Study on the economic impact of an agreement between the EU and the Republic of Turkey

FINAL REPORT

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LIST OF ABBREVIATIONS

AETR	European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport
BWTO	Border Waiting Times Observatory
CAGR	Compound annual growth rate
EC	European Commission
ECJ	European Court of Justice
ECMT	European Conference of Ministers of Transport
EEC	European Economic Community
EU	European Union
EU 27	EU12 + EU 15
EU 28	The 28 Member States of the European Union (EU 13+ EU 15)
EU12	Bulgaria, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia, Slovenia.
EU13	EU12 plus Croatia
EU15	Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom
HGV	Heavy Goods Vehicle
IMF	International Monetary Fund
IRU	International Road Transport Union
ITF	International Transport Forum (formerly ECMT)
MIO	Million
NFD	Negotiation Framework Document
NST-07	Classification system for transport statistics (NST 2007)
SITC	Standard International Trade Classification
UND	International Transporters Association of Turkey
UNECE	United Nations Economic Commission for Europe
USD	United States Dollars
WTO	World Trade Organization

COUNTRY ABBREVIATIONS

EU Member States

AT	Austria	**IE**	Ireland
BE	Belgium	**IT**	Italy
BG	Bulgaria	**LT**	Lithuania
CY	Cyprus	**LU**	Luxembourg
CZ	Czech Republic	**LV**	Latvia
DE	Germany	**MT**	Malta
DK	Denmark	**NL**	Netherlands
EE	Estonia	**PL**	Poland
EL	Greece	**PT**	Portugal
ES	Spain	**RO**	Romania
FI	Finland	**SE**	Sweden
FR	France	**SI**	Slovenia
HR	Croatia	**SK**	Slovakia
HU	Hungary	**UK**	United Kingdom

Other countries

TR	Turkey

Executive summary

A high level analysis has been carried out of the impact of gradual liberalisation of access to the market for road freight services operated between the EU and Turkey. Such services are currently regulated by bilateral intergovernmental agreements between Member States and Turkey. These agreements impose quota and permit arrangements on hauliers from both sides. The study concludes that an EU agreement which abolished these requirements would deliver positive boost to trade, output and employment for both parties. The largest gains come from removal of transit permits while; remove of bilateral permitting arrangements would have a smaller effect. Full liberalisation could boost total trade by more than €3 billion per year. Liberalisation increases the EU's road-freighted exports to Turkey less than it does imports from Turkey under all scenarios.

Bilateral intergovernmental agreements impose constraints and costs on road freight services between EU Member States and Turkey

Road transport services operating between EU Member States and Turkey are regulated by bilateral intergovernmental agreements signed by individual EU Member States. These agreements set the conditions under which transport services can be operated and, in particular, establish the number and nature of the permits that are required to perform a transport operation between the signatory Member State and Turkey. The permits are usually administered by the relevant ministry for transport, and are issued on a regular basis, according to specific requirements. The permit system imposes operational constraints on operators and an administrative burden. The additional costs associated with these arrangements are reflected in the price of final goods supplied to the market.

There are significant differences among the agreements signed by Member States with Turkey, not least in the variety and mix of permits they provide for. Some agreements provide different classes of permit for transit trade and bilateral trade, others do not. Permits can be specific to the vehicle type (e.g. according its Euro emissions class). In some cases requirements, e.g. for a haulier in transit to buy a special permit, are imposed on Turkish operators but not those of other third countries (e.g. Iran, Serbia).

In 2013 a total of 961,087 permits of all types were issued to Turkish road transport companies by the 25 EU Member States with which Turkey has bilateral road transport agreements (only Cyprus, Ireland and Malta have not signed agreements). The majority were bilateral or transit permits (42% and 31% respectively). Bulgaria and Germany grant the largest number of permits (31.3% and 17.7% respectively), followed by Croatia (6.4%), Romania (6.1%), Greece (5.7%) and Italy (5.2%). Over the last five years (2009-2013) the allocation of all types of bilateral permits granted by this 'top six' group of Member States remained broadly unchanged.

Alongside the permits provided by bilateral agreements, the International Transport Forum (ITF) operates a quota system that provides multilateral licenses for the international carriage of goods by road by transport undertakings established in a member country of the European Conference of Ministers of Transport (ECMT). The licenses apply to carriage of goods between ECMT Member countries or in transit through the territory of one or several ECMT member country(ies). The vehicles must be registered in an ECMT member. The system for allocating quota among ECMT Member Countries encourages better environmental performance through a bonus scheme. Annual quotas for Euro V Safe lorries account for 75% of all quotas issued. As of 1 January 2014 4,258 annual licenses were issued to Turkish operators, of which 3,740 (87%) were valid for Euro V Safe lorries.

Analysis suggests that the EU hauliers have access to sufficient permits but regularly experience problems with the interpretation of rules at a local level by the Turkish authorities. Turkish hauliers report problems with shortages of transit and bilateral permits.

The information gathered for this study suggests that EU truck operators have access to enough permits to carry goods to and from Turkey for the permit supply not to be a constraint to market access. For the EU15

in particular this situation arises in part from the cost competitiveness of Turkish hauliers: shippers and forwarders from the EU15 tend to use haulage services from Turkey to take advantage of their lower charges. EU12 hauliers are better placed to compete with their Turkish counterparts.

Organisations represented hauliers based in Romania, Poland and Bulgaria suggest that the current permitting arrangements create operational problems for EU operators in Turkey even where there is no deficit in overall supply. Their complaints relate primarily to the interpretation of regulations at a local level, with anecdotal reports of Turkish authorities: asking for permits also for vehicles below 3.5 tonnes maximum permitted weight (which are out of scope of bilateral permits); asking for a third country permit (instead of the bilateral permit) according to the origin of invoice, rather than the place of production or loading; and not recognising permits or considering them as false or already used.

The same organisations also cite problems with use of ECMT licences, specifically cases of the Turkish authorities: restricting the use of ECMT permits to trips requiring a minimum number of days; restricting the use of ECMT permits by determining the country of origin of the transport operation to be the country in which the invoice was issued rather than the place of loading as stated in the CMR and TIR; and not taking into consideration multimodal transport operations.

Empirical data on the frequency of occurrence of such problems have not been located.

Turkey has three land border crossings with EU countries that are used by goods vehicles (with Greece and Bulgaria). Data on border crossing waiting times at the Bulgarian border suggest typical wait times of around three hours. Trucks leaving Turkey to come into the EU tend to wait longer than those leaving the EU to enter Turkey.

For Turkish hauliers the principal issue is that demand for transit permits exceeds the supply provided for free by some Member States (Italy, Austria, Hungary, Slovenia, and Romania). There is a shortage of bilateral permits for certain Member States (in particular France and Spain).

Once the stock of free transit permits for Turkish operators is exhausted, certain Member States (e.g. Romania, Greece. Hungary, Bulgaria), grant transit permits in return for payment of a fee. This imposes additional costs on the Turkish operators affected

The routes that connect Turkey to its most important trading partners in the EU (Germany, Italy, France, United Kingdom, Spain) require road freight operators to pass through the territory of third countries (mostly other EU Member States). This transit traffic is most concentrated in Greece and Bulgaria but extends into Slovenia, Austria, Hungary, Poland, Czech Republic, and other Member States.

Despite these constraints EU-Turkey trade has grown rapidly over the past decade

Turkey is among the most important of the EU's trading partners. Fuelled in part by EU investment in Turkey, the EU's exports to and imports from the country have increased rapidly since 1995. Trade volumes fell after the 2007 economic crisis but have since recovered, with the rebound in exports being particularly strong (Figure 1.1). In 2012 EU exports to Turkey were worth €75.1 billion and imports from Turkey were valued as €47.8 billion. DG TRADE (2012) identified Turkey as the EU's 7th largest source of imports and 5th largest export market. Turkey's trade with other regions has been growing much faster than its trade with the EU, in particular over the last 5 years.

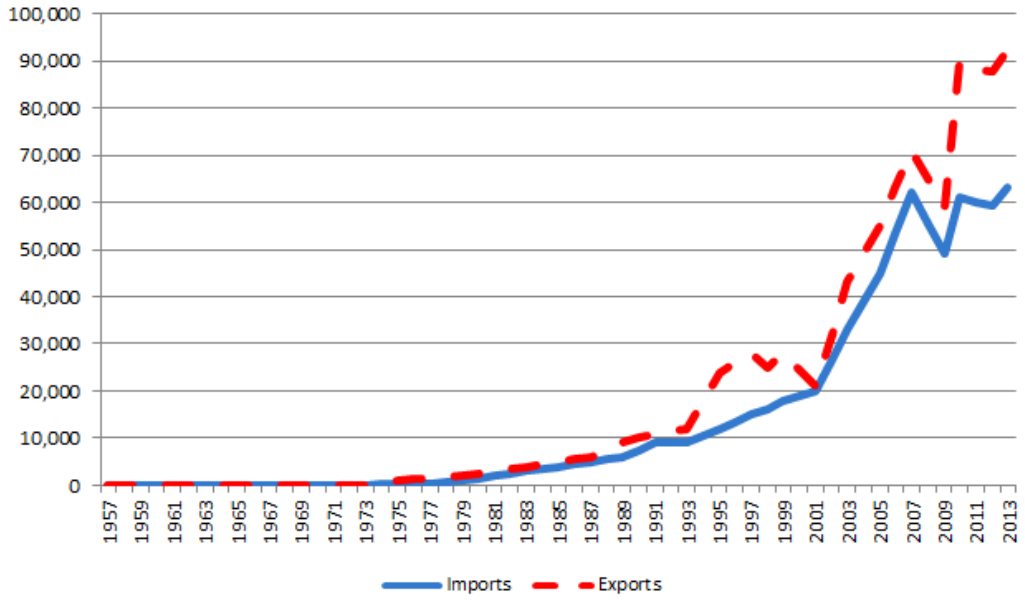
Germany, Italy, France, Spain and the UK are the most significant exporters to Turkey and provide the largest EU markets for Turkish goods (on a value basis). Eurostat data the importance of chemicals, food, wood products, basic metals and machinery in the EU's exports to Turkey and food, textiles, mechanical and machinery from Turkey to the EU.

Forty five per cent (by value) of Turkey's trade with the EU in 2013 was carried by road. In tonnage terms, road's share is 22% for imports and 12% for exports. These data exclude, however, freight carried on ro-ro services. Ro-ro services are an important part of the overall transport system that supports EU-Turkey trade.

