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EUROPEAN COUNTRIES AND TURKISH RAILROAD TRANSPORTATION

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Abstract: *In the meantime, transport policy in Europe has continued to face challenges and market trends have continued to shift. Two further major challenges are worthy of particular note. Firstly, enlargement from 15 to 25 and subsequently to 27 member states, has initiated an enormous process of assimilation and change. Secondly, the growing concern with global warming and transport's contribution to it has led to the setting of some rather challenging emissions reduction targets. Before commenting on these developments, it is interesting to review recent transport market trends and to set these in the longer-term context.*
However, the picture in relation to modal split highlights looks less encouraging. Rail's share of all passenger km has fallen, from 6.6% in 1995, to 6.1% in 2007. Setting this in the longer-term context, rail's share of passenger km in the EU in 1970 was some 10%. It is highlighted by Preston (2009) that high speed rail – be it on dedicated or conventional lines - has come to form an important part of this picture, having almost trebled in volume during the decade up to 2006 by which time it comprised more than 20% of passenger rail travel in the EU.1 In fact, he contends that the observed growth in passenger rail volumes since 1995 can all be credited to growth in high speed rail and that, in fact, subtracting high speed rail from the fi gures would show a decline in non-high speed rail traffi c. This highlights an important change in the European rail market. However, it must be acknowledged that high speed does not function in isolation and that conventional rail accounting for nearly 80% of the market, remains by far the most important part of passenger rail traffi c.
In this study, the railroad transportation of Turkey and 27 EU countries has been investigated.
Keywords: *Turkey, European Union, railroad, transportation*.

INTRODUCTION

Railroad passenger transport has an important role on the economic structure of societies in terms of their line lengths, the number of accidents, locomotives, wagons, and staff, its being an important part of the production process as well as the effects of the significant investment it requires on economy.

In transportation of goods and products, the competition that is both national and international makes it necessary to review the transportation possibilities to protect and

increase the market shares of producers. While railroad transportation provides low-cost entry, it also enables the produced goods to be offered, just in time, at the price levels that can compete in the markets.

RAILROAD TRANSPORTATION IN EU

In addition to the increase in the comfort they offer, trains have gained more importance for they could carry cars and other motor vehicles. Today in the United States, trains have become one of the most preferred transportation models. Especially Japan, among the Far Eastern countries, has come into prominence in terms of its fast, secure and comfortable railroad transportation services.

Because passenger transport on railroad has European origin, it is seen that European countries are in the vanguard of the developments. Railroad transportation has become a valuable market in the European countries that has been able to see the advantages of railroads and use the opportunities. As a result of this support, the passenger transportation is realized by the high-speed trains (the short name TGV) that provide high-level service, can reach to the city centres, and called after "Pendolis" in Italy, "AVE" (Alta Velocidad Espognolas) in Spain, "Thalys" in Belgium, France and Netherlands, and "X2000" in Sweden.

By looking at the greenhouse gas emissions in EU-27 countries, it can be seen that transportation is in the first place with the proportion of %27. EU has been making its energy efficiency policy in accordance with the purpose of a sustainable EU transport and environmental policy. Due to the increased competition, it aims to make large-scale investments in order to improve the quality and efficiency of railroads. The enlargement of EU makes it a lot more difficult to realize the goal of reducing the amount of global warming and emission.

When we compare the infrastructures and vehicles in 27 EU-countries with the ones in the rest of the world, we can see that the USA has the most road network and EU-countries have the most railroad network. At the same time, it is in the first place in terms of the amount of electronic road network. It is seen that the oil pipelines in the USA are quite advanced compared to the other countries in the table.

EU recommends railroad and maritime lines for the transportation towards itself to non-member countries. Due the regulations and quotas which will be made in EU routes in the future, it is going to have to use the RoLa and RoRo operations of Turkish logistic enterprises. Due to the economic developments that Central Asian countries have recorded, they need to increase their capacity in transportation sector and in these increments the railroad investments come to the fore. One the most important market that Central Asian Republics want to reach safely and quickly is Europe. The Silk Road will regain its previous charm as a re-emerging star in the dynamic, global and technology oriented trade of 21th century.

