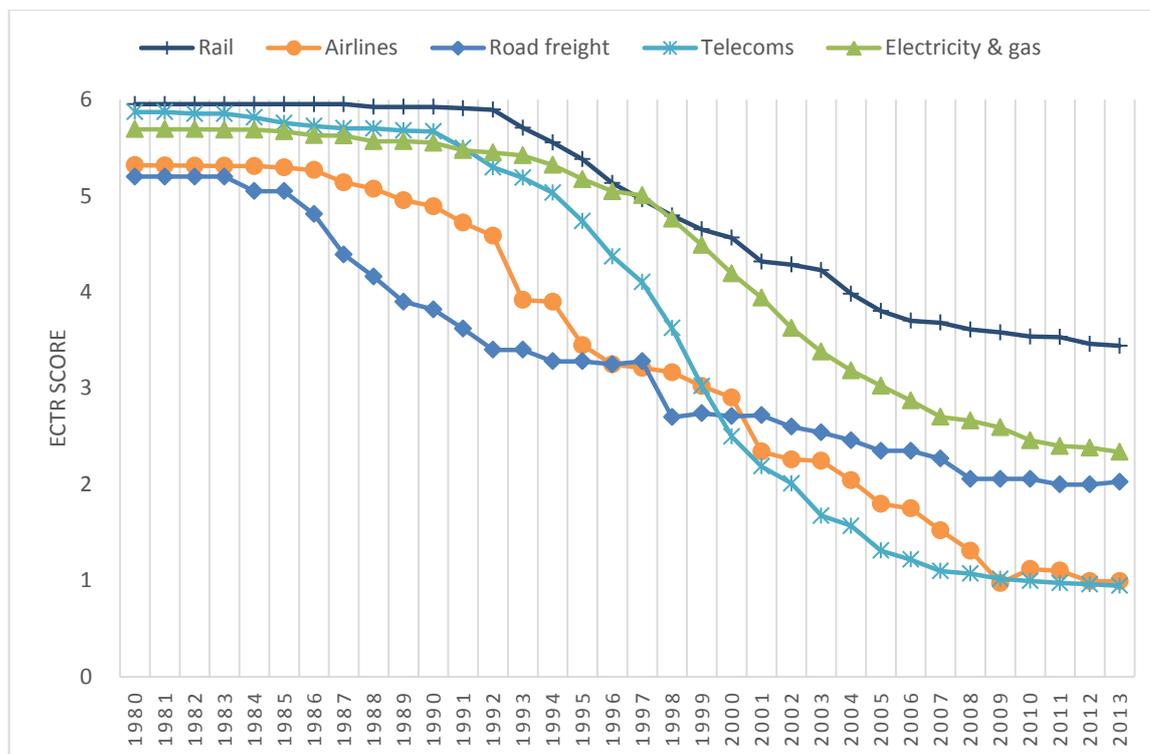
2. This stream of reforms can be seen in a wider context — i.e. the international trend of so-called New Public Management (NPM) reforms, which started in the 1980s and were accepted as the “gold standard for administrative reform” in the 1990s (Farazmand and Pinkowski, 2006). NPM reforms involved many sectors sharing the features of a natural monopoly — e.g. electricity, natural gas, telecommunications, water and transport — where private sector managerial tools and principles were introduced with a goal of ensuring macroeconomic stability, cutting deficit spending and reducing the scope and cost of government intervention.

3. Changes in the structure, regulation and performance of European network industries are included in the indicators of Regulation in Energy, Communication and

¹ i.e. in the post-war period.

Transport (ECTR) prepared by the OECD, which measure the degree of vertical integration, public ownership, access openness and market concentration in regulated markets. ECTR indicators range from a minimum of 0 (a condition of full deregulation) to a maximum of 6 (most restrictive conditions for competition). The following figure shows the trend of ECTR indicators for rail, airlines and road freight — and other non-transport network industries for comparison — computed as averages over a sample of UNECE countries for which data over the period between 1980 and 2013 are available.²

ECTR indicators, 1980-2013



Source: OECD

4. Regulatory reform in the transport sector began with road freight, which was extensively liberalized in most countries by the mid-1990s. Regulations in the air transport were also lifted relatively early on as domestic air markets were liberalized, “open skies” and regional air agreements became more common and several governments reduced their ownership in airlines (Conway and Nicoletti, 2006). Reform in the railway sector began later and proceeded at a slower pace. Nevertheless, over the past 25 years, substantial legislative initiatives have been put forward in the ECE region to reform railways.

5. The history of railway reform in the European Union (EU) and in the non-EU UNECE countries is described below.

² Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom of Great Britain and Northern Ireland.

II. History of Railway Reform in the European Union

6. Over the past decades, the EU legislator has considerably developed the EU rail acquis to encourage competitiveness and market opening. The EU approach to reform has been based on the idea that greater competition makes for a more efficient and customer-responsive industry. This approach derives from the Treaty of Maastricht, which aims to create a single transport market in the EU.³ Measures have also been taken to improve the interoperability and safety of national networks and to encourage the development of an integrated rail system leading to a single European rail area, as outlined in the 2011 Transport White Paper (European Commission, 2016).

7. The EU railway reform has three main goals: a) separation of infrastructure management and service operations;⁴ b) market opening and liberalization of the rail services; c) creation of the common transport market through promotion of interoperability and technical harmonization.

8. Separation refers to the creation of several more-or-less independent units out of an integrated railway that previously combined train operation and infrastructure management within a single line of command (Van de Velde, 2015). Vertical separation implies unbundling potentially competitive activities (e.g. rail service operations) from those activities that are characterized by natural monopoly (e.g. infrastructure management), and has been pursued to facilitate non-discriminatory access for non-incumbent operators and new entrants to the rail network. Different levels of vertical separation may exist:

- Accounting separation requires that distinct accounts are written in case rail service operations and infrastructure management are organized within the same entity;
- Organizational separation requires that rail service operations and infrastructure management are placed in separate subsidiaries within one holding company, with independent decision-making procedures in addition to separate accounts;
- Institutional separation requires that rail service operations and infrastructure management are organized in distinct companies — though both entities could still have the same owner, e.g. the State.

9. Horizontal separation involves splitting the incumbent rail operator into specialized operators by market type or technology, e.g. freight versus passenger operators.

