EJTIR

Issue 9(1)
March 2009
pp. 31-45
ISSN: 1567-7141
www.ejtir.tbm.tudelft.nl

# Liberalisation of Rail Freight Markets in the Old and New EU-Member States

**Johanna Ludvigsen**
Institute of Transport Economics[1]

**Oddgeir Osland**
Institute of Transport Economics[2]

This article examines whether the European Commission succeeded in reducing the negative socio-environmental externalities of road transport in Northern, Central and South-eastern Europe by introducing the First Infrastructure Package and Interoperability Directive that opened rail freight markets to competition. Using results from the EC-sponsored REORIENT project, the article searches for causal links between the completeness of legislative adherence and the occurrence of market rivalry. In so doing, it draws on the New Public Management (NPM) theorem which provided conceptual underpinnings for liberalisation policy and the notion of path-dependency warning that effectiveness of any public policy is contingent on the features of its implementation context. The article contrasts the adoption of rail deregulation directives by the old and rich EU-states in the Nordic region with the newly liberated, more recent EU-members in Central and South-eastern Europe in order to expose how the political, economic and cultural features of these countries affected the quality of legislative compliance and market rivalry. This method unearthed a clearly polarised picture of inter-country compliance and competition pattern. Norway, Sweden and Finland exhibit high levels of legal adherence without however, much intra-rail competition. Cut-off from the government subsidies, these countries' state railways compete today with road operators, without however facing much rivalry from truckers. On the other hand, the new EU-members still lag on legislative conformance, but their licensing authorities granted operating permits to quite many private entrants. These carriers compete fiercely with the national incumbents, but the rail service quality they provide does not as yet threaten the dominance of truck in national freight transport. As a result, no inter-modal competition exists there. These findings indicate that liberalisation of rail freight market has not as yet reduced the road-rail imbalance in European freight markets nor curbed the negative socio-environmental externalities associated with motorised transport. Methodologically, this article exposed the analytical shortcoming of the NPM theorem and the strong empirical relevance of the path-dependency hypothesis.

*Keywords:* intra-rail and inter-modal competition; new public management; socio-political idiosyncrasies; liberalization of European rail freight markets

[1] Gaustadalléen 21, NO 0349, Oslo, Norway, T: +4722573800, F: +4722609200, E: jlu@toi.no
[2] Gaustadalléen 21, NO 0349, Oslo, Norway, T: +4722573800, F: +4722609200, E: oos@toi.no

# 1. Introduction

Over the last 30 years, the rail freight transport in European Community has been in steep decline as compared to road. Since this development gave rise to severely negative socio-environmental harms such as congestion, accidents, and considerable ground and atmospheric pollution, it has impelled the European Parliament and the European Commission to open in 2001 rail freight market to competition. The most immediate targets for this new rail transport policy were the national railway monopolies which operational and market inefficiencies were responsible for road-rail competitive distortion, the hegemony of truck in the European freight transfer and the consequent accumulation of socio-environmental ills (Stehmann and Zellhofer, 2004). Therefore in 2001, the EC has issued the First Infrastructure Package composed of three directives, which provided a legislative groundwork for liberalisation of European freight railways[3].

By employing the concept of New Public Management (NPM), this paper explores how the liberalisation of European railways induced by the First Infrastructure Package and Interoperability Directive affected market dynamics in the Nordic, Central and South-eastern Europe.

The New Public Management model served as a theoretical foundation for organizational reforms which, from the beginning of the 1980s, restructured public sectors in many developed countries. NPM provided a theoretical underpinning for the European Commission's rail legislation which, in 2001, liberalised the European rail freight market[4]. Originating from public choice and managerial schools of thought, NPM evolved in response to the state's inability to efficiently supply public services. It offered a way of achieving higher cost-effectiveness of the public sector, without compromising the government's social commitments and duties (Boston, Martin and Welsh, 1996).

# 2. Conceptual foundation

Practical implementation of the NPM strategy consists of making use of market forces for modernisation of government functions either by transferring the traditional state's responsibilities to the private sector, and/or by partly or wholly exposing public undertakings to competition and business instruments for managing their service provision. Employment of NPM entailed clear division of roles between politicians and administrators; politicians were supposed to formulate strategies, which administrators should implement. This functional duality led to splitting of several large organizations, which traditionally performed many public functions into separate operative units devoted to attainment of one specific goal, and incentivisation of cost-effective goal achievements.

However, bearing in mind the international scope of this study, our conceptual framework incorporated also the notion of path-dependency (Krasner, 1988), which recognizes that different

---

[3] The First Infrastructure Package included three directives:1) 2001/12/EC on access rights for international freight services between rail undertakings and infrastructure managers, separation of accounts for passenger and freight operations, separation of transport operations from capacity allocation, infrastructure charging, and licensing, 2)2001/13/EC on licensing of rail undertakings, and 3)2001/14/EC on allocation of railway infrastructure capacity, levying of charges for the use of railway infrastructure and safety certification. The Interoperability Directive 2001/16/EC, deals with technical specifications for interoperability (TSI) between the national systems of rail infrastructure, operations and information transfer.