Ro-ro's share of EU-Turkey road traffic varies by Member State. As a general rule it is much higher for trade with EU15. Ro-ro services had a twofold advantage: (i) they facilitated growth in trade in circumstances where permit quotas have been kept constant and are insufficient to meet demand (e.g. Italy, France, and Spain); (ii) they are used to avoid transit through countries that impose limitations on Turkish hauliers, such as restrictions on the number of transit permits (e.g. Hungary, Slovenia, and Romania).

Figure EX.1 **EU exports to Turkey have grown more rapidly than imports in recent years**

EU – Turkey trade, US$ millions



Source: World Bank (2014), Evaluation of the EU-TURKEY Customs Union (IMF Direction of Trade Statistics); for years 2012-2013: UND data, Turkish interchanges with EU28.

EU haulage firms, mostly from eastern Member States, have about a third of the EU-Turkey road freight market

The road haulage market in the EU comprises around 600,000 predominantly small enterprises, with an average size of four employees per company. Hauliers from the eastern Member States have cost advantages over EU15 hauliers where they are allowed to compete. Transport within and between EU15 Member States are mainly carried out by EU15 hauliers but movement of freight by road between EU15 and EU12 countries is carried out almost exclusively by EU12 hauliers. Firms from the eastern Member States dominate international transport both in bilateral exports/import activities and in crosstrades. Supported by those successes in the intra-EU market, the heavy truck fleet registered in the eastern EU has grown significantly since 2002 while that in the western EU has shrunk.

Across the EU as a whole, 43% of all vehicle-km are registered by vehicles that are less than 4 years old, 22% of vehicle-km by vehicles ranging from 4 to 6 years and a further 22% by vehicles 6 to 10 years old. Vehicles that are more than 10 years old account only for the 13% of total traffic (though there is more use of older vehicles in the EU12 than in the EU15).

EU hauliers have around a third of the road freight import trade (including ro-ro traffic) from Turkey. There are very substantial differences between the western and eastern EU markets. In 2013 hauliers from the EU15 had only 13% of the Turkey import market for those countries whereas hauliers from the EU13 carried almost two thirds of the imports to the EU13. Overall, the share of road freight between EU and Turkey that

is carried by EU vehicles has been rising slowly in recent years as EU13 hauliers have gained an increasing share of the tradeFigure 5.11. A similar trend is observed in the freight export trade to Turkey.

An estimated 700 Turkish haulage firms operate in the EU market. Between them they have 53,000 vehicles (21,000 tractors, 2,000 lorries and 30,000 semitrailers). Almost two thirds of the Turkey international road freight fleet meets the Euro V standard. This is partly a consequence of alignment with EU legislation and partly driven by the bonus granted within the ECMT license system, which awards additional travel permits based on the environmental performance of the vehicles used. Seventy-nine per cent of the vehicles of the first nine companies listed as per ECMT license distribution criteria are Euro V.
Available data suggest that vehicle operating costs for Turkish firms are similar to those of their EU12 competitors but their wage costs are lower. Diesel costs in Turkey are higher than those in most of the comparator Member States but Turkish truck operators benefit from a tax concession (corresponding to nearly half of the fuel price) when buying fuel before export trips from Turkey.

Turkey has made significant progress towards alignment with the EU acquis on road transport but there are some gaps still to be filled

Turkey has treaty-based relations with the EU initiated under the framework of an association regime grounded on the Ankara Agreement that Turkey signed with the European Economic Community (EEC) in 1963. The Agreement envisaged a three-staged approach to establishing a customs union whilst declaring Turkey's right to full membership once the custom union was completed (as it was in 1995 when Decision No 1/95[1] of the EC-Turkey Association Council was adopted). Decision No 1/95 provided a stimulus to efforts to align its domestic law with the EU *acquis*.

Turkey received 'candidate country' status in 1999. Accession negotiations were formally opened in 2005. A Negotiation Framework Document was adopted with the purpose of determining the principles of EU-Turkey negotiations, the rules of the negotiations as well as the negotiation chapters. Transport policy was one of the chapters suspended in December 2006 by the European Commission after Turkey failed to fully implement the Additional Protocol to the Association Agreement. A dialogue between Turkey and the Commission started in December 2013 pending the reopening of that chapter. This acknowledges the efforts Turkey has made to align its road transport legislation with that of the EU and to improve its administrative and enforcement capacity.

The most important developments in the modernisation of Turkey's road transport sector have been the adoption of a framework law (Road Transport Law) and a by-law (Road Transport Regulation) on road transport that came into force in 2003 and 2004 respectively. These aim to govern the Turkish road transport sector in line with the corresponding EU standards and requirements. The Road Transport Regulation was updated in 2009 to reflect the latest developments in EU legislation.

Improvements have been achieved in implementation of the digital tachograph system. Measures to regulate work and rest periods, driver training and roadside technical checks on commercial vehicles have also been implemented though there is not yet complete alignment in all areas. An important step was taken towards closing the gap between Turkish and EU law on driving licences in 2013 when Turkey become a party of the Convention on Road Traffic[2] (the 'Vienna Convention').

[1] Decision No 1/95 of the EC-Turkey Association Council of 22 December 1995 on implementing the final phase of the Customs Union.

[2] The Convention on Road Traffic, of 1968, also known as the Vienna Convention on Road Traffic, as it was concluded in Vienna in 1968, regulates all facets of driving behaviour, such as speed and distance between vehicles, intersections and obligation to give way. Moreover, it details the technical conditions for the admission of vehicles to international traffic and provides models for domestic and international driving permits.

This study compared a business-as-usual baseline scenario with a set of liberalisation scenarios representing removal or reform of existing quota and permitting arrangements

The liberalisation scenarios examined in this study were defined according to the regulatory requirements removed. The principal requirements of interest to this study are: permits granted on the basis of bilateral agreements concluded to facilitate exchanges between couples of countries; and permits granted on the basis of bilateral agreements concluded to enable transit on the territory of a country for trade relations among another partner country and a third country. Another variable of interest that is the contracting party, i.e. who is entitled to negotiate quotas. As an example, the EU may be given legal ownership of the negotiation process and replace Member States in the agreement of quotas with external contracting partners. This may in itself have liberalisation effects, e.g. if it changes the number and distribution of quotas.

The scenarios tested are shown in Table EX.1. Differences in trade, output and employment in 2016 were modelled using a combination of: (i) an econometric gravity model for the estimation of future trade and transport flows; (ii) an elasticity-based estimation of the response of trade flows to trade cost changes; and (iii) input-output analysis which allows the study of economy-wide and sector-specific consequences of the liberalisation scenarios. Although the modelling approach taken suggests that the changes in volume occur immediately after the deregulation, in practice it would take a number of years for the market to adjust. In the business as usual scenario the projected number of trips conducted in 2016 by EU and Turkish hauliers importing goods into the EU is up 13% on 2012, at 470,000, up 13% on 2012.

Table EX.1 Definition of liberalisation scenarios

Nr	Scenario Name	Bilateral permits	Transit permits	EU permits / licenses	EU agreements
1	**Business as usual**	no change to baseline	no change to baseline	none	none
2a	**Transit liberalisation**	Agreement adaptation	removal	none	Not required, but transit liberalisation needs a decision of individual Member States
2b	**Transit liberalisation + additional EU permits**	Agreement adaptation	removal	add according to real needs	yes
3	**EU management of quotas**	removal	removal	bilateral EU permits	yes
4	**Full liberalisation**	removal	removal	not necessary	not necessary

For all liberalisation scenarios it is assumed that there would be clauses committing the external partner and EU to fair and consistent interpretation and administration of the rules, and a mechanism to deal with reports of deviation from that practice. The aim of this would be eliminate the problems reportedly experienced by some EU hauliers with *ad hoc* inspections and requirements being imposed at a local level by officials in Turkey. The removal of the tax concession available to Turkish hauliers to offset diesel fuel costs is not modelled.

The changes associated with the four scenarios, as compared to that baseline, are summarised in Table EX.2. The modelling suggests that all four liberalisation scenarios are associated with positive impacts on trade, output and employment for both the EU and Turkey.

The analysis suggests that full liberalisation would increase the value of EU-Turkey trade by an estimated €3.5 billion, out of which €1.9 billion are additional imports from Turkey and €1.6 billion are exports to Turkey. The largest expected effect is a rise in imports from Turkey into Germany, France, the Netherlands,

and the UK as the reduction of transport costs in central Europe makes Turkish goods more competitive. Trade with EU Member States that are close neighbours of Turkey also increases, but not by as much in relative terms. Removal of the transit quota system generates more than 90% of the benefits seen under full liberalisation. This signals the opportunity cost of current transit permit arrangements. The other scenarios deliver impacts that lie between those of transit and full liberalisation.

The macroeconomic effects on the EU economy of full liberalisation are too small to measure. They are more significant for Turkey, with an increase in GDP estimated at 0.15%. The modelling also suggests that EU consumers would enjoy some savings from liberalisation (as a result of lower prices) of around €145 million per year.

The employment effect in the Turkish economy is estimated to be in the order of 25,000 new jobs (0.1%). The EU is projected to see an additional 14,000 jobs over and above the business as usual scenario.

Liberalisation expands the total size of the road haulage market between the EU and Turkey. Hauliers from the EU12 are expected to be better placed to compete for this additional business than firms from the EU15 due to their more competitive cost structure. However, Turkish hauliers, which already have a large share of the EU-Ukraine market, would be expected to carry a significant fraction of the additional traffic. Any agreement to liberalise current quota arrangements should include terms that provide assurance that EU hauliers will not be subject to interference when they conduct legitimate trade, and that controls will be applied according to the law. This should address the problems that EU hauliers report with *ad hoc* inspections and inconsistent interpretation of the law.

Liberalisation would benefit EU firms looking to source inputs and products from Turkey, and those selling into the Turkish market. Of the €2.3 billion of additional output projected for the Turkish economy, an estimate of €0.15 billion relates to EU-majority owned firms, mainly in the textiles, chemicals and machinery industries.

Negative impacts of liberalisation are an increase in road traffic and associated environmental impact. In the full liberalisation scenario an additional 40,000 road trips are forecast, resulting in increased carbon emissions is estimated at over 60kt CO_2e.