10. Market opening has the goal of extending access rights to the railway infrastructure to non-incumbent entities as well as to essential service facilities (e.g. terminals and maintenance depots). Alongside measures to liberalize the market, the EU spurred the strengthening of national rail regulators as well as the creation of an EU regulatory agency — the European Railway Agency, now replaced by the European Union Agency for Railways.

11. The success of liberalization in the EU partly depends on the removal of physical and technical barriers between member States to allow trains to travel across national borders. These barriers constitute a strong competitive disadvantage, for example for international rail freight vis-à-vis road traffic. The EU has sought to remove these barriers by pursuing a policy of interoperability and technical harmonization through subsequent legislative provisions, as well as the creation of Technical Standards for Interoperability

³ Article 129b of the “Treaty of Maastricht on European Union” (1992): “[...] the Community shall contribute to the establishment and development of trans-European networks in the areas of transport, telecommunications and energy infrastructures.”

⁴ Sometimes also referred to as “unbundling”.

(TSIs), intended to accelerate industry standardisation following slow progress by voluntary industry working groups.⁵ Interoperability also include harmonization of regulatory provisions on safety and passenger rights (Steer Davies Gleave, 2014).

12. The following table summarizes the evolution of EU rail legislation since 1991. This includes a series of EU Directives and Regulations, i.e. Directive 91/440/EC and the four so-called Railway Packages (2001, 2004, 2007 and 2016), and subsequent measures.

Table 1
Overview of EU rail legislation since 1991

<i>Package</i>	<i>DIR / REG</i>		<i>Subject</i>
Initial reform attempts	DIR 91/440/EEC	1	Account separation
		2	Limited access rights to the international market
	DIR 95/18/EC	3	Licencing of rail operators
	DIR 95/19/EC	2	Allocation of railway infrastructure capacity
		2	Infrastructure charging
DIR 96/48/EC	3	Interoperability of the trans-EU high-speed rail network	
First Railway Package	DIR 2001/12/EC	1	Organizational separation (“holding company” model)
		2	Access rights for international freight services
	DIR 2001/13/EC	3	Common criteria for licencing of rail operators
	DIR 2001/14/EC	2	Allocation of capacity independent of rail operators
		2	Establishment of national regulatory bodies
DIR 2001/16/EC	3	Interoperability on the trans-EU conventional rail network	
Second Railway Package	REG 881/2004/EC	3	Establishment of the European Railway Agency
	DIR 2004/49/EC	3	Railway Safety Directive on a common approach to safety
	DIR 2004/50/EC	3	Common approach to interoperability on the EU rail network
	DIR 2004/51/EC	2	Complete opening of the EU rail freight network (from 2006)
Third Railway Package	DIR 2007/58/EC	2	Opening of international passenger rail services (from 2010)
	DIR 2007/59/EC	3	Certification of train drivers and crews
	REG 1370/2007/EC	2	Public Service Contracts Regulation
	REG 1371/2007/EC	3	Regulation on rail passenger rights and obligations
Intermediate steps	DIR 2008/57/EC	3	Recast of the Interoperability Directive
	DIR 2008/110/EC	3	Amended Railway Safety Directive
	REG 1335/2008/EC	3	Amended European Railway Agency Regulation
	DIR 2012/34/EU	1	Recast of the First Railway Package
Fourth Railway	REG 2016/796/EU	3	Establishment of the European Union Agency for Railways

⁵ TSIs only apply to new or upgraded infrastructure. This reduces financial impact of TSI but significantly lengthens the timescales for achieving full interoperability (Steer Davies Gleave, 2014).

<i>Package</i>	<i>DIR / REG</i>	<i>Subject</i>	
Package, Technical Pillar	DIR 2016/797/EU	3	Recast of the Interoperability Directive
	DIR 2016/798/EU	3	Recast of the Safety Directive
Fourth Railway Package, Market Pillar	REG 2016/2337/EU	1	Common rules for rail operators' accounts
	REG 2016/2338/EU	2	Competitive tendering for public service rail contracts
	DIR 2016/2370/EU	2	Full opening of the domestic passenger market

Legend: 1 — Separation; 2 — Market opening and liberalization; 3 — Interoperability and technical harmonization

Source: author's elaboration

A. Initial reform attempts

13. In 1985, the European Court of Justice (judgment in Case 13/83) urged the Council to act on transport policy and support the liberalization of European transport markets. While the liberalization of the road sector started in 1985 right after European Court of Justice's decision, the first important measure of the European Commission concerning the rail sector only arrived in 1991 with Directive 91/440/EC (Esposito et al., 2016).

14. This Directive provided the starting point for the introduction of *vertical separation* between infrastructure management and rail service operations. The Directive required only accounts separation to be implemented, rather than organizational or institutional separation, which were both set as optional.

15. Directive 91/440/EC also provided for rules with respect to *market opening*, providing certain access rights for operators wishing to offer international services, with the aim to increase access competition in the market (Steer Davies Gleave, 2014). Access rights to rail infrastructure in one member State were extended to:

- Rail operators in other member States wishing to provide international combined services, i.e. intermodal freights transportation;
- Associations of railway operators wishing to provide international services (including passenger services) between the countries in which they are established.

16. Subsequently, the EU published Directive 95/18/EC on the licencing of rail operators and Directive 95/19/EC on the allocation of railway infrastructure capacity and infrastructure charging.

17. Reform in the interoperability of railway systems started in the mid-1990s. Directive 96/48/EC was an initial measure on the interoperability of the trans-European high-speed rail system, which had the goal to promote interoperability at the various design stages of the high-speed rail network, including for example: construction, gradual introduction into service and operation.

B. The First Railway Package

18. Compared to the other modes of transport, rail proved to be reluctant to pursue liberalization. By 1996, only nine member States had transposed Directive 91/440/EC into national law. Five member States had partially implemented it, while one State (Greece) had not notified any national changes (Esposito et al., 2016). The Directive had little

impact, as was shown by the small number of new operators or services being added to the market (Steer Davies Gleave, 2014).

19. In the following years, the four regulatory “Railway Packages” packages that had been approved in 2001, 2004, 2007 and 2016, were to counter this lack of progress. The packages brought together the previous Directives, updated them and facilitated market development. The First Railway Package was approved in 2001 and encompassed four Directives that were scheduled for implementation by 2003.