[4] This new policy measures were grounded in the Articles 12, Articles 81 to 89, and Article 90 of the EEC Maastrich Treaty whose formulation that … "undertakings entrusted with operations of service of general economic interest or having the character of a revenue producing shall be subject to rules contained in this Treaty, in particular to the rules of competition.." provided legal baseline for rail liberalisation directives. Official Journal, C340, 10/12/1997 p.020 –Consolidated version.

countries have different historical and cultural traditions, and therefore their reform processes may follow different trajectories (Christensen and Lægreid, 2004; Olsen, 2007). This approach suggests that the compliance process and the outcomes of the same European rail liberalization directives may be influenced by the target countries' national conditions (Jansen, Osland and Hanf, 1998; Walker, Baarse, Van Velzen, and Järli, 2007).

The liberalization of the European rail freight market can be seen as a paradigmatic manifestation of NPM because by opening rail markets to competition the EU legislator 1) terminated the legal and the functional status of the national railway monopolies, and 3) introduced new regulatory structures which separated the infrastructure and the signaling system managers, and the safety and security officials from passenger and cargo train operators. Besides being considered necessary for improvement of the rail sector's operational efficiency and cost-effectiveness, this institutional devolution was also politically instrumental for dealing with an exponential rise in severely negative socio-environmental externalities associated with the continuosly growing motorized freight carriage. The EU legislator assumed that the opening of rail freight markets to intra-modal competition will improve rail service competitiveness, stimulate freight shift from road to rail, and gradually reduce the hegemony of truck in the European freight transfer.

As a political strategy, NPM has been highly contested by social scientists. The critics maintained that application of NPM leads to functional fragmentation and generates needs for more coordination between the newly separated units within the rail freight sector, also in the Nordic countries (Pollitt and Bouckaert, 2004; Sørensen, 2005).

Below we explore how the establishment of deregulated rail governance structures affected market opening in the old EU-members in the Nordic region as compared to the more recent EU-entrants from the Central and South-eastern Europe, and whether the adoption of the new rail legislation in these two country categories contributed to attainment by the European Comission its socio-environmental objectives. Therefore, our analysis of national variation in legislative conformance is related to the types of competition that emerged in response to the legislative reform. Our examination of factors underlying variability in rail market performance includes: 1) the differences in political, economic and cultural features of the countries studied, and 2) the national governments' involvement in the process of legislative enforcement. Finally, we assess the conceptual utility of the NPM theorem and the "path-dependency" hypothesis for explanation of the developments reported.

## 3. Research questions and data sources

The article explores how the adoption of NPM, exemplified by the liberalised market governance, did affect market dynamics in Finland, Sweden, Norway, Poland, Austria, the Czech Republic, Hungary, Greece, and Romania. One reason for probing into this issue derives from the need to assess whether implementation of new rail freight policy fulfilled the European Commission's expectations for intra-modal competition, inter-modal rivalry, and shift of freight transfer from road to rail. Another arises from a quest for understanding how the governments' involvement affected transition from a monopolistic market condition to a contestable rail business environment, and what kind of impacts these interventions have evoked.

In examining the last issue, this study seeks not only to assess what kind of forces may have underlay the inter-country variation in rail deregulation, but also whether a causal relationship between the introduction of a new regulatory structure and the development of competition in rail freight markets could be inferred.

The paper builds on findings produced by "REORIENT", a large EC-sponsored pan-European research programme which 1) explored variation in inter-country implementation of the First Infrastructure Package and Interoperability Directive, and 2) identified the different types of barriers that still permeate the national railway systems, and hinder the focal countries from reaping the full benefits of rail deregulation. Factors driving these developments were examined using primary and secondary data. The main source of structured information was a ten-country survey of public officials and rail operators (both the state-owned and the private ones), which assessed progress in railway deregulation, the national features of legislation adoption, the occurrence of different types of barriers, and their impacts on rail markets[5]. In addition, results from a survey of shippers in twelve European countries have been used here All together the outcomes from the following five international studies provided input to this paper:

1) "Interoperability Status and Progress in Implementation of the First Infrastructure Package in Ten European Countries" http://www.reorient.no
2) "Is Rail Freight Still Popular in Central Europe? Views of Voting Public and Local Politicians in Ten European Countries" http://www.reorient.no
3) "Rail Market Opportunities in Central and South-eastern Europe" http://www.reorient.no
4) "Barriers and Countermeasures Securing Seamless Freight Flows in Pan-European Corridors" http://www.reorient.no
5) "Economic, Social and Environmental Benefits of Rail Liberalization" http://www.reorient.no

## 4. Implementation completeness and market dynamics

Our examination of barriers that still hinder an effective market opening has established that Finland, Norway and Sweden score high on institutional completion of the First Infrastructure Package and Interoperability Directive.

Yet, notwithstanding the fact that these nations score high on formal legislative compliance, neither Green Cargo nor CargoNet, the Swedish and the Norwegian cargo railways do not encounter much intra-rail competition from new market entrants. At the same time freight markets in Norway and Sweden keep growing considerably, spurred by growth in international trade, and specifically, in imports from the new EU member states. Within this environment, Cargo Net's business volumes in Norway and Sweden do also grow, mainly due to provision of inter-modal service which successfully competes with road. Yet, this growth is much lower than the yearly growth in the tonnage of inbound and outbound freight volumes. Consequently, the market share of all-road freight carriage has continued to increase. Although Cargo Net complains that its future market growth is constrained by infrastructure shortage caused by a combined rise in passenger and goods traffic, it still advertises availability of load carrying capacity on some trunk service lines. Thus, at the first glance Norway scores well on fulfilment of railway liberalisation directives because the country met all institutional requirements and the Norwegian operator entered into competition with truck. This happened however, without engagement in intra-rail contest, and without noticeable improvement in rail transport position in the Norwegian freight market.