Table EX.2 Summary of liberalisation scenarios for Turkey

Liberalisation of freight transport between EU and Turkey	Transit liberalisa-tion	Additional quotas	EU manage-ment	Full liberalisa-tion
Effects on the EU, change with respect to BAU:				
EU road exports to Turkey, mln €	1466	1566	1566	1566
change in %	4.6%	4.6%	4.6%	4.9%
EU road imports from Turkey, mln €	1781	1841	1841	1894
change in %	7.4%	7.7%	7.7%	7.9%
Employment, thousand new jobs	13.2	14.1	14.1	14.1
Direct consumer cost savings, mln €	136	143	143	143
Selected effects in Turkey:				
Output expansion, mln €	2122	2193	2193	2257
change in %	0.20%	0.20%	0.20%	0.21%
Extra output of EU-majority owned firms, mln €	148	153	153	158
Employment effect, thousand new jobs	23.4	24.2	24.2	24.9
GDP effect, %	0.14%	0.15%	0.15%	0.15%
Additional GHG emissions, Gg CO_2 eq./yr	61	64	64	67

1 Introduction

1.1 Study objectives

The purpose of this study was to identify and quantify the impacts expected from liberalisation of market access for road freight transport services arising from agreements that might be negotiated between the EU and Turkey. This report provides an assessment of the prospective economic impacts of such agreements based on appraisal of a number of carefully specified scenarios. It contains a comparative analysis of key aspects of the road freight sector in the EU and Turkey, the market and trade flows and other contextual factors. The study was produced under a contract between the European Commission (DG MOVE) and ICF International. The work was conducted by a team drawn from ICF International, TRT and DIW Econ.

1.2 Structure of the report

The report is structured into sections that provide:

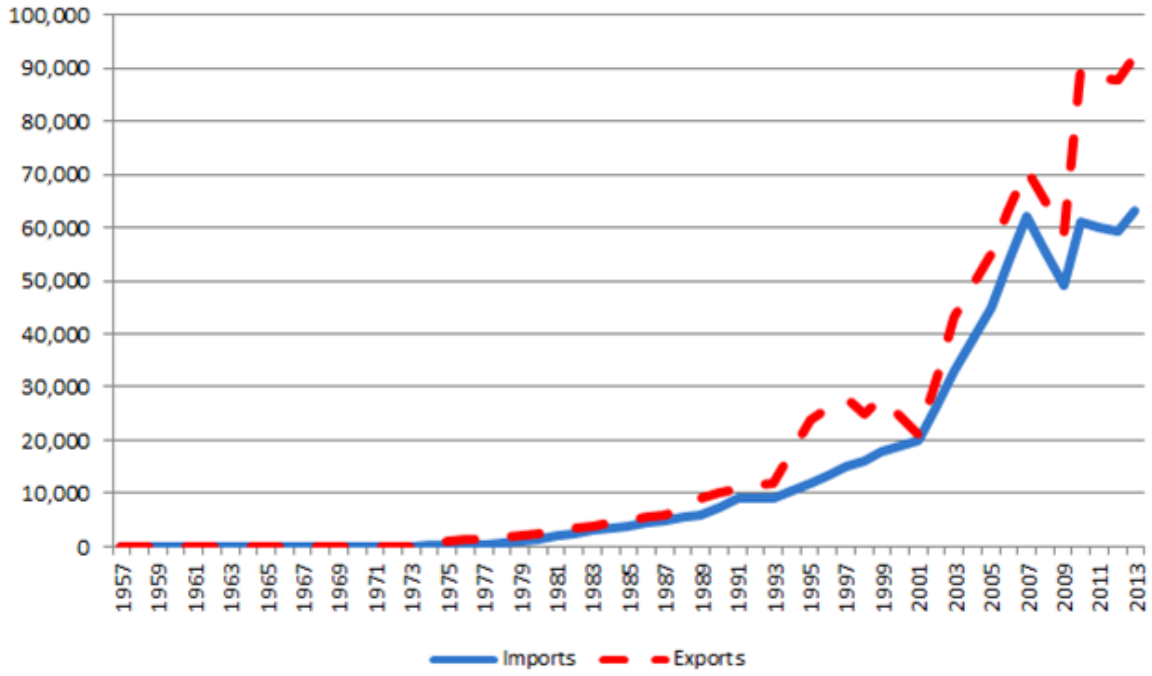
- A description of the bilateral agreements that apply to road freight services between the EU and Turkey and the ITF quota system
- A profile of the EU's overall trade with Turkey and that fraction which is carried by road
- A comparative assessment of the international road freight sectors in the EU and Turkey
- Details of the regulatory framework governing road freight transport in Turkey and its alignment to the EU road transport acquis;
- A description of the liberalisation scenarios that have been evaluated;
- The expected quantitative and qualitative impacts of the scenarios.
- Conclusions on the analysis.

The report starts, in the sub-section below, with an introductory discussion of the context – the importance and structure of EU-Turkey trade, the role of road freight and how the operation of EU-Turkey road freight market is currently influenced by regulation and regulatory practices.

1.3 Market and regulatory context

Turkey is a significant trading partner for the EU. Fuelled in part by EU investment in Turkey, the EU's exports to and imports from the country have increased rapidly since 1995. Trade volumes fell after the 2007 economic crisis but have since recovered (Figure 1.1). Turkey's trading relations have been strengthening across the EU, not just with its immediate neighbours and the Mediterranean economies with which it has traditional links. The structure of this trade is explained in more detail in section 3.

Figure 1.1 **EU exports to, and imports from Turkey (US$ millions)**



Source: World Bank (2014), Evaluation of the EU-TURKEY Customs Union (IMF Direction of Trade Statistics); for years 2012-2013: UND data, Turkish interchanges with EU28.

In tonnage terms 20%-25% of the EU's imports from Turkey and 10%-15% of exports to Turkey are carried by road (Table 1.1). These goods constitute, however, nearly half of the EU-Turkey import-export trade when measured by value (Figure 1.2). Details of the structure of road freight trade are provided in section 4.

The efficiency of road transport services is an important enabler of growth in commerce between the EU and Turkey. The development of the road freight sector over this period, in both the EU and Turkey, has supported trade growth. The sector has demonstrated a capacity to adapt to changing regulatory requirements and, on occasion, to find way to mitigate the constraints that they can impose on operations (e.g. bypassing transit countries and their permit requirements by use of ro-ro ferry services that carry trucks deeper into the EU). Section 5 gives a comparative analysis of the structure and costs of the EU and Turkish road haulage industries.

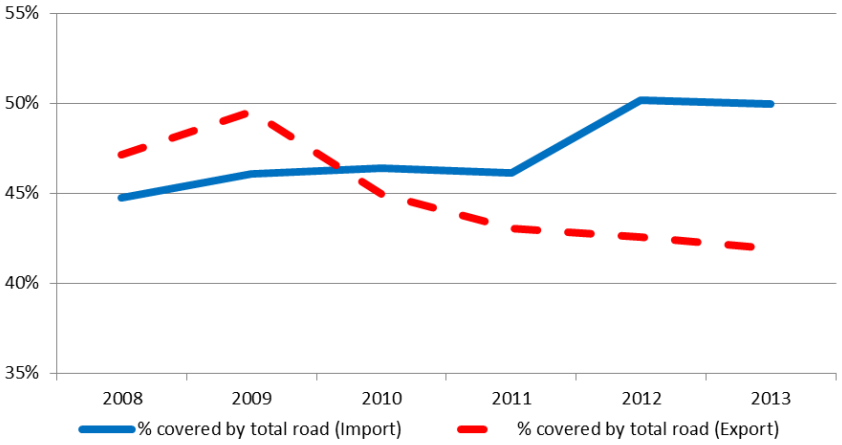
Table 1.1 **EU-Turkey trade by mode of transport ('000 tonnes)**

	EU-27's IMPORTS from Turkey						EU-27's EXPORTS to Turkey					
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012	2013
Road	5,146	4,734	5,099	5,248	5,271	5,334	4,873	4,261	5,190	5,617	5,614	5,661
Rail	326	226	314	375	262	277	1,369	1,180	1,361	1,130	1,217	1,253
Sea	20,522	16,170	17,508	18,740	15,755	17,445	25,533	26,514	32,316	34,211	38,283	38,890
Air	39	35	45	49	58	52	70	83	86	88	83	83
Unknown	333	277	86	143	190	330	3	11	60	1	0	0
Fixed Installations	416	599	577	656	592	564	0	0	0	0	0	0
Total	**26,782**	**22,042**	**23,631**	**25,211**	**22,128**	**24,002**	**31,848**	**32,050**	**39,014**	**41,047**	**45,197**	**45,887**
Road share (%)	19%	21%	22%	21%	24%	22%	15%	13%	13%	14%	12%	12%

Source: EUROSTAT data (EXTRA EU27 Trade by Mode of Transport)

Figure 1.2 **Road's share of the import trade from Turkey (measured by value) has grown while its share of export trade has declined**

Share of EU exports/imports with Turkey that is carried by road, by value



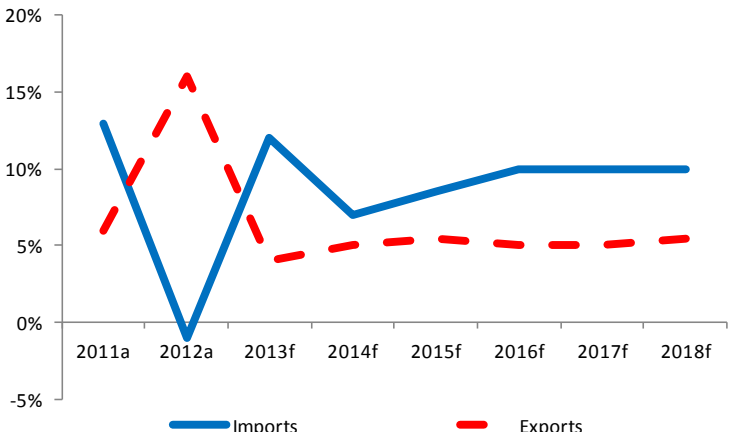
Source: TRT elaboration on EUROSTAT data (EXTRA EU27 Trade by Mode of Transport)

Growth in trade was facilitated by the Ankara Agreement[3] that Turkey signed with the European Economic Community (EEC) in 1963 and its subsequent extensions / modifications, and the customs union which was completed in 1995 (Decision No 1/95[4]). By agreeing to enter the customs union, Turkey took a large step towards integration with the EU.

Projections suggest future increases in trade in the years ahead. The IMF expects exports to grow at an average of more than 5% from 2013 to 2017, while import growth is forecast to exceed 9.5% during the same period (Figure 1.3).