20. Directive 2001/12/EC (amending Directive 91/440/EEC) provided for a further step towards vertical separation, by requiring organizational separation between infrastructure management and rail service operations. Other functions, including rail capacity allocation, infrastructure charging and licencing, were required to be separated from transport operations to enable new rail operators fair access to the rail market. Directive 2001/12/EC also contained further requirements on accounting horizontal separation, aimed at avoiding cross-financing. Railway operators were required to set up separate balance sheets, and profit and loss accounts for passenger and freight operations, as well as separate accounting for public service and other passenger operations. Operators were also forbidden to transfer funds received under public service contracts to activities related to the provision of other transport services.

21. The First Railway Package also set a next major step towards opening the market, with Directive 2001/12/EC providing for the gradual extension of access rights for rail freight operators:

- By 2003, any railway operator licenced within the European Community would have the right to obtain access on an equal and non-discriminatory basis to the national sections of the Trans European Rail Freight Network (TERFN);
- From 2008, the entire European Rail Network would have been opened to competition for international freight services (though no provision were set for cabotage, i.e. transport between two points in the same country by a foreigner operator).

22. Directive 2001/13/EC (amending Directive 95/18/EC) stipulated the common criteria for granting a licence to EU rail operators. Directive 2001/14/EC provided rules on capacity allocation on railway infrastructure, making the allocation of capacity independent of rail operators, and requiring the establishment of national regulatory bodies — independent from any infrastructure manager, charging body, allocation body, or railway operator — to oversee the railway market.

23. Arrangements for interoperability that were similar to those set out in Directive 96/48/EC for the trans-European high-speed rail system were extended to the trans-European conventional rail network by Directive 2001/16/EC. Both these Directives focus on technical aspects — e.g. safety, control systems, signalling, freight wagons and training for staff engaged in international rail operations — and were intended to ensure smooth and safe cross-border rail traffic.

C. The Second Railway Package

24. In 2003, the European Commission conducted an assessment of the transposition of the First Railway Package into national legal systems. Although the implementation process was not fully completed, the results demonstrated the positive effects of introducing more competition in the rail market (Esposito et al., 2016). These findings encouraged the proposal of new sets of legal instruments. The Second Railway Package which focused on further liberalising freight services and promoting harmonization of technical and safety

standards, was approved in 2004 and encompassed three Directives scheduled to be implemented by 2006 and a Regulation.

25. Directive 2004/51/EC (amending Directive 91/440/EEC) represented a further step toward market opening in that it removed all access barriers to domestic markets for freight operators holding an EU licence. The Directive required the entire European rail network to be open to freight traffic (including cabotage) from January 2007.

26. Further steps toward interoperability were enabled by Directive 2004/49/EC (amending Directive 95/18/EC and Directive 2001/14/EC), that aimed to promote harmonization in the railway safety regulatory framework, and by Directive 2004/50/EC (amending Directive 96/48/EC and Directive 2001/16/EC), that aimed to clarify interoperability requirements and extend the scope of Directive 2001/16/EC to cover the whole European rail network.

27. The European Railway Agency was established by Regulation 881/2004/EC to manage and coordinate the technical development of the interoperability and safety requirements.

28. Directive 2004/49/EC (amending Directive 95/18/EC and Directive 2001/14/EC) focused on safety issues, setting Common Safety Methods and Targets and requiring the creation of National Safety Authorities, which would be in charge of granting safety certificates to rail operators and carrying out safety audits.

D. The Third Railway Package

29. The Third Railway Package, composed of two Directives and two Regulation, was approved in 2007. It provided for the full opening of international passenger rail services, as well as regulation of rail driver licencing, rail services under Public Service Obligation and rail passengers' rights and obligations.

30. Directive 2007/58/EC (amending Directive 91/440/EEC and Directive 2001/14/EC) provided for the full market opening of international passenger rail services (including cabotage) starting from 2010. However, several exemptions were introduced in the Directive, including the possibility to limit access rights in case of routes covered by public service contracts (Holvad, 2017).

31. The Third Railway Package enabled further steps of technical harmonization. Directive 2007/59/EC established the European licencing system for train drivers, laying down the minimum requirements for medical fitness, basic education and general professional skills.

32. Regulation 1371/2007 defined a number of measures to protect and extend passengers' rights when travelling by rail. The Regulation required rail operators to:

- Provide non-discriminatory access to trains and assistance for disabled persons and persons with reduced mobility (PRM);
- Compensate passengers in the event of death or injury, or damage to luggage;
- Provide assistance and compensation in case of delay or journey cancellation;
- Set up a complaint handling mechanism for the rights introduced by the Regulation;
- Publish information on schedules, fare conditions and accessibility of their services.

33. Regulation 1371/2007 also obliged member States to establish National Enforcement Bodies (NEBs) to enforce the provisions of the Regulation (Steer Davies Gleave, 2012).

E. Recast of the First Railway Package and the Fourth Railway Package

34. A next step in the area of separation and the establishment of a single European railway area was introduced in the so-called Recast of the First Railway Package through Directive 2012/34/EU. This Directive allowed the legislator to simplify, clarify and consolidate the existing provisions on the funding and management of infrastructure, access to rail-related facilities (depots, maintenance, etc.) and the role and independence of regulatory bodies (Casullo, 2016).

35. A recasting of the First Railway Package was intended to be an exercise in legislative simplification and consolidation, and provided for the merger of the three Directives in force and the amendments (UNECE, 2012). The aim was also to modernise the legislation and tackle key problem areas and shortcomings, which had been identified over the past decade, including:

- Enhancing transparency of rail market access conditions (e.g. by requiring more detailed network statements and providing better access to rail-related services);
- Strengthening the independence of national regulatory bodies from any other public authority and extending their competences (e.g. to rail-related services);
- Clarifying the rules for funding and management of infrastructure (e.g. requiring multiannual contractual agreements between the State and the infrastructure manager and more precise access charging principles).

36. At the beginning of 2013, the European Commission proposed a Fourth Railway Package, originally intended to remove all remaining legal, institutional and technical obstacles to create a single European Railway Area. The Fourth Railway Package includes a “Market pillar” for the governance of railways and the opening of the passenger market and a “Technical Pillar” for rail safety and interoperability.