Similarly, Green Cargo AB, the Swedish state-owned rail freight carrier still dominates the full carload market (FCL) despite contemporary market operations of private entrants. However, these new rail companies have either taken over market niches which Green Cargo has abandoned due to the lack of economic profitability, or operate feeder traffic, or supply the national incumbent with complementary services such as traction, marshalling and management of inter-modal terminals. All these operations do not directly challenge Green Cargo's dominance on the Swedish trunk network. One private rail undertaking runs scheduled trains between

[5] A survey of public officials involved civil servants at national transportation ministries, competition authorities, and railway regulators in Sweden, Norway, Finland, Poland, the Czech Republicthe Czech Republic, Slovakia, Hungary, Romania, and Greece.

Norway and Sweden dedicated to transfer of pulp and paper. In order to supply this service, the company acquired heavy-duty locomotives. Green Cargo was not interested in this market segment due to high sunk-cost of customer-specific investments. The overall position of rail transport in the fast growing Swedish freight market did not change over the last five years, indicating that that it was the truck operators who mainly benefited from increases in volumes of goods shipped.

This illustrates that intra-rail competition in Sweden is fairly marginal. The main result of this development is more cost-effective supply of rail freight service in the Swedish national market, without however, direct contest with private rail undertakings for the same routes, time slots, and customer categories.

Finland represents a very special case where the institutional infrastructure for liberalized market governance is fully installed, but not a single new entrant has as yet been licensed for operations on the national network. Consequently, VR Cargo ÖY, the state-owned freight operator still enjoys unchallenged monopoly. However, VR Cargo ÖY competes vigorously with truck in the fast growing inter-modal container market.

Market situations in Poland, the Czech Republic, Austria, Greece, and Romania differ noticeably. Despite the fact that Poland's new regulatory apparatus scores relatively low on implementation of the First Infrastructure Package and Interoperability Directive, and that non-discriminatory market access is still a problem for private rail ventures, while investments in technical interoperability are still lacking, the market share of new entrants in domestic rail market reached 20 p.c. in 2007. This figure is by far one of the highest in the EU. The same market share has been achieved by the Czech private operators who run freight trains on a much smaller network.

It is worthy to note that this competitive restructuring of Poland's rail market has occurred amidst protracted fall in rail freight volumes. The fall began with Poland's post-1980s shift to a market economy when the state-owned PKP was the nation's sole rail freight carrier. However, the traffic decline on what is now the PKP Cargo's network (still-state owned) intensified after 2002, when the Polish government enacted rail deregulation legislation. PKP Cargo has suffered dramatic loss of market share and revenues in the face of rapid growth in freight volumes moved by new private rail companies.

The main competition arena between PKP Cargo and the new entrants consists of carriage of coal, other minerals and chemicals, which until 2001 were monopolised by the state-owned carrier. In addition, a few private rail ventures have also challenged PKP Cargo in international traffic by creating border crossing alliances with foreign operators and/or wholly owned foreign subsidiaries allowing them to run freight trains between Poland and Germany, Poland and Belarus, Poland and The Czech Republic, Poland and Slovakia, and between Poland, Romania, and Ukraine[6].

Still, no competitive rail inter-modal service as yet is offered in Poland that could challenge the explosive growth in road traffic. So, despite the head-on domestic and international intra-rail rivalry, virtually no freight has been shifted from road to rail. Hence, truck is the only winner in the rapidly growing freight market stimulated by high expansion rate of the Polish economy. Because of the lack of inter-modal competition, Poland scores poorly on fulfilment of the goals of

[6] In July 2007 PKP Cargo (the national rail freight operator in Poland) blocked the crossing of the Polish-Slovak border by a freight train ran by a Polish private railway company maintaining that this carrier had no right to perform international traffic. Since PKP Cargo's behaviour breached the right to carry international trains granted by the First Infrastructure Package to international traffic operator, the carrier in question complained to the Polish and European competition authorities. Utilising the market opening legislation, this operator runs five foreign subsidiaries and operates via six border-crossing alliances in order to serve international clients in Germany, Poland, France, Slovakia, Romania and Hungary in addition to partnerships with Belarusian, Russian and Ukrainian national rail incumbents.

the First Infrastructure Package. The competitive situation in the Czech rail freight market resembles that in Poland.

Market conditions in Romania are even more puzzling. Despite severe shortcomings that still permeate Romania's administrative rail apparatus the country's regulatory authorities have licensed many private operators who in 2005 controlled 25 p.c. of the domestic rail freight market. Since then, the freight volumes served by private railways have grown considerably in competition with the national incumbent, CFR MARFA.

Against this backdrop, rail administration authorities in Austria, Hungary and Greece have not so far completed the institutional separation between the infrastructure managers and the national cargo operators as required by the First Infrastructure Package. As a consequence, the national cargo companies in these countries still function as effective monopolies.

This empirical evidence indicates that the effects of directive implementation diverge from the expectations of the European Commission because no clear relationship between the completeness of legal compliance and the structure of rivalry in rail freight markets could be observed.