Table.1 EU Rail Modal Share of Freight (Ton km%) in 20920

Base (1,8 % p.a. Productivity growth)	19,2
Full internalisation at upper limits of handbook Estimates of costs	24,1
Full internalisation plus 0,9 % p.a higher rail Productivity	30,5

Source: *European Transport Policy Progress and Prospects.*

A recent study by IWW and NESTEAR concluded that full implementation of internalization of externalities at the 'high' values estimated in the handbook on external costs plus faster growth in rail productivity would be capable of raising the 2020 rail share of medium- and long-distance freight from 19% of the road and rail freight market without these

measures to 30% with them. These findings best sum up the sort of impact we believe that a well thought through and fully implemented European transport policy along the lines we have put forward in this paper could have.

Table.2 EU 27 External Trade by Mode of Transport, (Value (billion €)

	Partner: Extra EU-27					
	Export		**Import**		**Export + Import**	
Sea	621,1	47,5%	836,1	53,4%	1.457,2	50,7%
Road	289,1	22,1%	178,0	11,4%	467,1	16,3%
Rail	24,3	1,9%	21,8	1,4%	46,1	1,6%
Inland waterway	5,0	0,4%	3,1	0,2%	8,2	0,3%
Pipeline	4,6	0,4%	123,0	7,9%	127,6	4,4%
Air	320,4	24,5%	255,6	16,3%	576,0	20,1%
Self propulsion	31,9	2,4%	14,4	0,9%	46,4	1,6%
Post	1,5	0,1%	2,7	0,2%	4,2	0,1%
Unknown	8,6	0,7%	130,3	8,3%	138,9	4,8%
Total	**1.306,6**	100,0%	**1.565,0**	100,0%	**2.871,6**	100,0%

Source: Eurostat

While the maritime transport takes place on the top in terms of value in EU member countries' foreign trade, the share of rail transport has remained quite low. In terms of weight, the share of maritime transport is emerging about 73 %, the share of railways rises to 4.2 %.

Table.3 Employment by Mode of Transport (in 1 000)

	Total	**Road** freight transport	**Road** passenger transport	**Railways**	**Pipelines**	**Inland water transport**	**Sea transport**	**Air transport**	**Travel agencies & tour operators**	**Other auxiliary transport activities**
EU27	**9.212,7**	**2.963,1**	**1.960,5**	**864,4**	**12,0**	**43,4**	**184,0**	**409,1**	**490,0**	**2.286,2**
EU15	**7.302,3**	**2.293,5**	**1.522,8**	**506,9**	**6,0**	**34,5**	**166,3**	**379,2**	**420,9**	**1.972,2**
EU12	**1.910,4**	**669,6**	**437,7**	**357,5**	**6,0**	**8,9**	**17,7**	**29,8**	**69,1**	**314,0**
BE	**195,6**	65,5	34,1	27,1	0,1	1,2	0,9	5,9	8,2	52,5
BG	**144,2**	37,6	35,9	17,9	0,0	1,7	4,8	2,7	6,2	37,4
CZ	**274,7**	115,0	44,2	59,2	0,2	0,8	0,0	5,5	11,8	38,1
DK	**137,0**	41,2	30,5	8,3	0,1	0,1	13,5	6,3	6,8	30,2
DE	**1.374,3**	318,0	302,8	79,4	0,7	9,0	31,1	57,3	67,8	508,1
EE	**38,6**	14,9	5,9	3,4	0,0	0,1	1,1	0,7	1,8	10,7