37. When initially presented in 2013, the Market Pillar set out far-reaching measures to enable new entrants to access the market, including a requirement for member States to competitively tender all public service contracts, and a proposal to enforce full *separation* between railway undertakings and infrastructure managers.

38. These reforms, in their initial drafts, did not find unanimous acceptance among member States. After some debate,⁶ the Market Pillar’s revised texts were formally adopted by the Council of Ministers in October 2016 and by the European Parliament in December 2016. These incorporate significant changes from the Commission’s original proposals, which many commentators⁷ believe are not as ambitious as the original proposals.

39. In its final version, the Market Pillar includes three core legislative provisions:

- Regulation 2016/2337/EU (repealing Regulation 1192/69/EEC) to support common rules for railway undertakings’ accounts;
- Regulation 2016/2338/EU (amending Regulation 1370/2007/EC) on the award of public service contracts. The Regulation is intended to facilitate the opening of the market for domestic rail passenger services. Long distance commercial passenger services will have to be opened to competition by 2020 on an open access basis, while competitive tendering will become the norm for public service contracts by

⁶ A detailed description of the legislative procedure and political debate on the Fourth Railway Package is provided in Scordamaglia and Katsarova (2016).

⁷ Including the European Rail Freight Association.

December 2023 — with exceptions permitted under specific circumstances and direct award contracts required to include performance and quality targets;

- Directive 2016/2370/EU (amending Directive 2012/34/EU) on the Single European Railway Area. The Directive is intended to strengthen the independence and impartiality of infrastructure managers to facilitate the opening of the domestic passenger market — however, according to the Directive, vertical integration is permitted, provided certain legal, financial and operational separations are put in place (Railway Gazette, 14/12/2016). In fact, the Directive expressly acknowledges that the required separation of train path allocation and infrastructure access charging from train operations can be achieved within a vertically integrated structure (Horton and Turner, 2017).

40. The three measures comprising the Technical Pillar were agreed in June 2015 and formally adopted by the European Parliament in April 2016 (Railway Gazette, 14/12/2016). The three texts comprising the Technical Pillar provided for further steps with respect to interoperability and technical harmonization:

- Directive 2016/797/EU on the interoperability of the rail system within the European Union (recast);
- Directive 2016/798/EU on railway safety (recast);
- Regulation 2016/796/EU (repealing Regulation 881/2004/EC) on the European Union Agency for Railways.

41. Member States have until June 2019 to transpose the Directives into domestic legislation.⁸

42. Following the entry into force of the Technical Pillar in June 2016, the European Union Agency for Railways has replaced the European Railway Agency. The Regulation introduces a stronger role for the Agency regarding vehicle authorization and safety certification. In that regard, in past years some stakeholders have alleged that safety certifications — so far, granted by National Safety Authorities pursuant to Directive 2004/49/EC — would constitute a barrier to entry into some national markets (Steer Davies Gleave, 2014). To counter this trend and provide greater certainty for those wishing to apply, the Regulation provides that, starting from 2019, these tasks will be shared between the European Agency and the relevant national safety authorities. In 2019, a single safety certificate and vehicle authorization valid across Europe will be introduced.

III. History of Rail Reform in other UNECE countries

43. In non-EU UNECE countries, railway reform is being undertaken according to different models and is proceeding at different paces. Three broad groups of countries can be identified:

- The first group includes Central and Northern European countries, i.e. Norway and Switzerland;
- The second group includes countries officially or potentially candidate to join the EU: Albania, Bosnia and Herzegovina, Kosovo, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Turkey. Those under the Stabilization and Association Process which precedes accession to the European Union are

⁸ However, member States may delay implementation by one year if they provide justification to the European Commission and the European Union Agency for Railways.

developing their railway structural policy according to the principles of the EC railway packages (UNECE, 2017);

- The third group of countries includes the republics of the former Soviet Union: Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Republic of Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine and Uzbekistan. These, in turn, can be separated according to the progress of reforms:
 - Countries that have made certain progress in reforms developing the “Russian-specific” reform model: Kazakhstan and Russian Federation;
 - Countries where reforms are widely discussed and some legal acts are adopted, although practical steps seem to be moderate: Ukraine and Uzbekistan;
 - Countries where reforms have not been yet planned: Armenia, Azerbaijan, Belarus, Georgia, Kyrgyzstan, Republic of Moldova, Tajikistan, Turkmenistan (UNECE, 2017).

A. Switzerland

44. Switzerland has conducted a major railway reform over the last two decades, in part inspired by the EU rail reform, but also largely specific. The Swiss railway reform can be divided into three stages: the “Revision of the federal law on railways” (Railways Act) in 1996, the “Railway Reform 1” in 1999 and the “Railway Reform 2” since 2005.

45. In the first stage (1996), a new governance of the regional passenger transport⁹ provided for:

- Cantonal authorities to become fully responsible for regional transport services (under the supervision of the Federal Office of Transport);
- Public subsidies to be clearly defined by service contracts, to ensure that unplanned deficits would no longer be covered by the State;
- SBB CFF FFS¹⁰ monopoly on regional and national long-distance railway passenger services to be cancelled.

46. In the second stage (1999), the so-called “Railway Reform 1”¹¹ provided for the transposition of the principles of the Directive 91/440/EEC into the Swiss law, according to the Agreement on Land Transport with the European Union (1999). The direct authority of the federal administration over SBB CFF FFS was abolished and the national railway company was submitted to a multi-annual contract (Desmaris, 2015).

47. In the third stage (since 2005), the Government presented a further rail package to the Parliament — the so-called “Railway Reform 2” — which aimed to transpose the content of the First and Second EU Railway Packages into Swiss law, including measures on financing the rail infrastructure, establishment of a regulatory authority, as well as safety. As the Parliament rejected the bill, the Government decided to split up the package into separate bills which was adopted and entered into force starting from 2010 (CER, 2011).

⁹ LCdF 24/03/1995.

¹⁰ Swiss Federal Railways (German: Schweizerische Bundesbahnen (SBB), French: Chemins de Fer Fédéraux suisses (CFF), Italian: Ferrovie Federali Svizzere (FFS)).

¹¹ LCdF, 20/03/1998.

48. These reform waves resulted in a “hybrid system” combining liberalization and integration (e.g. a vertically integrated framework for the rail incumbent SBB CFF FFS, with separation of essential functions) and only partly aligned to European law and goals (implementation arrangements are discussed in greater detail in the following Chapter).