Rail operators in Norway and Sweden managed to develop strong inter-modal competition under the condition of strong regulatory fulfilment without however, venturing into intra-sector rivalry. On the other hand, operators in the new member states started fierce intra-rail rivalry despite incomplete market deregulation without, however, engaging into a rail-road contest. The latter did not result in any freight shift from road to rail. Still, in Greece, Hungary and Austria, the national rail administration authorities have not as yet fulfilled the basic legislative requirements imposed by the First Infrastructure Package. Intra-rail and inter-modal competition thus remains absent in those countries.

The tables below compare the countries analyzed as regards completeness of market deregulation and occurrence of intra-modal and inter-modal competition. Space scarcity does not allow us to review the entire report on inter-country compliance, which was assessed by the REORIENT survey specified as item one in our data sources. However, the juxtaposition below utilises knowledge of differences in legislative adherence, and illustrates how the different national liberalisation standards contributed to two types of competition.

**Table 1. Completeness of market deregulation and occurrence of intra-modal competition in the countries analysed**

| | | **Deregulated Market Governance** | |
|---|---|---|---|
| | | Complete | Incomplete |
| **Intra-rail competition** | Yes | ? | Poland, Romania, The Czech Republic, |
| | No | Norway, Finland, Sweden | Greece, Hungary, Austria |

**Table 2. Occurrence of intra-modal and inter-modal competition in the countries analysed.**

| | | **Road-rail competition** | |
|---|---|---|---|
| | | Yes | No |
| **Intra-rail competition** | Yes | ? | Poland, the Czech Republic, Romania |
| | No | Norway, Finland, Sweden | Austria, Hungary, Greece |

Tables 1 and 2 suggest that Poland, Romania, and the Czech Republic developed intra-rail competition despite not-yet-completed deregulation of rail freight markets. Norway, Sweden and Finland on the other hand, did not embark on intra-rail contest, despite the national fulfilment of all legal requirements. It also implies that neither Austria nor Hungary or Greece managed to complete their rail deregulation reform, and are devoid of intra-modal and inter-modal competition.

Fierce intra-modal rivalry in Poland, the Czech Republic and Romania led to a 15-30 percent price drop for rail carriage over 2005–2007, making rail transport more competitive. Thus, despite the prevalence of administrative, institutional, and political barriers to competition, some other forces must have unlocked market dynamics, which dramatically changed rail business environments of these countries.

In the search for factors explaining divergence between the legislative completeness and competition behaviours, we examined features of national cultures, the governments' roles in enforcement of rail liberalisation policy, and the effectiveness of contestability of rail freight markets of the countries studied.

## 5. Business cultures and national politics in central and south-eastern Europe

The national context analyses indicate that fierce competition could be triggered by strong proclivity for risk-taking embedded in some countries' business cultures. Research into entrepreneurial behaviour in Europe shows that dispositions towards risk-taking and acceptance of failure are culturally shaped and do affect the establishment of business start-ups and the level of competition (Casson, 1995; Hofstede, 1995; Hisrich, 2000; McDougall and Oviatt, 2000).

Business start-ups occur in almost all places in the world. However, what differs is that the level of the start-ups tends to be higher in countries that prize individualism and furthering of personal goals. Earlier studies of culturally-rooted dispositions indicate that people in Central European countries score higher on risk-taking and individual pursuits of economic worth than people in the Nordic region. The latter put more social emphasis on collective values and equality as compared to personal achievements and individual rewards (Hofstede, 1995).

However, one of the new Polish rail freight operators observed pointedly that business agility and entrepreneurial spirit are necessary, but by no means sufficient for successful establishment of a new railway company. This informant observed that: "The start-up game is often one of *aerodynamics and drag*. The number of factors working against a new company is almost infinite, and most companies are unable to even achieve a lift-off. Conquering the "*start-up drag*" takes nearly perfect aerodynamics: a beautifully designed service, good marketing, managerial acumen, and plenty of capital - all in concert and, accompanied by great timing".

However, it's hard to think of any new rail freight start-ups that were so elegantly designed and launched to market with such perfect timing. The REORIENT survey of new rail entrants shows that to get the *"aerodynamics"* right, their start-ups required a combination of high demand, large investments and profound business experience. Again, as added by the same informant "Normally, getting off the ground requires an excess of at least one of these ingredients".

Our findings indicate that risk-friendly venture capital was not available at the time when the new rail businesses were launched, though timing might have been right because of the large-scale economic and political re-structuring that was going on in Central and South-eastern Europe.

Yet, what the new European entrepreneurs really had in abundance and what helped them to take off was the prior knowledge of the rail sector gained through working experience at national railways. This asset made them feel comfortable with perceived risks and gains from the new situation. Risk-taking was thus encouraged by familiarity with market conditions, alertness for opportunities arising from rail liberalisation and expectations of high financial windfalls from improved operational efficiency.

Willingness for risk-taking was also fostered by political transition from the plan-based communistic regimes to liberal democracies with market economies that started in the early 1990s, and the institutional vacuum which emerged in the interval separating these two systems. The profound economic liberalisation that these countries underwent after 1995 was also reinforced by deep political changes in the national systems of governance required for entry into the European Union which was completed in 2004 by Poland, Hungary and the Czech Republic and in 2007 by Romania.

The new economic and political ramification created opportunity windows for the most visionary individuals who foresaw termination of railway monopolies and market potentials for private rail undertakings. They utilised the institutional vacuum and the old network connections to shoulder the risks arising from the lack of financial capital, locomotives, rolling stock, and independent maintenance providers. Under these conditions, the political and institutional immaturity of the new regulatory regime showed to be an asset rather than a barrier because it helped the new rail entrants to utilize the systemic loopholes, and by so doing, reduced the costs of market entry.