Figure 1.3 **Turkey's import growth is expected to outpace export expansion over the next 5 years**

Forecast growth of imports & exports, Turkey, 2011- 2018



Source: Investment Support and Promotion Agency of Turkey, IMF[5]

[3] Agreement Establishing an Association Between the European Economic Community and Turkey (Signed at Ankara, 1 September 1963).

[4] Decision No 1/95 of the EC-Turkey Association Council of 22 December 1995 on implementing the final phase of the Customs Union.

[5] Valuation of exports are based on free on board (FOB), valuation of imports are based on cost, insurance, freight (CIF). a: actual f: forecast

Road transport services operating between EU Member States and Turkey are regulated by bilateral intergovernmental agreements signed by individual Member States. These agreements set the conditions under which transport services can be operated and, in particular, establish the number and nature of the permits that are required to perform a transport operation between EU Member States and Turkey. The permit system imposes operational constraints on operators and an administrative burden for both contracting countries. The permits are usually administered by the relevant ministry for transport, and are issued on a regular basis, according to specific requirements. The additional costs associated with these arrangements will be reflected in the price of final goods supplied to the market.

The routes that connect Turkey to its most important trading partners in the EU (Germany, Italy, France, United Kingdom, Spain) require road freight operators to pass through the territory of third countries (mostly other EU Member States). This transit traffic is most concentrated in Greece and Bulgaria but extends into Slovenia, Austria, Hungary, Poland, Czech Republic, and other Member States. It is also subject to regulation and permits.

There are significant differences among the agreements signed by Member States with Turkey. Some agreements provide different classes of permit for transit trade and bilateral trade, others do not. Permits can be specific to the vehicle type (e.g. according to Euro emissions class of the vehicle used). In some cases requirements, e.g. for a haulier in transit to buy a special permit, are imposed on Turkish operators but not those of other third countries (e.g. Iran, Serbia). At the same time, EU hauliers operating in Turkey can be subject to additional checks and controls. Table 1.2 lists the principal issues identified during the research for this study.

Table 1.2 **There are permit-related and operational constraints to road transport between Turkey and EU**

Number of permits and practical issues	EU hauliers have access to a sufficient supply of Turkish permits, though they often have to use one permit to enter in Turkey with an empty vehicle (in general permits are required only for laden vehicles) and in some cases spend two permits instead of one to accelerate bureaucratic procedures to leave Turkey. Representatives of EU hauliers report the application of *ad hoc* controls (e.g. on the origin and destination of route based on the invoice heading) when entering Turkey. These result in unscheduled increases in waiting times, and in some case in high penalties. For Turkish hauliers the principal issue is that demand for transit permits exceeds the supply provided by some Member States (Italy, Austria, Hungary, Slovenia, and Romania). Turkish hauliers also complain about deficit of bilateral permits for certain Member States (e.g. France, Spain). The supply number of permits (including both bilateral and transit permits) has been kept nearly stable, rather than growing in line with trade flows.
Payable permits	EU hauliers do not have payable permits, since these are allowed only for transit operations. Once the stock of free transit permits for Turkish operators is exhausted, certain Member States (e.g. Romania, Greece. Hungary, Bulgaria), grant transit permits in return for payment of a fee. This imposes additional costs on the Turkish operators affected.
Needs of detour or modal shift	To avoid permit restriction Turkish operators may find alternative routes by, for example: - Using ro-ro services operating between southern / western Turkish ports and Trieste in Italy and Toulon in France. These avoid transit through countries that impose particular constraints. - Making detours, such as trips from Turkey to France that bypass Italy by taking a northern route. Such alternatives usually imply additional costs due to longer distance, time and charges for the use of the other modes (ro-ro or rail).

2 Bilateral agreements and the ITF multilateral quota system

Within the EU international transport operations are fully liberalised. There are harmonised common rules that provide open market access in international road transport between EU Member States and limited market access for domestic operations performed by non-residents (cabotage). By contrast, road transport services operating between EU Member States and third countries are mostly based on bilateral intergovernmental agreements signed by individual Member States and those third countries.

2.1 The role of the EU in regulating road freight services with third countries

The Lisbon Treaty provides a role for the EU in agreements with third counties (Box 2.1) but to date international road transport has been, almost exclusively, the responsibility of Member States. To date, the EU has been mandated to conclude an international agreement with Switzerland which, since 2002, has liberalised its commercial road transport market (both passenger and freight). Other examples are the Stabilisation and Association Agreements concluded with the Western Balkans countries i.e. Albania, Bosnia and Herzegovina, the former Yugoslav Republic of Macedonia, Montenegro and Serbia including Kosovo (see Box 2.2).

Box 2.1: The Lisbon Treaty defines the EU's competence to conclude international agreements with third countries in the field of transport

Following the provisions laid down in Article 207(5) of the Treaty on the Functioning of the EU, the EU has an external competence to negotiate and conclude international agreements in the area of transport. However, this competence is not exclusive but has to be shared with the Member States. The EU needs to be authorised and empowered by the Member States (through the Council).

Nevertheless, the jurisprudence set by the European Court of Justice (ECJ) has established the doctrine of implied competences in the ground-breaking *AETR case*[6] where it has recognised that, when an internal competence (for example in the area of transport) is exercised with the purpose of achieving a community objective (the common transport policy) and when the Union's participation in the international agreement is necessary for the attainment of one of the objectives laid down by the Treaty, the EU has also the power to extend this competence externally and, therefore, has the power to conclude an international agreement.

Three decades later in the *Open Skies* case, the ECJ has further clarified that the AETR principle also applies in the case a conflict between the provision of an international agreement and the internal EU legislation is absent. The Court has stated that the EU has exclusive competence where the international commitments fall within the scope of common rules or the area covered by such rules. In such a case a Member State cannot enter into international commitments even if there is no contradiction between those commitments and the EU common rules[7].

[6] Case 22/70 Commission v. Council (AETR) [1971] ECR 263, 275. Cited in Weibel, 2014, pp. 4-5.

[7] Case C-466/98 Commission v. United Kingdom [2002] ECR-9427. Cited in Weibel, 2014, pp. 4-5.

Box 2.2: The EU has signed a bilateral road transport agreement with Switzerland and Stabilisation and Association Agreements with the Western Balkan countries

The first example of an international bilateral agreement signed by the EU with third countries is the bilateral road transport agreement concluded in 2002 with Switzerland. This accord was agreed after a long, complex negotiating process that had reflected not only the specific characteristics of the inland transport market (the agreement covers both the road and rail sectors), but also the distinctive characteristics of transit transport across the Alps. The Agreement was intended to deliver a gradual and mutual opening of markets in rail and road transport, along with the promotion of rail freight transport and the speeding up of customs formalities.

The core provisions of the agreement are the commitment made by Switzerland to increase the maximum permissible weight of truck loads from 28 to 40 tonnes, and the recognition by the EU of the legality of a non-discriminatory tax on heavy goods vehicles. The purpose of the Swiss tax was to encourage and increase the use of rail freight in general and, in particular, for freight transit across its territory.

The agreement liberalizes the road transport market between the EU and Switzerland and opens up the market for transport between EU Member States ("grand cabotage") to Swiss carriers. It also provides for the mutual recognition of the licences needed to gain admission to the occupation, a general harmonization of technical standards, and coordination of transport policies, in particular where combined rail-road transport is concerned (WTO, 2010).

A second example of international agreement signed by the EU with third countries is represented by the Stabilisation and Association Agreement concluded with the Western Balkan countries. This Agreement constitutes the framework of relations between the European Union and the Western Balkan countries for implementation of the Stabilisation and Association Process, establishing a free trade area between the EU and the country concerned and identifying common political and economic objectives and encourage regional co-operation. In the context of accession to the European Union, the agreement serves as the basis for implementation of the accession process.

The transport sector is governed by Chapter III ("Supply of Services") of each individual SAA signed by the EU and its Western Balkan partners. Specifically, Chapter III makes a reference to a dedicated protocol[8] on land transport that sets down the rules applicable to the relationship between the signatory parties with the purpose of mutually ensuring unrestricted road transit traffic. The protocols also require the effective application of the principle of non-discrimination and the progressive harmonisation of the transport legislation of each Balkan country with the corresponding EU acquis. The Stabilisation and Association Council is the competent body that, as part of the overall progress in the achievement of the objectives set by Chapter III, examines ways of creating the conditions necessary for improving freedom to provide air and inland transport services.

[8] With the exception of FYROM Macedonia, protocols on land transport are contained in the SAAs signed between the European Communities, on the one part, and Albania, Bosnia and Herzegovina, Montenegro and Serbia, on the other part. Protocols are, therefore, applicable as follows: for Albania, Protocol 5 on Land Transport (Article 59 of the bilateral SAA signed with the European Communities); for Bosnia and Herzegovina, Protocol 3 on Land Transport (Article 59 of the bilateral SAA signed with the European Communities); for Serbia, Protocol 4 on Land Transport (Article 61 of the bilateral SAA signed with the European Communities); for Montenegro, Protocol 4 on Land Transport (Article 61 of the bilateral SAA signed with the European Communities).

2.2 Bilateral agreements between EU Member States and Turkey

Bilateral agreements vary in scope and depth[9]. The regulatory regime they set up is usually an indicator of the degree of openness and the economic ties between the signatory countries. This may not apply where the signatory parties are geographical distant consequently. The negotiation and conclusion of road transport bilateral agreements is motivated by a variety of political and economic factors. The absence of either full market liberalisation or effective multilateral agreements in this domain make bilateral agreements between countries the primary legal instrument for international road transport services.

With the exception of Cyprus, Ireland and Malta, all EU Member States have concluded bilateral road transport agreements with Turkey (see Appendix C). All these bilateral agreements allow vehicles registered in the territory of contracting parties to transit the territory of both parties. A different reasoning applies, conversely, to permits involving third countries, which must be explicitly granted.

2.3 Bilateral quotas

A feature of the bilateral agreements on road freight services is the application of a system of quotas. These authorise hauliers of the signatory parties to conduct bilateral, transit or third-country transport operations, as long as they hold a permit for the country with which the bilateral accord has been concluded. Therefore, these bilateral agreements divide, on a reciprocity basis, the traffic between the two signatory parties to the exclusion of all others (with the marginal exception of "third country" quotas). The number of permits is usually set on an annual basis.

There are five general types of permit:

- bilateral transport permits, which grant the right to carry goods from one signatory country and vice versa;
- transit permits, which grant the right to carry goods in transit through the territory of the country specified in the permit;
- bilateral and transit permits, which are a combination of the two permits above;
- third country permits, which grant the right to carry goods from the country indicated on the permit to any third country or vice versa; this type of permit is also termed “triangular transport”; and
- universal permits, which are a combination of all the permits cited above.