B. Norway

49. In Norway, infrastructure was separated from operations in 1996. In recent years, the railway sector has faced a number of difficulties, including low investment in infrastructure and a lack of infrastructure capacity, absence of market-led incentives resulting in a lack of efficiency, as well as overlapping of responsibility and the need for better coordination among public bodies (Taule Fjordbakk, 2016).

50. In June 2015, the Parliament of Norway resolved to reform the railway sector, with effects from January 2017. The reform — which, according to official sources, intended to combine elements from the German, Swedish and British railway reforms — included three main pillars: reforming the infrastructure manager Jernbaneverket, reforming the rail operator NSB (Norges Statsbaner, i.e. Norwegian State Railways) and introducing competition for the market, as well as in infrastructure maintenance and rolling stock maintenance (Taule Fjordbakk, 2016).

51. Jernbaneverket has been split into two entities: a new infrastructure manager (Bane Nor) and a separate Railway Directorate. While the former focuses solely on building, developing and maintaining the infrastructure, the latter is to coordinate developments in the sector, including planning of infrastructure investment and tendering of operations contracts for the country’s railway network, which will be divided into separate biddable packages.

52. NSB has been streamlined into an operating company, separating its rolling stock, real estate and passenger ticketing divisions into separate state-owned companies. Accordingly, in the future NSB, as well as third-party operators, will lease trains from Materiellselskapet and award maintenance contracts to Mantena, while ticketing will go through a single channel operated by Entur (International Railway Journal, 17 January 2017).

C. SEETO countries

53. In 2004, the Governments of Albania, Bosnia and Herzegovina, Croatia,¹² the former Yugoslav Republic of Macedonia, Montenegro, Serbia, the United Nations Interim Administration Mission in Kosovo (UNMIK) and the European Commission signed a Memorandum of Understanding (MoU) for the development of the Core Regional Transport Network. The MoU provided for the establishment of the South-East Europe Transport Observatory (SEETO) as a regional transport organization in the South East European Railway Transport Area.

54. An Addendum to the MoU was signed in 2007, with the aim to enhance regional cooperation in the area and to serve as a guide for rail reform. The Addendum focused on improving rail market access, opening the national market, facilitating border-crossings and ensuring a high level of technical interoperability between the partners. According to the Addendum, the seven signatory countries agreed to gradually restructuring their railway sector to align their domestic rail legislation with EU rail law. SEETO countries committed

¹² Croatia joined the European Union in July 2013.

to adopting and implementing domestic legislation which would focus on: unbundling, management independence and market orientation of railway undertakings; fair conditions for access; safety and interoperability; financial stability and transparent involvement of governments; border-crossings issues; and social issues. The Addendum also allowed for the European Commission to organize peer reviews to assess reform progress.

55. In 2008, SEETO countries adopted a Timetable for the Implementation of the Addendum. The timetable recognized that in previous years, legislation in line with the EU rail policy had been adopted in SEETO countries, but had never become operational. The timetable thus underlined the need for effective implementation of adopted laws. Deadlines for implementation of the reform process were set for 2010, but have been missed in most cases (Monsalve, 2011). The implementation progress is discussed in greater detail in the following section.

D. Turkey

56. Historically, the State Railways of the Republic of Turkey (Türkiye Cumhuriyeti Devlet Demiryolları, TCDD) operated rail services as a State enterprise under the Ministry of Transport with monopoly powers and vertical integrated structure. TCDD owned and operated affiliated companies that were responsible for the manufacture of locomotives, passenger coaches and freight wagons, and several ports with rail access. Revenues from the port activities — the only part of TCDD that operated profitably — cross subsidized rail operations (Monsalve, 2011).

57. In 2005, the European Union formally agreed to start accession negotiations with Turkey. The Turkish Government planned to restructure the railway sector, which remained one of the few sectors which had not undergone reforms, with a desire to keep the country in step with the EU rail policy. The EU, in close cooperation with the World Bank, began providing technical assistance to the Turkish government for the preparation of railway reform, aiming to reduce financial losses of TCDD and meeting the EU accession requirements (Koning, 2012).

58. The first law dealing with unbundling of the railway came in 2011¹³ and established a Directorate-General of Railway Regulation (DGRR), tasked with the responsibilities of the regulatory body, safety authority and contract manager for public service contracts. Several further regulations have since been passed which cover railway infrastructure access, determination of access charges, capacity management, vehicle authorization and safety (Railway Gazette, 2 May 2016).

59. A formal decree to liberalise the rail sector¹⁴ was issued in 2013, with the aim of ending the monopoly of TCDD and introducing competition into the market (Thomas, 2015). The law envisaged vertical separation of the rail industry by establishing a subsidiary within TCDD (named TCDD Taşımacılık, i.e. TCDD Transport), as owner of the rolling stock and operator of passenger and freight services and opening the railway infrastructure (retained by TCDD) to other private operators. The Law also provided for new rules on public service obligations and state subsidies to the rail industry. Other legislative provisions were subsequently published according to EU Directives by the Directorate-General of Railway Regulation.

¹³ Decree on the Administrative Structure and Duties of the Ministry of Transport, Maritime Affairs and Communication (Decree Law no. 655/2011).

¹⁴ Law no. 6461/2013 on the Liberalization of Railway Transport of Turkey.

60. Unbundling was achieved in June 2016 (Rail Turkey, 4 June 2016), while the first Network Statement was published by TCDD in November 2016, initiating liberalization in the Turkish railway sector. In January 2017, TCDD in its role of infrastructure manager and the newly established rail operator TCDD Transport signed an agreement on rail access. The budgetary deficits of TCDD and TCDD Transport will be met by the Turkish Government until May 2018 — after this date, only investments for high speed trains, construction of new lines and modernization of existing lines, will be publicly funded, while public service contracts will be subject to competitive award (Rail Turkey, 4 June 2016).

E. Russian Federation

61. In the Russian Federation, for nearly a decade the railway sector was not affected by the socioeconomic reforms that had started in 1992. In this period, the Railway Ministry (Ministerstvo Putei Soobschenija — MPS) remained a state monopolist amidst the developing market economy, combining the roles of policymaker, regulator and service provider. At the end of the 1990s, however, the Government recognized that the sector — with huge investment needs and negative gains in passenger services — was no longer sustainable and that introducing competition in the market was needed to attract private capital, drive cost reduction and improve profitability.