Lower administrative hurdles eased entry barriers for the new rail operators, and solidified their market foothold. Thus, the turbulence of economic transition from the communist system to liberal democracy compensated the new rail entrepreneurs for the relative asset scarcity, and generated spectacular growth of private rail business and financial rewards[7]. Evidently, this entrepreneurial dynamism happened within a broader context of socio-economic reforms, whose overall objective was political and economic liberalisation. Some of the new entrants realised very quickly that in order to reap an adequate scale benefit they needed to offer cross-border freight transit, and therefore internationalized their operations. This was especially manifest in the strategic behaviours of Polish and Czech private carriers.

However, the developments over the last several years show that the governments of Poland, Slovakia, the Czech Republic, and Hungary have modified their political course, reducing, and in many cases openly regressing from backing market forces. From a private business perspective, a fear may thus emerge that these countries' support of economic liberalisation may be declining, if not ending entirely. This ideological shift is often attributed to reform fatigue affecting these countries' societies, and particularly, to economic hardship endured by large low-income groups who suffered disproportionately from the loss of basic welfare that was provided by the previous political regime. Rapid disappearance of public jobs, which either became privatized or simply

[7] When interviewed, the private freight operators in Poland, the Czech Republic and Romania mentioned that their revenues grew by the average 120 p.c. per annum between 2000 and 2005.

vanished due to introduction of market-based production methods, caused these social groups to experience significant economic deprivation[8] This was particularly true for the national railways in Central and South-eastern Europe which used to employ hundreds of thousands of people[9].

However, a retrospective glance at these countries' politics indicates that ascendancy of economic populism does not need to imperil market liberalisation. The reason lies in strong political power of industrial lobbies that today with equal strength have penetrated the ruling and the opposition parties and are pushing from both sides of the political spectrum for more competition. Another economic imperative of market liberalisation derives from the need for modernization of the government-owned industries and the large investments required for this purpose. So, despite the fact that the government in, say, Slovakia, is ideologically against privatisation, it does not have enough funds to upgrade the state-owned industry and secure stable public jobs. Confronted with the loss of competitiveness and the consequent market demise of public enterprises, governments may be forced to accept private capital and cede some of their control to business investors[10].

As demonstrated by the political shifts that have occurred over the last twenty years in Central and South-eastern Europe, political and economic liberalisation in this region has continued to be pursued by power wielders of different political colours. So it may be that the current ruling factions will not stifle liberalisation, irrespective of their own populist convictions. The extant government elites may be well aware that if they block economic liberalisation they may as well block the long-term economic growth. This in turn, may cause them to loose political power because national voters will punish them for not fulfilling their wealth expectations.

## 6. Rail politics and rail markets in Norway and Sweden

The First Infrastructure Package and Interoperability Legislation have also affected rail markets in Norway and Sweden. However, bearing in mind these countries' socio-political idiosyncrasies, economic profiles and geographical location, the content of these changes was different. The institutional divide between Green Cargo AB and Banverket in Sweden, and Cargo Net and Jernbaneverket in Norway started in the 1990s, and produced two independent organizations: rail carriers and institutionally independent infrastructure managers (IMs). From then on the existence of rail freight companies was foremost dependent on fulfilment of shippers' demands. The IMs were constituted as public service agencies with sole responsibility for network management, maintenance and investments without any organizational links with rail carriers. This rigorous institutional devolution signalled to Green Cargo and Cargo Net rail freight

[8] As shown by David Mason (1995, p.59) the demise of omnipresent and omnipotent socialistic state which used to provide subsidised food, housing, utilities and vacations has disproportionably hard affected the low-income, low-skills employees as compared to the better educated and economically more independent urban dwellers.

[9] The national railways in Poland (PKP) and the Czech Republic (ĈD) used to employ in their heydays 230,000 and 150,000 people, respectively as evidenced by the Polish and the Czech National Statistical Yearbooks of 1992. Although the pay level was low, both railways ran their own welfare schemes which made their employees relatively better off than other social groups working for the socialistic states. However, in 2004, the number of PKP employees (incorporating the cargo and passenger carriers plus infrastructure managers) was reduced to 95, 000, while at ĈD to 80,000.

[10] Publicly available documents show that this is exactly happening. In January 2007 the Polish government published a plan for sales to private investors a minority share in PKP Cargo's capital stock in 2008 after the company's finances have been cleared of the state debt (read: accumulated subsidies). In July 2007 the Hungarian government put the national freight operator, MÁV Cargo, on sale through public tender. In addition, the political shift which followed in Poland the national election on October 21st, 2007 when a new and more business-friendly government took over power bodes well for privatisation of national monopolies, including the state railways.

operators that although they still remained state enterprises, from now on they were totally dependent on market forces for revenues, profits, and existence.

Cargo Net AS is a Swedish and Norwegian state-owned joint venture which provides rail-inter-modal service to Swedish and Norwegian users, while Green Cargo AB serves the FCL/LCL clients in Sweden and Norway. In this way, both incumbents supply a broad range of rail shipment service to Swedish and Norwegian markets. Both companies cooperate with DB Railion from Germany and with VD ÖY from Finland on provision of international freight trains from/to the European mainland and for trans-Siberian traffic.