In addition to these general categories of permits, specific types of bilateral permits can also be issued. There are, for example, multi-conventional (or multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit. Other specific permits can be granted for empty entrance or return load. Unless otherwise provided for in a bilateral agreement, payable transit permits can also be issued in addition.

Some Member States have both free and payable transit permits. Charges for these payable transit permits are completely independent of the road use charges. The transit permit charges collected from Turkish trucks in selected countries are shown in Table 2.1.

[9] World Bank (2013). *Quantitative Analysis of Road Transport Agreements (QuARTA)*. Washington.

Table 2.1 **Estimated transit payable permit charge for selected countries**

Country	Transit Permit Charge (Round Trip)
Greece	100 € (transit); 25 € (bilateral)
Bulgaria	86 €
Romania	236 €
Hungary	436 €

Source: UND data and World Bank (2014)[10].

As a general rule permits are exchanged on a reciprocal basis. It means that the quantities of permits for country A trucks to carry goods to country B and vice versa are comparable.

According to the available information, EU truck operators have access to enough permits to carry goods to and from Turkey for the permit supply not to be a constraint to market access. For the EU15 in particular this situation arises from the differences in the cost competitiveness of Turkish as compared to EU hauliers. Shippers and forwarders from the EU15 tend to use haulage services from Turkey to take advantage of their lower charges. This is demonstrated quantitatively by the respective market shares (see Figure 5.11 and Figure 5.13). As explained below, the road traffic between EU15 and Turkey can be seen as a market where, in case of liberalisation, EU12 operators can viably compete with Turkish hauliers.

Given the permits surplus, EU15 countries have not been keen to issue additional permits. This has resulted in the overall number of permits issued changing little over recent years.

The situation is different for EU12 operators. These are more competitive with Turkey hauliers. They have other issues to consider and face various type of obstacles while entering the Turkish market.

Consultations with representative organisations for hauliers based in Romania[11], Poland[12] and Bulgaria[13] suggest that the current permitting arrangements create operational problems for EU operators in Turkey[14]. Their complaints relate less to the availability of permits than to the interpretation of regulations at a local level, with anecdotal reports of Turkish authorities:

- asking for permits also for vehicles below 3.5 tonnes maximum permitted weight (i.e. vehicles that are out of scope of the bilateral permitting arrangements);
- asking for a third country permit, instead of the bilateral permit, according to the origin of invoice, rather than the place of production or loading;
- not recognising permits or considering them as false or already used and thus forcing to use an additional permit in order to speed up the procedures required to leave Turkey with a laden truck (a practice that decreases the effective supply of usable permits).

Empirical data on the frequency of such problems have not been located.

In 2013 a total of 961,087 permits of all types (including third country) were issued to Turkish road transport companies by the 25 EU Member States with which Turkey has bilateral road transport agreements. Bilateral and transit permits account for the largest share (42% and 31% respectively), while the combined bilateral and transit permits together make up 12% of all permits granted. Three EU countries (Greece, Hungary and Romania) issue payable permits. Lastly, third country permits account for 2% of the totality of permits of all types issued.

[10] World Bank (2014). *Evaluation of the EU-Turkey Customs Union*. Washington.

[11] Interviews to the National Association of hauliers in Romania (UNTRR).

[12] Interview to the National Association of hauliers in Poland (ZMPD).

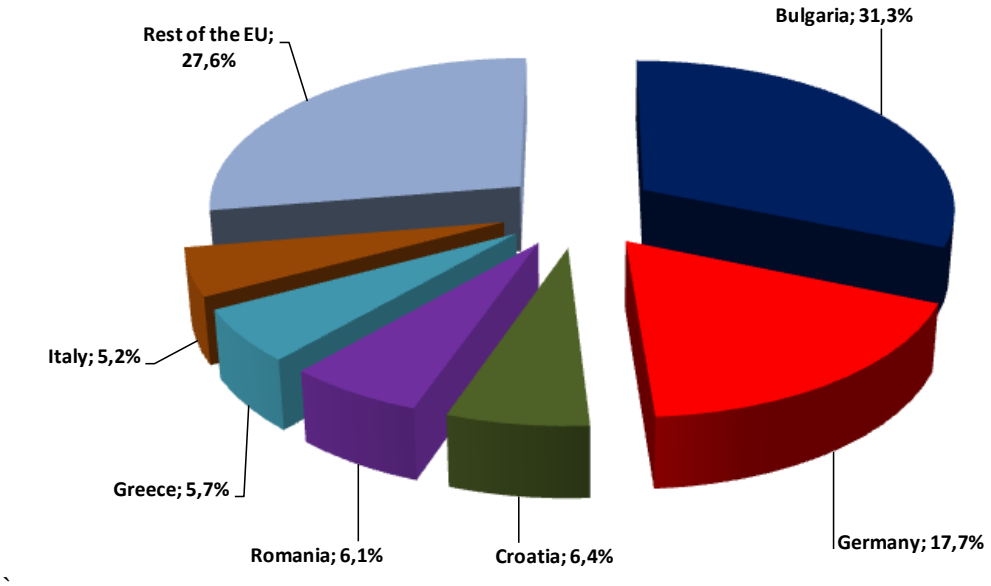
[13] Interview to the National Association of hauliers in Bulgaria (AEBTRI).

[14] This problems have been reported mostly by EU12, but generally apply to all EU operators.

As shown in Figure 2.1, Bulgaria and Germany account for the largest proportions of permits of all types granted, with 31.3% and 17.7% respectively (Table 2.1). They are followed by Croatia (6.4%), Romania (6.1%), Greece (5.7%) and Italy (5.2%). As a general case, the Member States granting the largest number of permits of all types today are those which were the earliest to agree bilateral accords with Turkey (Bulgaria, Germany, Hungary, Romania, and Italy).

Figure 2.1: **Bulgaria and Germany grant the largest number of permits (all types) to Turkish hauliers**

Distribution of permits granted by Member States to Turkey



Source: Compiled by the authors based on UND and Turkish Transport Ministry data

Over the last five years (2009-2013) the allocation of bilateral permits granted by this 'top six' group of Member States remained broadly unchanged (Table 2.2), though Romania's allocation increased by 20% in 2011 as compared to 2010 with a further increase by 3% in 2012. The allocation from Croatia rose by 8% in the 2009-2010 period.

Table 2.2 **Bilateral permits granted to Turkey by selected EU Member States over the period 2009-2013**

Year	EU Member States					
	Bulgaria	Germany	Croatia	Romania	Greece	Italy
2009	293,000	167,550	56,757	48,000	55,000	49,211
2010	298,000	167,550	61,500	48,000	53,000	48,554
Change '09-'10	0%	0%	+8%	0%	-4%	-1%
2011	298,500	170,050	61,500	57,500	55,000	48,794
Change '10-'11	0%	+1%	0%	+20%	+4%	0%
2012	300,600	170,050	61,500	59,000	55,000	49,535
Change '11-'12	+1%	0%	0%	+3%	0%	+2%
2013	300,600	170,050	61,500	59,000	55,000	49,530
Change '12-'13	0%	0%	0%	0%	0%	0%

Source: Compiled by the authors based on UND data

Table 2.3 **Allocation of permits granted to Turkish hauliers as set by the bilateral road transport agreements concluded by Turkey with the EU Member States (quota for the year 2013)**

Bilateral agreement between Turkey and the EU Member States	Bilateral permits	Transit permits	Bilateral and transit permits	Third country permits	Universal permits	Payable permits	Other types of permits	TOTAL	Percentage of the total	Notes
Austria	32,632	-	15,000	-	-	-	-	**47,632**	*5.0%*	Third-country transport operations not allowed.
Belgium	500	-	-	-	-	-	5,000	**5,500**	*0.6%*	"Other types of permits" include multiconventional (multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit.
Bulgaria	32,000	250,000	-	1,100	-	-	17,500	**300,600**	*31.3%*	"Other types of permits" include permits granted for empty entrance.
Croatia	57,999	-	2,000	1,500	-	-	-	**61,499**	*6.4%*	
Czech Republic	4,250	-	9,000	1,500	-	-	-	**14,750**	*1.5%*	
Denmark	-	-	3,499	300	-	-	-	**3,799**	*0.4%*	
Estonia	-	-	400	100	-	-	-	**500**	*0.1%*	
Finland	-	-	700	30	-	-	-	**730**	*0.1%*	
France	30,000	-	-	-	-	-	700	**30,700**	*3.2%*	"Other types of permits" include multiconventional (multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit.
Germany	132,500	-	37,500	-	-	-	50	**170,050**	*17.7%*	"Other types of permits" include multiconventional (multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit. Third-country transport operations not allowed.
Greece	10,000	-	-	-		45,000		**55,000**	*5.7%*	Third-country transport operations not regulated in the bilateral agreement. Third-country transport operations not allowed.
Hungary	29,411	2,500	-	2,000	-	16,400	-	**50,311**	*5.2%*	
Italy	17,162	10,998	15,000	-	-	-	6,370	**49,530**	*5.2%*	"Other types of permits" include permits granted for towing trailers. Some kind of minor transport

Bilateral agreement between Turkey and the EU Member States	Bilateral permits	Transit permits	Bilateral and transit permits	Third country permits	Universal permits	Payable permits	Other types of permits	TOTAL	Percentage of the total	Notes
										are liberalised. Third country transport operations not allowed.
Latvia	-	-	700	400	-	-	-	**1,100**	*0.1%*	
Lithuania	-	-	800	125	-	-	350	**1,275**	*0.1%*	"Other types of permits" include permits granted for return load.
Luxembourg	-	-	800	-	-	-	-	**800**	*0.1%*	Empty entrance not allowed. Special permits are required if weight or dimensions of entering vehicles exceed the permissible upper limits. Third-country transport operations not allowed.
Netherlands	-	-	2,000	1,350	-	-	3,500	**6,850**	*0.7%*	"Other types of permits" include multiconventional (multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit.
Poland	-	10,000	-	4,000	-	-	-	**14,000**	*1.5%*	
Portugal	-	-	400	100	-	-	25	**525**	*0.1%*	"Other types of permits" include multiconventional (multi-entry) permits that are delivered annually and that are limited to 5 vehicles per permit. Quotas of permits are allocated to vehicles≥ EURO 1.
Romania	7,000	29,000	-	-	-	23,000	-	**59,000**	*6.1%*	Third-country transport operations not allowed.
Slovakia	-	-	25,000	3,000	-	-	-	**28,000**	*2.9%*	
Slovenia	42,338	-	-	3,338	-		-	**45,676**	*4.8%*	
Spain			6,760				-	**6,760**	*0.7%*	Third-country transport operations not allowed.
Sweden	6,000	-	-	500	-	-	-	**6,500**	*0.7%*	
United Kingdom	-	-	-	-	-	-		-	*0%*	Bilateral transport liberalised. Cabotage is not allowed. Third-country transport operations not allowed.
TOTAL	***401,792***	***302,498***	***119,559***	***19,343***	**-**	***84,400***	***33,495***	***961,087***	***100%***	