62. Accordingly, a reform process was initiated, which is summarized in the following table.

Table 2
Russian railway reform

<i>Stage</i>	<i>Description</i>	<i>Steps</i>
Pre-2001	Preliminary restructuring	<p>Creation of the Russian Federation's MPS from the larger Soviet MPS</p> <p>Issue of the "Vision for Railway Reform" (1995) and related legislation and decrees (1995-1998)</p> <p>Diversion of some social services and beginning reduction of staffing levels</p> <p>Privatisation of some railway supply industries and introduction of competitive bidding into procurement processes of MPS</p>
2001-2003 First stage	Legal and institutional framework	<p>Adoption of the law and regulations to separate policy/regulatory functions and commercial/business functions</p> <p>Evaluation of assets, company auditing and account consolidation</p>
2003-2005 Second stage	Separation of functions	<p>Establishment of the government agencies Roszheldor responsible for railway sector policy and Rostransnadzor responsible for transport safety monitoring</p> <p>Establishment of the Federal Energy Commission (later renamed as Federal Services for Tariffs) to regulate rail tariffs</p> <p>Creation of RZD taking over assets of MPS (including ownership of infrastructure, signalling, dispatching system and locomotives) and operating responsibilities</p> <p>Creation of 27 RZD subsidiaries, including those for: general freight services; transit freight services; intermodal freight services; refrigerated freight services; wagon repair; production and repair of track maintenance equipment</p> <p>Issue of a Decree on non-discriminatory access to the railway infrastructure</p>

<i>Stage</i>	<i>Description</i>	<i>Steps</i>
		Encouraging private investment in freight wagons by providing for separation of the wagon component in the rail tariffs
		Starting to phase out cross-subsidisation of passenger operations by freight operations
		Introduction of International Financial Reporting Standards for accounting and increase of financial transparency by disclosing audited statements
2006-2010 Third stage	Development of competition	Further creation of RZD subsidiaries, including: further freight subsidiaries (e.g. Freight One and TransContainer); long distance passenger services (Federal Passenger Company); commuter passenger services; locomotive and rolling stock repair services; construction services; research and development
		Starting selling RZD's shares in subsidiaries
		Establishment of the first public-private partnerships (PPPs)
		Issuing of RZD international bonds
		Revision of the tariff policy
		Revision of subsidy policy for long distance passenger and commuter services
After 2010	Continuing the reforms	Further sale of equity stakes in RZD and its subsidiaries, including full privatisation of Freight One and Freight Two (later renamed as Federal Freight)
		Further revision of tariff policy, including separation of infrastructure and locomotive component and tariff harmonization
		Diversion of regional passenger companies from RZD
		Public debate on creating private carriers that operate both their own wagons and locomotives

63. Railway reform in the Russian Federation started in 1998 with the separation of social services and the privatization of some rail supply industries (Asian Development Bank, 2017). Rail reform gathered pace in 2001, when the 10-year “Programme for Structural Reform in Railway Transport”¹⁵ was issued with the declared objectives of:

- Enhancing rail transport performance, availability, safety and quality;
- Introducing competition and facilitating private investment in the industry;
- Reducing the economic costs of transportation and public support to the sector; and
- Increasing rail passenger supply to meet growing demand.

64. The programme envisaged three stages. The first stage (2001-2003) involved establishing the legal framework and basic institutions for a more competitive rail sector (CER, 2011). Legislation passed in this stage was aimed at separating policymaking and regulatory functions from business management and operations. To this end, the 100 per cent state-owned company Russian Railways (Rossiiskye Zheleznye Dorogi, RZD) was established in 2003.¹⁶ Policymaking powers were transferred from MPS to the Federal Railway Transport Agency (FRTA) into the Ministry of Transport, while RZD inherited all rail assets. At the same time, numerous non-core structures — including social services

¹⁵ Russian Federation Government Decree no. 384 of 18/05/2001, amended on 22/07/2009.

¹⁶ Russian Federation Government Decree no. 585 of 18/10/2003.

(e.g. hospitals and schools) and construction activities — were divested and significant staff reduction took place (OECD, 2013).

65. The second stage of reform (2003-2006) was focused on RZD corporate restructuring, with the main goal of removing internal cross-subsidizing of passenger operations at the expense of freight operation. During this period, business lines and activities within RZD were separated. More than 40 subsidiaries were established in container transport (e.g. TransContainer), reefer services (e.g. Refservice), transport of vehicles (e.g. RealTransAuto), rolling stock maintenance, production of spare parts, etc. (Kolik, 2016). Moreover, a considerable number of legal acts were adopted to prepare the transition from a state-owned railway monopoly to a competitive railway industry — e.g. the principle of non-discriminatory access to the infrastructure was declared.

66. The new legal provisions encouraged private investment in freight wagons. As a consequence, the segment of so-called “wagon operators” — i.e. freight forwarders that either own or rent wagons and handle rail logistic operations (OECD, 2013) — began growing rapidly, to eventually become one of the principal components of the Russian railway market model (CER, 2011).

67. The third stage of reform (2006-2010) was intended to spur a period of attraction of private capital to the industry and development of competition. To that end, the freight market was gradually liberalised. Ownership of most of the RZD freight carriages was transferred to two major companies, at first created as subsidiaries of RZD: Freight One, established in 2007 and Freight Two, established in 2010 (renamed as Federal Freight in 2013). The remaining carriages were sold on a competitive basis to private operating companies (OECD, 2016).

68. Liberalization involved the passenger market as well. The Federal Passenger Company (FPC) was established in 2009 as a subsidiary of RZD in the long-distance passenger segment.

69. When the 10-year period of the 2001 Programme had elapsed, the Government prolonged the reform. The “Target Model of the railway freight market until 2015” was the document defining further actions for five years, including provisions to improve the technological management of freight operations to increase productivity (Kolik, 2016). In February 2014, the Russian Government published the “Action Plan for Developing Competition in Railway Transport”, with the main objective of developing competition in the passenger rail market (OECD, 2016).