In 2003, when the Norwegian Parliament stopped public subsidies to the loss-making cargo carrier, the management at NSB Gods, the predecessor of the current Cargo Net AS, had to learn how to earn money. At that time, the Norwegian freight company offered wagon-loads, train-loads and inter-modal transit. The wagon-load market was loosing money because the low-margin bulk traffic competed with sea shipping lines which ferried much larger unit volumes at lower prices. Therefore, Cargo Net managers decided to phase out the FCL/LCL service and concentrate on inter-modal transfer offered as block trains carrying containers, swap-bodies, but foremost, semi-trailers.

This strategy was risky, because about 45 percent of the company's service revenues vanished over night. It was also heavily criticized by trade unions, which were afraid of dramatic business loss by their employer. However, after two years, this business model proved to be a boon. The Cargo Net managers mentioned four contributors to their market success:

1) Substantial quality improvement required by shippers of high-value high-margin cargo with no tolerance for poor freight service supply,
2) Considerable cost reduction through block and shuttle trains operated between inter-modal terminals with total elimination of shunting, bulk-breaking and door-to-door service,
3) Re-structuring of customer base which now consists mainly of logistics service providers, forwarders and large network integrators, and
4) Attainment of scale economies on inter-city connections in Norway and between Sweden and Norway.

The wagon-load market abandoned by CargoNet in Norway was partly acquired by Green Cargo AB and partly by small private carriers who offer highly customized services for specific shippers or run trains on routes outside Cargo Net's service coverage area. Yet, none of these new private entrants challenges Cargo Net's container trains on trunk routes in Norway and Sweden.

It is also worthy to add that despite the fact that institutional devolution of the Swedish and Norwegian cargo operators from the national infrastructure providers was already completed in the 1990s, these two cargo carriers did not produce positive financial results until 2005. This supports an observation that establishment of transparent, predictable, and efficiently deregulated market governance is by no means a sufficient condition for benefiting from rail market reform.

The Norwegian and Swedish examples indicate that changes in these two nations' railways' markets have been partly achieved by context-specific factors, which may not occur again, and which are not transferable to other socio-political settings.

Yet, they have also revealed a much broader undercurrent that major shifts in these two countries' public utilities are usually enforced by the state initiatives. This leaves little scope for private enterprise, which suffers from administrative excess practiced by highly professional bureaucracy. In an institutional environment where the state is the main driving force behind many important social and economic changes, there is little room for entrepreneurial risk-taking. This mode of national governance is supported by collective ideology praising societal *egalitarianism* and rejecting individual entitlements to higher payoffs of risky undertakings

(Hofstede, 1995). It's not surprising then that the consequent result is uncertainty avoidance and private-sector competitive cautiousness.

Since new rules should never be objectives in themselves, but always a means of achieving their public goals, it is hard to assess any socio-economic value of market deregulation without reference to actual competition. Because no direct intra-rail competition has so far been developed between operators in Norway and Sweden, one may wonder how many socio-economic and environmental benefits have so far been created by rail deregulation. A relevant question that may be posed here is whether these countries' regulatory bodies may not need to engage themselves more in removal of power asymmetry between the incumbents and the technically capable entrants who may wish to compete in the rail freight market. Power asymmetry could for instance be removed by offering some technical and operational assistance and financial guarantees for aspiring entrants that eventually may bring more competition into the rail freight market.

Still, one may argue that the sheer existence of deregulated market governance may function as a proxy for the actual competition due to perpetual threat of new entries. Thus, competitive challenge from hypothetical rivals may prevent a monopolist from inflating its freight rates and restricting its service output (Baumol, Panzar and Willing, 1982).

However, the contestable market argument has not been empirically corroborated by the REORIENT study which has shown that in order to start an effective rivalry in inter-modal freight market dominated by Cargo Net in Norway and in Sweden, the aspiring rail entrepreneurs need to possess flatcars, multi-system locomotives, and access to inter-modal terminals. This equipment is both prohibitively expensive and not easily available on the European rolling stock market. None of the private rail operators surveyed here has either tried or acquired production assets required for inter-modal service. Besides, the willingness of Cargo Net to capitalize on the upward trend in the Swedish and Norwegian freight markets is also constrained by the lack of means for financing capacity expansion. The Swedish and Norwegian states, who own the carrier, are not interested in fostering growth of the company and Cargo Net cannot float its shares on the stock exchange without these governments' approval.

Thus, the absence of real competitors in the Swedish and Norwegian rail freight markets poses at least two serious political problems. The first is the lack of a benchmark for comparing the costs of production of rail freight service and the resource efficiency of the national operators with those of private carriers. Given that the operational efficiency affects the cost of service supply and the competitiveness of rail freight transport as compared to motorised conveyance, this deficiency deters the European and the national policy makers from designing the policy measures that may reverse the current rail-truck competitive asymmetry and increase the magnitude of socio-economic and environmental gains from rail freight liberalisation. The second drawback is the lack of means on the part of the state cargo companies to expand into rapidly growing international freight markets, perpetuating thereby the dominance of motorised transport in European freight transfer and growth in severe socio-environmental harms ensuing from road-rail imbalance.

The evidence mustered here indicates that the economic and environmental gains of the new rail freight regulatory regime in Norway and in Sweden are still far from validated.

## 7. Conceptual utility of the NPM theorem

This article has established that the NPM concept was useful for gaining an understanding of changes that the First Infrastructure Package and the Interoperability Directive invoked on the national railway systems and rail freight markets analysed here.