IE	**65,3**	17,5	12,0	5,6	0,0	0,0	3,5	4,7	5,7	16,3
EL	**196,4**	42,8	75,0	7,4	0,1	0,0	18,5	3,8	14,6	34,2
ES	**929,2**	415,7	179,2	20,6	0,0	0,3	7,6	38,8	58,2	208,7
FR	**1.218,0**	368,1	291,1	169,4	1,3	3,8	14,2	73,2	42,9	254,2
IT	**984,8**	346,3	150,9	64,1	3,0	3,0	25,7	22,5	47,3	321,9
CY	**19,6**	2,5	2,4	0,0	0,0	0,0	5,1	2,2	2,7	4,7
LV	**70,7**	20,6	14,5	14,0	0,4	0,0	0,8	1,2	2,2	17,0
LT	**92,4**	43,3	18,0	10,8	0,0	0,1	1,7	0,7	3,2	14,6
LU	**21,4**	8,5	2,8	3,1	0,0	0,1	0,1	4,0	0,6	2,3
HU	**205,1**	68,3	51,4	43,1	0,6	1,2	0,0	2,4	6,7	31,4
MT	**10,8**	1,1	1,4	0,0	0,0	0,0	1,0	2,5	2,0	2,9
NL	**362,5**	127,9	47,5	31,1	0,1	13,5	8,2	36,0	22,9	75,3
AT	**194,9**	60,8	47,1	14,2	0,4	0,5	0,0	9,7	11,2	51,0
PL	**622,2**	243,2	154,6	120,4	3,3	1,4	2,0	6,3	18,5	72,6
PT	**162,8**	66,9	37,3	4,3	0,1	0,1	2,5	9,4	10,0	32,1
RO	**304,8**	86,6	87,1	48,3	1,5	2,8	1,0	3,9	9,2	64,4
SI	**45,6**	21,6	8,0	4,9	0,0	0,0	0,2	0,8	2,0	8,0
SK	**81,6**	15,0	14,3	35,6	0,2	0,7	0,0	1,0	2,8	12,1
FI	**123,4**	43,2	25,9	7,7	0,0	0,2	9,5	7,1	4,8	25,0
SE	**235,9**	75,0	61,7	8,9	0,0	1,4	15,8	7,0	12,7	53,5
UK	**1.100,9**	296,2	224,7	55,7	0,3	1,4	15,1	93,4	107,1	307,0

Source : Eurostat

When examining the employment according to mode of transport, the road transport of 27 EU countries is placed on the top, so railway and other alternative transportation fall through despite the imposition of policies. While the employment in railway transportation is ranked second after the roads, airline and maritime transport have been following them. While the employment of the railway is approaching half of the roads in Bulgaria, maritime and airline transport have been following them. Pipeline and inland water transport are a little bit behind.

3. RAILWAY TRANSPORT IN TURKEY

Turkey has 10.508 km railway network together with secondary lines including 8607 km lines, but it is seen that this railway network is insufficient when considering Turkey's population, area and economic potential.

Turkish railways experienced its golden age between the years 1923-1950. Between these years, railway construction and operation have been achieved with the national power despite the all poor conditions. After the establishment of the Republic, due consideration was given to railroad transportation but this interest did not last long and it was quite behind the

modern railway transporting as easily be observed at this point these days. This situation also reflected the preferences of travelers and as a result, the share of railways in passenger transport remained relatively low.

In the Urgent Action Plan, prepared between the years 2003-2007, the program which is launched for the conditioning of the railroads is not determined for railways and seaways. With privatization, the harbors are disposed of. (Treasure Counsellorship)

In Turkey, the railway operation is situated a sector which is monopolized by the public and because of the operating loss it is also subsidized by the public. (NA*LÇAKAN,2009:39)*

The ROLA, which is a means of transportation of buggies (articulated lorry- truck) in the railway cars whether, accompanied or not is very common in developed countries' railways and it is seen as the transportation way of the future. In Turkey ROLA transportation, which was firstly carried on the route of Halkalı-Wells-Halkalı on 21 September 2006, is being implemented. **(***TÜSİAD,2006:45)*

Table.4 The Significance of Transportation Modes in Turkey's Exportation

TRANSPORTATION MODE	2003 (%)	2004 (%)	2005 (%)	2006 (%)
Railway access	0,83	0,91	1,02	1,06
Railroad vehicle in railway car	0,01	0	0,01	0,01
Railway car in marine vessel	0,02	0,01	0,04	0,05
Peculiar vessel for inland waters transportation in marine vessel	0	0	0	0
Motor land vehicles in marine vessel	0,63	0,16	0,9	0,96
Trailer or semi-trailer in marine vessel	1,4	0,49	0,97	0,79
Maritime transport	47,12	48,83	46,3	48,17
Other	0	0,03	0,47	0,16
Air transport	6,83	6,18	5,41	5,61
Inland waters transport	0	0	0	0
Railroad haulage	42,97	42,91	43,01	41,2
Motile vehicles	0,15	0,38	1,72	1,8
Mailing	0	0	0	0
Immobile transportation installation	0,04	0,1	0,14	0,16
TOTAL	**100**	**100**	**100**	**100**

Sourch: Turkish Statistical Institute

In exportation of Turkey, while railroad transportation is about to half of the total, the railway transportation is to stand at a low order and it is seen that inland water transportation is not even used.