Source: Compilation by the authors based on UND data (2014) and Acebo-Gomez & Pombo (2009)

Data on utilisation of permits can signal how the permit system is affecting trade between partners. Analysis of the information collected for this study shows that:

- There was only instance of the supply of annual bilateral permits issued by the 'top six' Member States being exhausted over the 2009-2013 period (for Germany, in 2010), in all other cases some of the quota was available but not used[15];
- In case some cases there has been a sizeable surplus of permits in this group of Member States (e.g. Bulgaria, where, averaged over 2009-2013, 44% of permits were unused).
- Among other Member States the picture is mixed:
  - In some cases the annual quota of bilateral permits is almost fully used (e.g. on average only 0.13% of permits remain unused in Austria, 2% in France and 2% in Spain);
  - In Romania the annual allocation of free transit permits was normally exhausted in the 2009-2013 period but a large share of the payable permits were not used (43% in 2012 and 89% in 2013);
  - In Hungary the proportion of unused permits has steadily increased over the last five years (from 4.6% in 2009 to 54.7% in 2013), but transit permit were insufficient to cover demand.

2.4 The ITF multilateral quota system

Alongside the permits that are based on bilateral agreements, the International Transport Forum (ITF[16]) operates a multilateral quota system that provides multilateral licenses for the international carriage of goods by road by transport undertakings established in a member country of the European Conference of Ministers of Transport (ECMT). The licenses apply to carriage of goods between ECMT Member countries or in transit through the territory of one or several ECMT Member country(ies). The vehicles must be registered in an ECMT Member country.

These licences can be grouped into two principal categories:

- annual licenses, which are valid for one calendar year, and
- short-term licenses, which are only valid for 30 days.

Licences can be used by only one vehicle at a time. The country of loading can be different from the country of origin of the goods loaded. An ECMT licence does not authorise cabotage.

The allocation of the quota among ECMT Member Countries is determined according to average ranking of countries by ten criteria[17]. The quota system incorporates promotion of better environmental

[15] In 2009, for the selected EU Member States reported in Table 2.4, the average proportion of non used permits amounted at 20.6% (with Croatia and Bulgaria showing respectively the minimum (4%) and the maximum (39%) proportion of non used permits. For the ensuing years the average proportion of non used permits were as follows: 17.4%, 20%, 24.2% and lastly 25.4%. In this respect it is interesting to notice that since 2010 the share of non used permits has increased by 8% and that compared to other selected Member States Bulgaria has always showed the largest proportion of non used permits (respectively 40% in 2010, 44% in 2011 and 2012 and, finally, 52% in 2013).

[16] The International Transport Forum evolved from the ECMT in 2006/7. At the time, ministers decided to invite new members from non-European countries in order to address transport issues on a global level and for all transport modes, and to create a public platform for a broad policy dialogue.

[17] The ten criteria are: total freight transport by road (million tonne-kilometre); contribution to ECMT budget; gross domestic product; growth in gross domestic product; population; country area; percentage use of ECMT licences; use of TIR carnets in ECMT countries; trade in goods (billion USD); non intra-EU/EEA/CH trade. Data on the distribution of licences are provided in Appendix D.

performance through a bonus scheme[18]. Annual quotas for Euro V Safe lorries account for 75% of all quotas issued[19]. As of 1 January 2014 4,258 annual licenses were issued to Turkish operators, of which 3,740 (87%) are valid for EURO5 Safe lorries.

In consultations the representative organisations for hauliers based in Romania[20], Poland[21] and Bulgaria[22] cited a number of problems with use of ECMT licences in Turkey. These relate to the Turkish authorities:

- restricting the use of ECMT permits to trips requiring a minimum number of days. This is imposed unilaterally and based also on the origin of invoice rather than the place of origin of the goods or place of loading;
- restricting the use of ECMT permits by determining the country of origin of the transport operation to be the country in which the invoice was issued rather than the place of loading as stated in the CMR and TIR. If the country of loading is a ECMT member but the country from which the invoice was issued is not an ECMT member then the authorities prohibit the use of an ECMT permit.
- Not taking into consideration multimodal transport operations, and instead asking for third country permits also for goods arrived in the exporting country by rail, sea, air and transported by road to Turkey.

Empirical data on the frequency of occurrence of such problems have not been located.

3 EU – Turkey trade: commodities and trends

Turkey is among the most important trading partners for the EU. According to DG TRADE (2012), Turkey is the EU's 7th most significant source of imports and 5th most significant export market. Within Europe, Turkey is the EU's main export partner after Switzerland, Russia and Norway.

Overall, the EU's trade balance with Turkey is positive. EU exports to Turkey were worth €75.1 billion in 2012, up 2.8% compared to 2011 and 69% since 2009. Imports from Turkey were worth €47.8 billion in 2012, up more than 30% over the same period. Figure 3.1 shows the trend for 2008-2012, and illustrates the recovery in trade after the 2007-2008 economic crisis.

The distribution of this trade by Member State is shown in Figure 3.2. Germany, Italy, France, Spain and the UK are the most significant exporters to Turkey and provide the largest EU markets for Turkish goods (on a value basis). Most individual Member States run a trade surplus with Turkey; the UK and Netherlands are the principal exceptions.

[18] EURO3 safe lorry: Coefficient x2; EURO4 safe lorry: Coefficient x6; EURO5 safe lorry: Coefficient x10; EURO6 safe lorry: Coefficient x12.

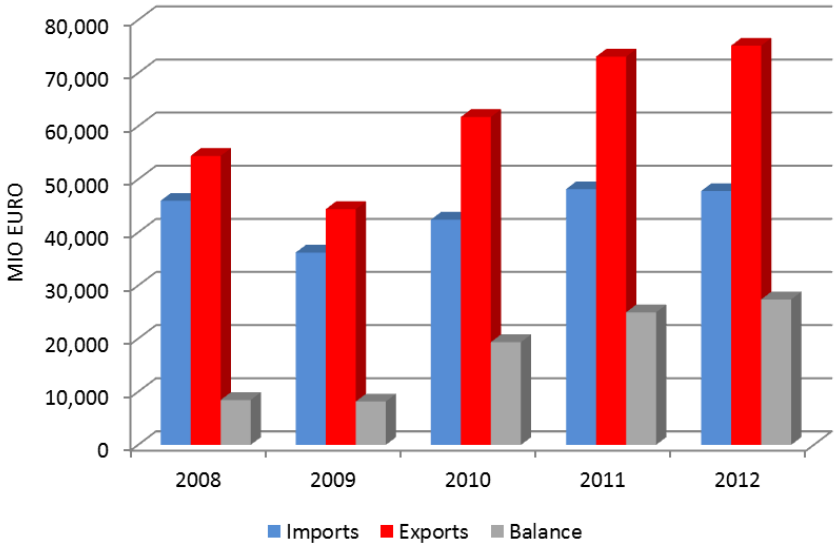
[19] See Figure D.1 in Appendix D.

[20] Interviews to the National Association of hauliers in Romania (UNTRR).

[21] Interview to the National Association of hauliers in Poland (ZMPD).

[22] Interview to the National Association of hauliers in Bulgaria (AEBTRI).

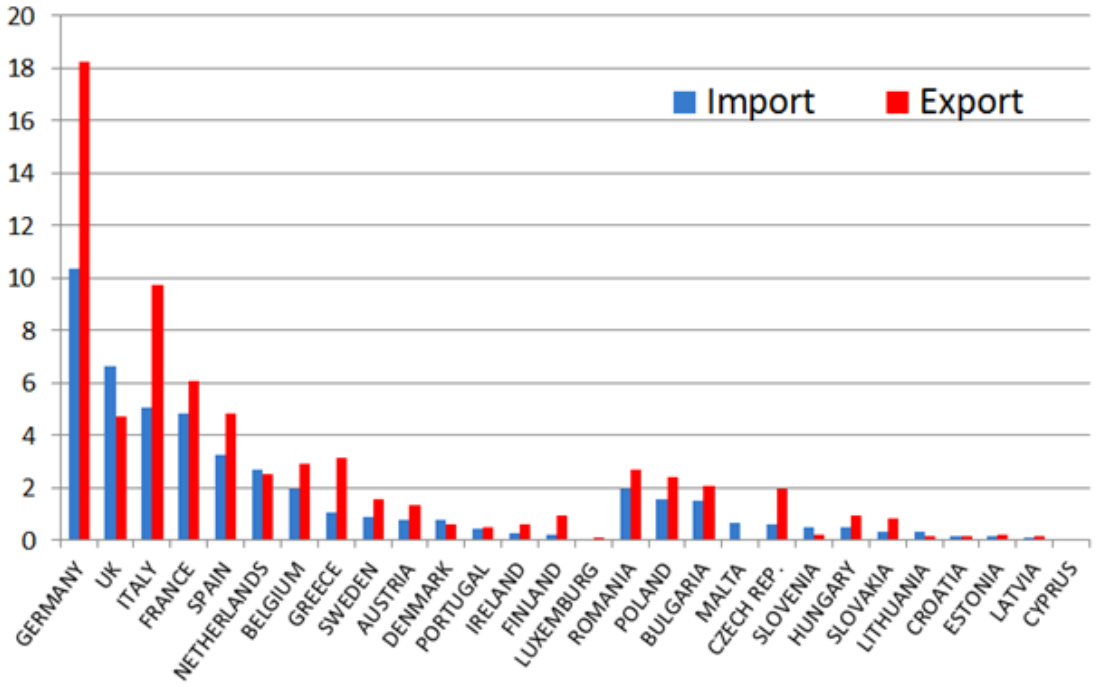
Figure 3.1 **The EU's trade balance with Turkey is positive and increasing**



Source: European Commission, DG TRADE

Figure 3.2 **Germany and Italy had the largest positive trade balance with Turkey in 2013**

EU Member States' trade balance with Turkey in 2013 (Billion Euro)