The goal of the NPM strategy as applied by the European Commission was 1) to improve market position of rail freight through increased competition and more efficient utilization of production assets, and 2) to reduce the negative socio-environmental externalities attributed to motorized conveyance by increasing the freight tonnage moved by rail. Moreover, most of the countries targeted sought also to diminish public expenditures on rail transport.

The analyses show that liberalisation of rail freight market in several Central and South-eastern European countries in line with the NPM model embodied in the EC directives is still far from complete. This implementation deficit indicates that the socio-economic features of the target country may affect the reform effectiveness despite the prevalence of positive market conditions. Enforcement of rail liberalization legislation in countries like Poland and Hungary was hampered by political opposition from the key affected actors, such as the trade unions of national railways' employees whose jobs were threatened by liberalisation of rail freight market. Specifically in Poland, with its traditionally large public sector, the wellbeing of voters who lost means of subsistence as a consequence of rail freight deregulations became a serious political liability for the national government[11].

In addition, the weakness of the newly reformed national institutions in the most recent EU-members has also played a role because the formal institutional devolution between these countries' infrastructure managers (IMs) and the national cargo operators is still compromised by informal networks and biased administrative praxis, which *de facto* shield the national incumbents from market forces.

Thus, for understanding the relationship between the quality of legislative conformance and the pattern of market competition, the political legacy of the newly liberated countries has been invoked. The relatively fierce intra-rail competition in Poland, the Czech Republic, and Romania can be explained by seemingly two opposite forces. On the one hand, the transition to market-oriented political system released entrepreneurial spirit and willingness to compete engrained in these countries' national cultures. On the other hand however, prior knowledge of rail sector on the part of new rail entrants, along with the paradox of institutional immaturity within the newly reformed rail administration have collectively reduced business risks and the cost of market entry for the new rail start-ups. These two factors have together contributed to restructuring of rail freight markets in Central and South-eastern Europe, and emergence of intra-rail rivalry.

Against this backdrop, the relative scarcity of new entrants into rail freight markets in the Nordic countries and the consequent low level of intra-rail competition can be ascribed to comparatively rigorous requirements for granting operational and safety licenses and the national parliaments' unwillingness to subsidize the loss-making state-owned cargo carriers which took affect in the 1990s. The latter forced the government operators to compete with truck, while the first one preserved their market dominance. The different trajectories of rail market liberalisation in the Nordic countries and in the new EU-member states in Central and South-eastern Europe indicate that the impacts of the focal countries' political features, which depending on the national situation either hindered or fostered inter-modal competition and rebalancing of road-rail modal split may shed some light on the deeply polarized picture of the European rail freight market. However, the role of context-specific factors was absent from the conceptual framework affecting the empirical utility of the NPM model.

As a result, the adoption of the NPM strategy alone can not be considered as sufficient condition for reduction of the negative socio-environmental externalities of truck transport because intra-rail competition in Central and South-eastern Europe has not as yet led to inter-modal rivalry. Nor can implementation of the NPM concept be seen as a necessary factor because although the

[11] This issue is dealt with in a more thorough manner in another article "Liberalisation of Rail Freight Markets in Central and South-eastern Europe: What the European Commission Can Do to Facilitate Rail Market Opening", which explicitly focuses on behaviours of the national governments in Central and South-eastern European countries under deregulation of rail freight markets.

Nordic rail markets encompass inter-modal rivalry, they still lack intra-rail rivalry. An alternative explanation that the lack of inter-modal competition in the new EU member states can be attributed to small size of these countries' freight markets is not supported by the empirical data which show that an uninterrupted growth in freight volumes moved in these nations' domestic and international traffic during 1999-2007, was almost entirely captured by motorized operators.

The evidence reviewed suggests that the utility of NPM strategy for attainment of the socio-political objectives sought by the European Commission cannot be corroborated. This indicates a need for adoption of policy measures, which also take into consideration the political, cultural and economic features of the focal countries before another Europe-wide policy initiative is being launched. Otherwise, compliance with the European legislation may become timely and resource-demanding, while the outcomes uncertain.

## 8. Summary and conclusions

This research has established that countries in the northernmost, central, and south-eastern regions of Europe vary considerably as regards implementation of the First Infrastructure Package and Interoperability Directive. Empirical analyses unearthed a clearly polarised picture of legislative compliance and competition in rail freight markets analysed here.

Norway, Sweden and Finland emerged as one country cluster characterised by complete legislative fulfilment, but whose national cargo operators are not yet exposed to competition from private rail entrants. Nonetheless, these countries' national carriers managed to re-structure themselves and today compete successfully with motorised operators by offering high quality inter-modal service, without however increasing the share of rail transport in the national freight markets. The lack of competitors in the Nordic freight markets can be partly attributed to a generally low level of entrepreneurship, especially in the rail sector which traditionally was controlled by the state, but also to relatively high costs of compliance with regulatory requirements which discourage financially weak, but technically capable prospective private ventures. As a consequence, the national railways in these countries still enjoy quasi-monopolistic positions, albeit with competitive exposure to motorized conveyance. However, despite the relative success in competition with road operators, the state-owned railways in Norway, Sweden and Finland failed to benefit from the positive trend in freight markets, which predominantly were captured by truck.