F. Kazakhstan

70. On independence in 1991, the Kazakh railway network was under the control of three separate regional railway departments.¹⁷ Railway reform started in 1997, when these were merged into an integrated national state-owned railway organization, forming Kazakhstan Temir Zholy (KTZ). The railway sector was characterised by physically threadbare assets, obsolete technologies and a non-competitive framework (Egis International/Dornier Consulting, 2013).

71. In 2001 the Kazakh Government approved a major restructuring programme.¹⁸ Reforms were undertaken in three stages. While the first and second stage (between 2001

¹⁷ Almaty, West Kazakhstan and Tselinia railway administrations.

¹⁸ The “Act on railway transport”, which fits into a wave of legal acts to reform the Kazakh transport sector.

and 2006) envisaged a transformation of the industry based on the Russian model, the direction of the reforms was later changed. With the third stage of reform, the Kazakh model assumed a shape closer to the EU railway industry structure. The two initial stages of reform entailed the establishment of two companies, in charge respectively of traction services and wagon fleet operator. The third stage of reform allowed for separation of policy and regulatory functions from commercial functions, as well as separation of infrastructure management, passenger operation and freight services into separate joint-stock subsidiaries within the KTZ holding company, with the cargo and passenger companies operating their own locomotives and wagon fleets (UNECE, 2017 and Egis International/Dornier Consulting, 2013).

72. The reform entailed other major developments, including the introduction of modernized accounting and information management methods, as well as privatization or diversion of non-core assets (including track maintenance and rolling stock maintenance) and social assets (including schools, hospitals and housing, which have been transferred to the relevant local authorities). As rail reform in Kazakhstan has continued, the Government has assigned additional assets to KTZ, including eleven airports and three international trade zones (Asian Development Bank, 2017).

G. Ukraine

73. Ukrainian Railways (Ukrzaliznytsia, UZ) is fully a state-owned company that was established in 1991 when Ukraine became an independent state. In 2006, the Ukrainian Government approved the “Concept of the State Programme for Reform of Railway Transport”, in which the reform approach is very similar to that implemented in Russia (UNECE, 2017). The programme, though postponed in 2009 and 2011 (completion is currently planned for 2019), provided for three stages of reform:

- Stage 1 (2010-2012): separation of the Government’s regulatory function from the operational function of UZ, as well as the merger of the current six regional railways and other numerous UZ subsidiaries into one vertically integrated state-owned joint-stock company. A legislative platform necessary to reform the railway sector (the “Establishment Law”) was adopted by the Parliament, entered into force in March 2012, and required the Government to adopt a resolution on the establishment of the new national railway company by June 2012. This was eventually adopted in June 2014 and led to the transformation of the company out of a state agency into a state-owned public joint stock company (2015).
- Stage 2 (2013-2015): introduction of competition into the market for rolling stock operation. It also included the establishment of a management system, the revision of tariff policy, the establishment of central and regional transportation management centres, the introduction of mechanisms of financial support to passenger transport, the creation of the legal and organizational conditions for the entry of private passenger transport operators into the market, the establishment of regional passenger operators to be owned by local authorities and the new national railway company. Stage 2 has not yet started.
- Stage 3 (2016-2019): the longer term objectives for the railway industry in Ukraine, include the introduction of a financial mechanism to eliminate cross-subsidies of passenger transportation losses from freight transportation revenues, the promotion of competition in the market for rolling stock operations and the development of logistics facilities and terminals (Grushevskaa et al., 2016).

74. In November 2016, a common project with the European Union was launched to provide support to the Ministry of Infrastructure in the reform of the railway sector, which

as in line with the provisions of the EU-Ukraine Association Agreement. The project should contribute to strengthening the capacity of the Ministry of Infrastructure in developing policies for the creation of competitive railway market, establishment of safety requirements in the rail sector in line with the European norms and standards and integration of the Ukrainian railway system into the Trans-European transport network.

H. Uzbekistan

75. In Uzbekistan, a railway reform committee was established in 1997 and a reform plan was published by the Government (with support from the Asian Development Bank). The plan provided for the outsourcing of non-core activities and the phasing out internal cross subsidizing, though did not envisage any measures aimed at developing competition.

76. In 2001, the reform was implemented, and provided for vertical separation of the industry based on the Russian reform model. The national state railway operator, Uzbekiston Temir Ullari (Uzbekistan Railways) was transformed into a joint-stock company with 100 per cent of state ownership and several divisions of the company were converted into joint-stock companies, including companies for container transportation, refrigerated goods transportation, passenger transportation and wagon repair (UNECE, 2017).

I. Other former republics of the Soviet Union

77. In 2007, the Government of Armenia tendered for the modernization and operation of Armenian Railways. Russian Railways was the only bidder and established South Caucasus Railway (CJSC) as a wholly owned subsidiary to run the Armenian Railways. CJSC officially began its modernization and operation programme in 2008 in a thirty-year (extendable) concession. As a consequence, the future structure and operations of the Armenian railway sector is likely to be based on the Russian Railways (UNECE, 2017).

78. Azerbaijan Railways (Azərbaycan Dəmir Yolları) is the national state-owned rail transport operator in Azerbaijan that operates as a fully integrated state monopoly. Whilst freight tariffs have been liberalized, passenger tariffs remain determined by the government. No information on any planned structural reforms is currently available (UNECE, 2017).

79. In Belarus, Belaruskaya Chugunka (Belarusian Railway — BR) is the vertically integrated state-owned railway company, which is subordinate to the Ministry of Transport and Communications. Current policy documents do not envisage any substantial reforms in the railway industry. The State programme for developing rail transport for 2011-2015 provided only for modernization of the sector within the existing model. In 2013, the Belarusian scientific community developed a reform model that provided for holding; five companies were to be subordinated to a general directorate — a freight company, a passenger company, a locomotive company, an infrastructure maintenance company and an engineering company (design work). This reform radically differs from the Russian model and is contrary to some basic principles of the EU railway model (UNECE, 2017).

80. Georgian Railways (Sakartvelos Rkinigza) is the national fully state-owned railway company of Georgia. In recent years there have been several attempts to reform the railway industry by privatizing the company — for example in 2008, a concession tender was announced and five international entities expressed their intention to purchase 100 per cent of shares and invest in the company's development; however, the procedure was suspended by the Government without any explanations. No information about any planned reforms is available (UNECE, 2017).