When evaluated in aspect of economy, the aim generated is that it is needed to put forward a transportation system which can afford the need of transportation with lowest cost. To carry out the transportation with lowest cost, it is needed to allocate an optimum share in terms of economics for each transportation system. The criteria in the determination are the relative cost and the prolificacy of the transportation sectors. In our country while preferring

the transportation system, it is not selected according to the relative costs and prolificacies of railroads and railways.

Railway is a safe transportation system and a train can carry approximately 50-60 loads of trucks. Although its infrastructure cannot provide the demands of customer, it has a wide area system. By developing the transportation with railways, airlines and railroads can be relieved. And also it helps to minimize traffic accidents and to prevent loss of lives.

Table.5 Number of diesel locomotives and wagons

	2004	**2005**	**2006**	**2007**	**2008**
Diesel locomotives	525	529	535	530	549
Main line	457	461	477	472	494
Maneuver	68	68	58	58	55
Electric Loco	73	71	67	67	64
Electric Railcar	87	86	84	83	83
Diesel Railcar	49	49	46	44	44
Freight Wagon	16 004	16 102	16 320	17 041	17 079
Passenger Coach	993	996	993	1 010	995

Source: Turkish State Railways

When the numbers of diesel locomotives and railway cars are considered, within the last five years, it is observed that there is not a great escalation and the country's policy is not envisioned investments for a progress plan. The non-increasing investments affect the number of the passengers negatively.

4. CONCLUSION

International freight transport by railways is possible with Kapıkule border connection, through Bulgaria to other European countries according to an international agreement on the railway to carry goods, price plan and internal legislation provisions. International rail system passing through Turkey, Trans-Asia railway system, is carried out by means of Trans-European railway project.

The advantages for the development of railway transportation in Turkey are the expansion of the domestic market, the potential of young population, effects of globalization, the existence of transport corridor in the axis of the East-West, strong relations with the EU, and understanding the importance of transportation in aspects of national and regional development. In Turkey, for the introduction of the railway transportation and to mould public opinion, it is needed to make avail of EU funds.

For Turkey, to overcome both physical geography and political geography obstacles in international transportation and on the other hand to become competitive in international transport can be possible by "combined transportation" which can be carried out with continuous, integrated road-rail-sea transport. In this type of transportation, making use of road in the beginning and end of transport will improve not only the efficiency of road, but also the efficiency of combined transportation.

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ЕВРОПЕЙСКИТЕ СТРАНИ И ТУРСКИТЕ ЖЕЛЕЗОПЪТНИ ПРЕВОЗИ

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Ключови думи: *Турция, Европейски съюз, железопътен транспорт, превози.*
Резюме: *Транспортната политика в Европа продължава да среща предизвикателства, а тенденциите на пазара продължават да се променят. Особено внимание заслужават две големи предизвикателства. Първо, разширяването на ЕС от 15 на 25 и впоследствие на 27 държави-членки, което доведе до процес на интеграция и промяна. Второ, нарастващата загриженост поради глобалното затопляне и приносът на транспорта за това, което налага като цел намаляването на емисиите. Преди да се коментира това развитие е интересно е да се направи преглед на последните тенденции на пазара на транспортни услуги, като те да бъдат представени в по-дългосрочен план.*
Картината във връзка с прехвърлянето на товарите не изглежда много обнадеждаваща. Делът на железниците в пътническите превози е паднал от 6,6% през 1995 г. до 6,1% през 2007 г.. В по-дългосрочен аспект, през 1970 г. този дял в ЕС е бил около 10%. Както подчертава Престън (2009), превозите по високоскоростните железници за десетилетието до 2006 г. са се увеличили почти три пъти и са повече от 20% от пътническите превози в ЕС. В действителност той твърди, че наблюдаваният ръст в обема на пътническия железопътен транспорт от 1995 г. насам се дължи на високоскоростните железници. Това показва важна промяна в европейския железопътен пазар. Въпреки това трябва да се признае, че високоскоростните железници не работят в изолация от конвенционалната железопътна мрежа, която си остава най-важната част от пътническия железопътен трафик.
В това проучване се изследва железопътният транспорт в Турция и 27-те страни от ЕС.