On the other end of rail liberalisation spectrum we see Poland, Hungary, The Czech Republic, Austria, Romania, and Greece, which lag on legislative implementation, and whose national markets are still dominated by incumbents. Yet, the share of domestic rail market controlled by private operators in Poland, Romania and The Czech Republic is quite sizable indicating that these entrepreneurs effectively compete with state railways in traditional FCL and LCL segments. This happens, however, in market with decreasing share of rail freight and consistent increase in motorised transport.

However, in spite of fierce intra-rail rivalry, the new operators have not as yet managed to compete with truck for high-value, high-margin cargo. Still, in a positive vein, the intra-rail rivalry instigated by the new operators has occurred in regulatory environments which still discriminate against new entrants by providing state subsidies to national railways, restricting access to rail terminals and border crossings, and where the infrastructure freight fees are among the highest in Europe.

Finally Hungary, Austria, and Greece represent a cluster of its own where the legislative requirements are still far from being met, and where neither intra-modal nor inter-modal competition has as yet emerged.

These outcomes indicate that a very tenuous causal relationship could be inferred between the legislative completeness and market dynamics. One may conclude thus that market developments in both country categories, i e., these which have fulfilled all legislative requirements and those which have yet a long way to go deviate from the expectations of the European lawmaker. Despite the fact that freight markets in the Nordic countries and in Central and South-eastern Europe kept growing over the last ten years, the railways in both regions did not manage to increase their share of the total freight carriage. In the Nordic countries the rail-road competition did not reward Cargo Net with higher market share in Norway and Sweden, only prevented its downward slide. The winner is truck. As regards the former communist block countries, the intra-rail competition happened in a declining rail-service market and under explosive growth of domestic and international freight tonnage which mainly is served by truck. Truck operators managed thus to capture the market lost by railways and capitalise on the net growth in volumes of freight shipped. Consequently, the policy instruments that the European Commission applied to liberalise the European rail freight market did not as yet contribute to reduction of socio-environmental ills attributed to dominance of truck in European freight transfer.

This finding suggests that the legislative imperatives of the First Infrastructure Package and the Interoperability Directives may need to be accompanied by executive measures that will take into account the national idiosyncrasies of railway systems and the state's role in enforcement of market opening. More specifically, two types of measures may be needed 1) these facilitating the actual termination of national rail monopolies, and 2) those providing financial and regulatory assistance to aspiring rail entrepreneurs.

## References

Baumol, W. J., Panzar, J. C. and Willing, R. W. (1982). Contestable Markets and the Theory of Industrial Structure. *The Canadian Journal of Economics*, vol.15, no. 4, pp.774-789.

Boston, J., Martin, J. and Walsh, P. (1996). *Public Management: The New Zealand Model*. Auckland, Oxford University Press.

Casson, M. C. (1995). *Organization of International Business*. Aldershot, Edward Elger.

Chandler, A. (1962). *Strategy and Structure.* Cambridge, MA, MIT Press.

Christensen, T. and Lægreid, P. (2004). Globalization of Administrative Reforms: The Dilemmas of Combining Political Control and Increased Institutional Autonomy. Bergen: The Rokkan Centre. available at: http://www.rokkansenteret.uib.no/vr/rca/Paper/HandcookGlobalizationYC-PLnov2004.doc (assessed February 2009).

Jansen, A-I., Osland O. and Hanf, K. (1998). Environmental Challenges and Institutional Changes. An Overview and Interpretation of the Development of Environmental Policy in Western Europe. In: Hanf and Jansen (eds.) *Governance and Environment in Western Europe*. London, Addison Wesley Longman Limited.

Hisrich, R., McDougall, P. and Oviatt, B. (2000). *Cases in International Entrepreneurship*. Irwin, Chicago, Il.

Hofstede, G. (1995). Multilevel Research in Human Systems: Flowers, Bouquets and Gardens. *Human Systems Management*, vol.14, pp.207-217.

Mason, D (1995) Justice, socialism and Participation in the Post-Communist States, in Kluegel, J.R., Mason D. S and Wegener, B (eds). *Social Justice and Political Change. Public Opinion in Capitalist and Post –Communist States.* Aldine de Gruyter.

Krasner, S. (1988). Sovereignty: An Institutional Perspective. *Comparative Political Studies*, vol. 16, pp. 223-246.

McDougall, P. and Oviatt, B. M. (2000). International Entrepreneurship: The Intersection of Two Research Paths. *Special Research Forum on International Entrepreneurship, the Academy of Management Journal*, vol. 43, no. 5, pp. 902-906.

Olsen, S. (2007). Fragmentation and Coordination in the Scandinavian Railway Sector. *International Review of Administrative Sciences.* vol. 73 (3), pp. 349-364.

Politt, C., and Bouckqert, G. (2004). *Public Management Reform: A Comparative Analysis*. Oxford University Press.

Stehmann, O. and Zellhofer, G. (2004). Dominant Rail Undertakings under European Competition Policy. *European Law Journal*, vol. 10, no. 3, pp.327-353.

Sørensen, C. H. (2005). New Conditions for Decision-making and Coordination in Transport: Corporatisation and Division in the Danish Railway Sector. In: Thompsen, T. U., Nielsen, L. D., and Gudmundsson, H. (eds.*) Social Perspectives on Mobility*, Aldershot, Ashgate.

Walker W. E., Baarse, B., Van Velzen, A., and Järli, T. (2007). Assessing the Status and Variation in Rail Interoperability in European Countries. Paper presented at *European Transport Conference 2007*, Noordwijkerhout, the Netherlands.