Source: Adapted from TurkStat data

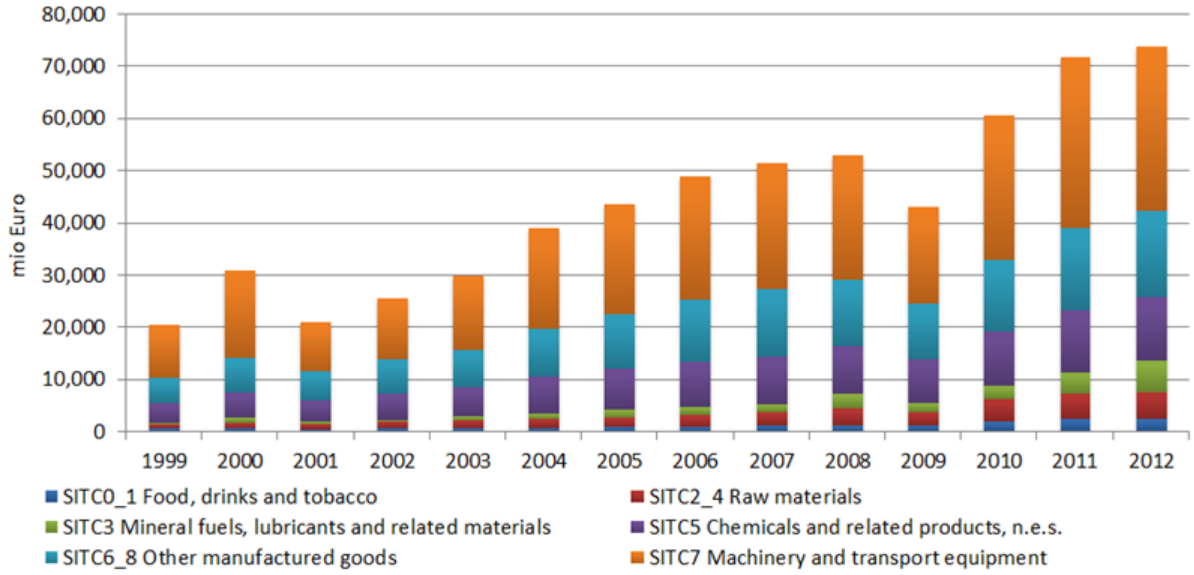
Commodity analysis

Turkey is an important investment destination for EU companies. This has led to an increasing degree of integration of Turkish affiliates in EU supply and production networks. In general EU subsidiary companies are substantially larger and have a much higher propensity to participate in export markets than domestic owned firms (World Bank, 2014). The three main sectors with a significant presence of

EU-majority owned firms are chemicals, chemical products and man-made fibres, motor vehicles, and food products and beverages. These sectors are also prominent in the EU-Turkey import-export trade, as illustrated by the charts below. EU imports from Turkey are concentrated in machinery and various manufactured goods. Exports to Turkey are more differentiated, including chemicals and raw materials.

Figure 3.3 **EU's exports to Turkey by commodity type**

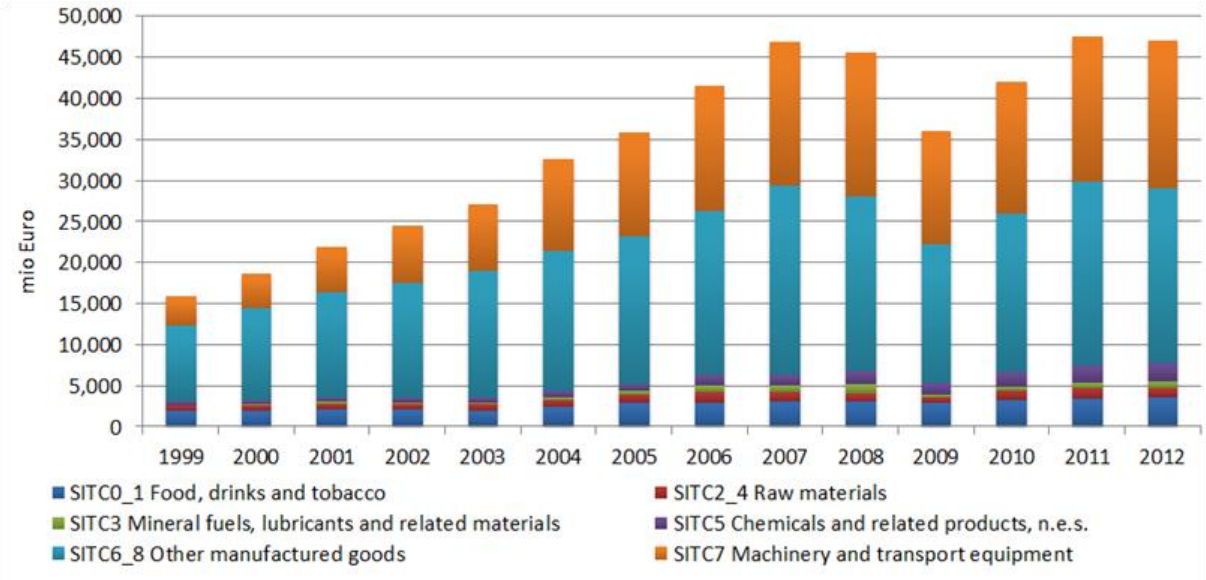
Transported goods by SITC classification; EU's export to Turkey (Value, million euro)



Source: EUROSTAT data

Figure 3.4 **EU imports from Turkey by commodity type**

Transported goods by SITC classification; EU imports from Turkey (Value, million euro)



Source: EUROSTAT data

The composition of Turkey's trade has changed over time. Exports of manufactured goods such as vehicles and electronics have risen faster than exports from 'traditional' sectors such as textiles and processed food products.

Turkey has been successful in building its automotive industry in recent years, attracting investment from firms such as Toyota, Ford, Hyundai, MAN, Renault, Fiat, Mercedes and Isuzu. Turkey is the largest bus manufacturer in Europe and expects to become the third largest auto manufacturer in Europe by 2015. There has been growth in automotive parts manufacture as well as in vehicle assembly.

After the automotive sector, the second largest export sector is iron and steel. Turkey is the 8th largest crude steel producer in the world. It is the largest importer of scrap steel in the world; over 22 million tonnes of scrap steel were imported in 2012.

Eurostat data showing the category of goods (by volume) confirm the importance of chemicals, food, wood products, basic metals and machinery from in the EU's exports to Turkey and food, textiles, mechanical and machinery from Turkey to the EU.

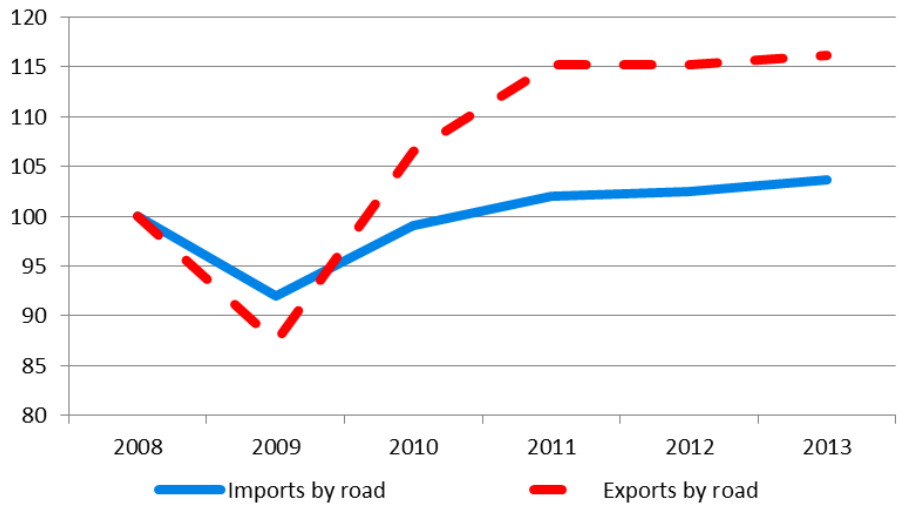
A more detailed analysis of inbound and outbound flows would be helpful in understanding how much of the foreign trade is linked to supply chains of EU owned firms. Though these data would not add information on the potential for road transport. Much of EU-Turkey import-export trade is carried by ship, especially raw materials and semi-finished products.

4 EU - Turkey road-based trade

Forty five per cent (by value) of Turkey's trade with the EU in 2013 was carried by road. This share, which has been relatively stable, is higher than road's share of Turkey's global trade (23% by value of overall trade in 2013, down from 37% in 2000. In tonnes, the road share is 22% for imports and 12% for exports. Turkey's trade with other regions has been growing much faster than its trade with the EU, in particular over the last 5 years. Figure 4.1 shows the trends in EU exports and imports to/from Turkey in tonnage terms since 2008. Road freighted exports grew faster than imports (+15% in 5 years as compared to less than 5% over the same period) in tonnage terms.

Figure 4.1 **Measured in tonnage terms, imports carried by road into the EU from Turkey have stalled while the road freight export market from the EU to Turkey has been growing**

Evolution of EU's imports/exports by road from/to Turkey 2008-2013 (2008=100)



Source: EUROSTAT (calculated on a tonnage basis)

As would be expected from Figure 3.2, the balance of road freight trade varies across the Member States. Germany, France and Italy export a higher volume of goods by road to Turkey than they import. Bulgaria, Romania and Poland import more by road from Turkey than they export[23].

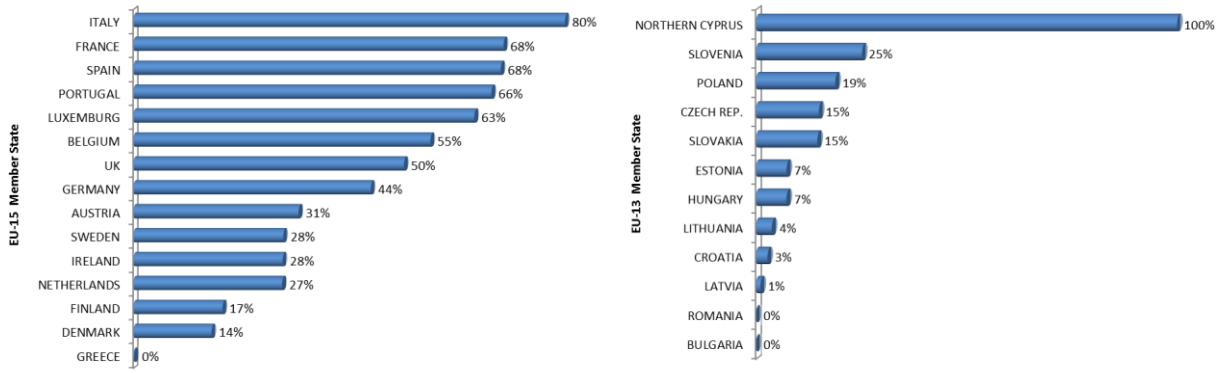
Ro-ro services have become established as an environmentally and economically efficient to road for moving goods to and from Turkey[24]. This type of service was originally developed by Turkish operators and ship owners to bypass the troubles in the Western Balkans in the 1990s. Nowadays these services are used to avoid transit through countries that impose limitations on Turkish hauliers, such as restrictions on the number of transit permits (e.g. Hungary, Slovenia, and Romania).