81. In the Republic of Moldova, Calea Ferată din Moldova (Railways of Moldova, RM) is the state-owned vertically integrated railway operator. Structural reforms have not occurred in the industry since the Republic of Moldova became an independent State. Currently EBRD provides a loan to RM to support reform in the railway sector — based on the principles of the EU railway model — to improve safety and efficiency, and to strengthen the institutional capacities in the areas of procurement and corporate governance (UNECE, 2017).

82. In Kyrgyzstan, Tajikistan and Turkmenistan, the state-owned companies are dependent on the relevant Transport Ministries and the only operators in the industry. No information about structural reforms is available (UNECE, 2017).

Annex

Bibliography

Asian Development Bank (2017). *Unlocking the Potential of Railways. A Railway Strategy for CAREC (2017-2030)*. Mandaluyong City, Philippines, Publication Stock No. RPT178656-2.

Casullo L. (2016). *The Efficiency Impact of Open Access Competition in Rail Markets. The Case of Domestic Passenger Services in Europe*. OECD, International Transport Forum, Discussion Paper No. 2016-07, Paris, France, March 2016.

Conway P. and Nicoletti G. (2006). *Product Market Regulation in the Non-Manufacturing Sectors of OECD Countries: Measurement and Highlights*. OECD, Economics Department Working Papers No. 530, 7 December 2006.

Desmaris C. (2015). *The reform of passenger rail in Switzerland: more performance without competition?* *Network Industries quarterly*, 2014, *Regulating Railways*, 16 (2), Pages 3-6.

CER (2011). *Reforming Europe's Railways — Learning from Experience*. Produced by Drew J. and Ludewig J., Bruxelles, second edition 2011.

EBRD Evaluation Department (2014). *Russian railway sector evaluation*. European Bank for Reconstruction and Development Approach Paper, November 2014.

Egis International / Dornier Consulting (2013). *Logistics Processes and Motorways of the Sea II. LOGMOS Master Plan — Annex 9.1. Country Profile — Kazakhstan*. ENPI 2011/264 459, October 2013.

Esposito G., Doleschel J., Kaloud T., Mariotti M., Urban-Kozłowska J. (2016). *The European railway sectors: understanding and assessing change*, In Florio, M. (2017), *Network industries' reforms: evaluating the EU paradigm*, Edward Elgar Publishing Limited, Cheltenham, United Kingdom.

European Commission (2016). *Fifth Report on Monitoring Development of the Rail Market*. Report from the Commission to the European Parliament and the Council, Brussels, 08/12/2016 COM(2016) 780 final.

Farazmand A. and Pinkowski J. (2006). *Handbook of Globalization, Governance and Public Administration*. CRC Press, Taylor & Francis Group, Public Administration and Public Policy, 25 July 2006.

Grushevskaa K., Notteboomb T., Shkliarc A. (2016). *Institutional rail reform: The case of Ukrainian Railways*. *Transport Policy*, Volume 46, February 2016, Pages 7-19. UKR2016.

Holvad T. (2017). *Market Structure and State Involvement: Passenger Railways in Europe*. In Florio, M. (2017), *Network industries' reforms: evaluating the EU paradigm*, Edward Elgar Publishing Limited, Cheltenham, United Kingdom.

Horton N. and Turner J. (2017). *The Fourth Railway Package: All change?* *InfraRead*, Issue No. 9, March 2017.

International Railway Journal (17 January 2017). *Norway's reformed railway prepares for passenger competition*. Available at <http://www.railjournal.com/index.php/europe/norways-reformed-railway-prepares-for-passenger-competition.html>.

Kolik A. (2016). *Reform of the Railway Sector in Russia: Achievements and Challenges*. Dossier, *Network Industries Newsletter*, Vol. 13 no. 3, 2014.

- Koning P. (2012). UK Rail Reform. An Insiders Perspective. AECOM, 22 May 2012.
- Monsalve C. (2011). Railway Reform in South East Europe and Turkey on the Right Track? The World Bank, Transport Unit, Sustainable Development, Europe and Central Asia Region, Report No. 60223-ECA, March 2011.
- OECD (2013). Recent Developments in Rail Transportation Services. OECD Policy Roundtables, DAF/COMP(2013)24, 13 December 2013.
- OECD (2016). The Russian Federation Competition and innovations in rail transport. OECD Working Party No. 2, 28 November 2016.
- Rail Turkey (4 June 2016). New era for TCDD starts today. Available at <https://railturkey.org/2016/06/04/new-era-for-tcdd-starts-today/>.
- Railway Gazette (14 December 2016). Fourth Railway Package market pillar adopted by European Parliament. Available at www.railwaygazette.com/news/policy/single-view/view/fourth-railway-package-market-pillar-adopted-by-european-parliament.html.
- Railway Gazette (2 May 2016). The long road to Turkish market opening. Available at www.railwaygazette.com/analysis/single-news/view/the-long-road-to-turkish-market-opening.html.
- Scordamaglia D., Katsarova I. (2016). The fourth railway package. Another step towards a Single European Railway Area. European Parliamentary Research Service, Members' Research Service, March 2016. 4th pack.
- Steer Davies Gleave (2012). Evaluation of Regulation 1371/2007. Final Report. European Commission DG MOVE, 9 July 2012.
- Steer Davies Gleave (2014). The Cost of Non-Europe in the Single Market in Transport and Tourism — I. Road Transport and Railways. European Parliamentary Research Service, European Added Value Unit, PE 510.986, June 2014.
- Taule Fjordbakk C. (2016). The Norwegian Railway Reform, Samferdselsdepartementet, Information and Consultation meeting, 10 March 2016.
- Thomas M. (2015). Transport in Turkey. Major Trends and Issues. European Parliament, Briefing, DG IPOL Policy Department B-Structural and Cohesion Policies, PE 540.362, March 2015.
- UNECE (2012). Railway Reform. Note by the secretariat. Working Party on Rail Transport, sixty-sixth session, Informal document SC.2 No. 3, Geneva, 8-9 November 2012
- UNECE (2017). Euro-Asian Transport Links — Phase III — Expert Group Report. Geneva, 8 May 2017 (Draft 2).
- Van de Velde (2015). European railway reform: unbundling and the need for coordination. In Finger M. and Messulam P. (2015). Rail Economics, Policy and Regulation in Europe. Edward Elgar Publishing Limited, Elgaronline.
-