The first ro-ro services ran between Turkey and Trieste in the North Adriatic sea but there are now also services between Turkey and Toulon in the south of France (from Toulon the trailer and semitrailers must be moved by French hauliers). These services are operated by Turkish ship owners and are almost entirely used by Turkish truck operators. For the Italian service, the trailer or semitrailer is stowed on the ferry in Turkey and the drivers and tractors pick up the load in the port of Trieste. This system is now used by Turkish operators for more than 40% of the trips between the EU and Turkey (Appendix E, Figure E.3 and Figure E.4).

Ro-ro's share of EU-Turkey road traffic varies by Member State. As a general rule it is much higher for trade with EU15, particularly with Italy, France, Spain and Portugal. Ro-ro services have facilitated growth in trade in circumstances where permit quotas have been kept constant and are insufficient to meet demand (e.g. Italy, France, and Spain).

The following charts present the ro-ro share of road freighted trade between EU MS and Turkey. For important partners such as Germany, UK and Belgium, the ro-ro is part of a multimodal transport implying a ro-ro stretch heading in Trieste/Toulon combined with road transport for the intra EU portion.

Figure 4.2 **Ro-ro's share of trips from Turkey to EU by Turkish vehicles by EU Member (2013)** [25]



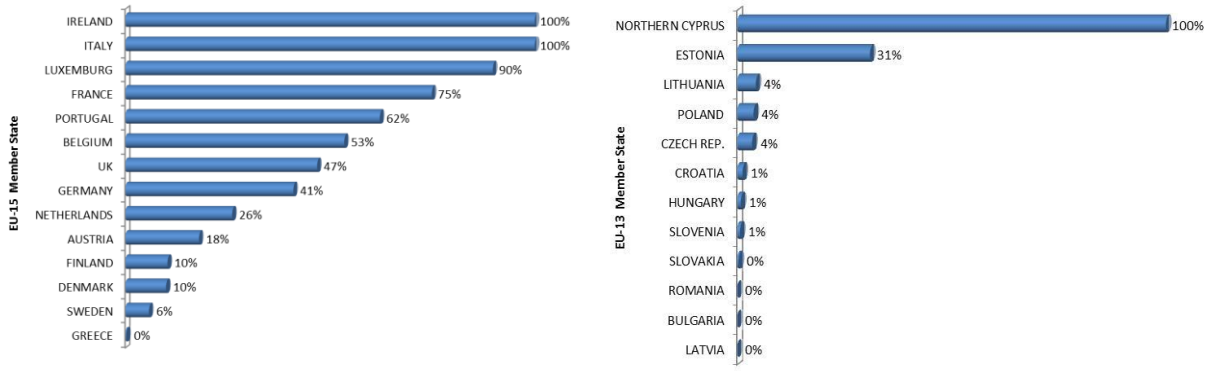
Source: UND data

[23] This excludes goods carried on road vehicles using ro-ro shipping services. Charts illustrating the balance of bilateral road freight trade with Turkey for these countries are provided in Appendix E.

[24] Rail has a small market share, though projects that aim to increase the rail freight traffic between the EU and Turkey are in progress.

[25] Northern Cyprus is shown in the chart though only Turkey has commercial relationships with that jurisdiction. Conversely Turkey does not recognise the Republic of Cyprus.

Figure 4.3 **Ro-ro's share of trips from EU to Turkey by Turkish vehicles by EU Member (2013)**



Source: UND data

An estimate of the scale of road freight traffic taking account of both road-only and ro-ro movements has been made for this study and is shown in Table 4.2. The number of trips is derived from data provided by the Turkish authorities. The tonnage estimates are based on an assumed load factor of 18 tonnes/vehicle. It suggests that road freighted imports from Turkey to the EU exceed exports in tonnage terms.

Table 4.2 **Estimation of total tonnes transported to/from EU-28 Member States by EU and Turkish Vehicles, in two directions, ro-ro services included**

	Turkey - EU28 flows			EU28 - Turkey flows		
	Trips					
Year	**Turkish Vehicles**	**EU Vehicles**	**Total trips**	**Turkish Vehicles**	**EU Vehicles**	**Total trips**
2010	296,691	126,297	**422,988**	248,751	96,553	**345,304**
2011	297,334	140,211	**437,545**	263,848	117,802	**381,650**
2012	297,648	138,023	**435,671**	267,325	110,726	**378,051**
2013	291,159	144,108	**435,267**	267,300	118,826	**386,126**
	Tonnes transported ('000) *					
	EU's IMPORTS from Turkey			**EU's EXPORTS to Turkey**		
Year	**By Turkish vehicles**	**By EU Vehicles**	**Total EU's Imports**	**By Turkish Vehicles**	**By EU Vehicles**	**Total EU's Exports**
2010	5,340	2,273	**7,614**	4,478	1,738	**6,215**
2011	5,352	2,524	**7,876**	4,749	2,120	**6,870**
2012	5,358	2,484	**7,842**	4,812	1,993	**6,805**
2013	5,241	2,594	**7,835**	4,811	2,139	**6,950**

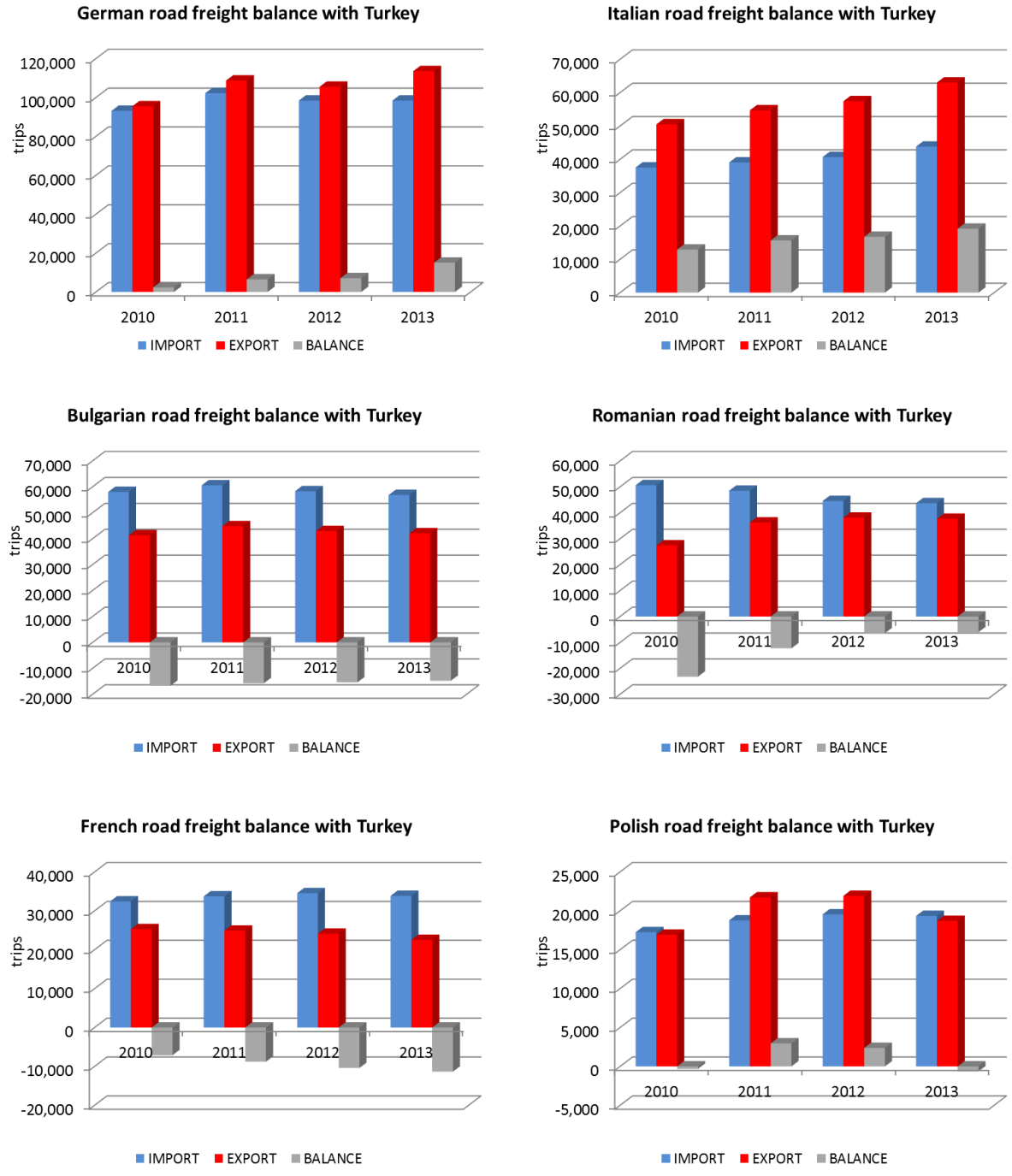
* 18 tonnes/truck has been assumed

Source: TRT analysis based on UND data

On the basis of trips data recorded, it is possible to provide an overview of the balance of trips and trade (in tonnes) for major EU partners of Turkey. While Germany and Italy have a positive balance (exports outmatching imports) towards Turkey, the other selected countries, including France show a negative balance.

When these results are compared to data that exclude ro-ro trips (Figure E.2 in Appendix E), the major difference in results is for France. On a road-alone basis France appears to be a net exporter; when ro-ro is included it is a net importer. In the case of France, Turkish stakeholders consulted claim that France issues too few bilateral permits and that there is also a deficit of transit permits available from Italy. These factors explain why consideration of ro-ro is essential to any comprehensive and complete analysis of EU – Turkey trade.

Figure 4.4 **International road freight transport balance between Turkey and the main EU trading partners (trips)**

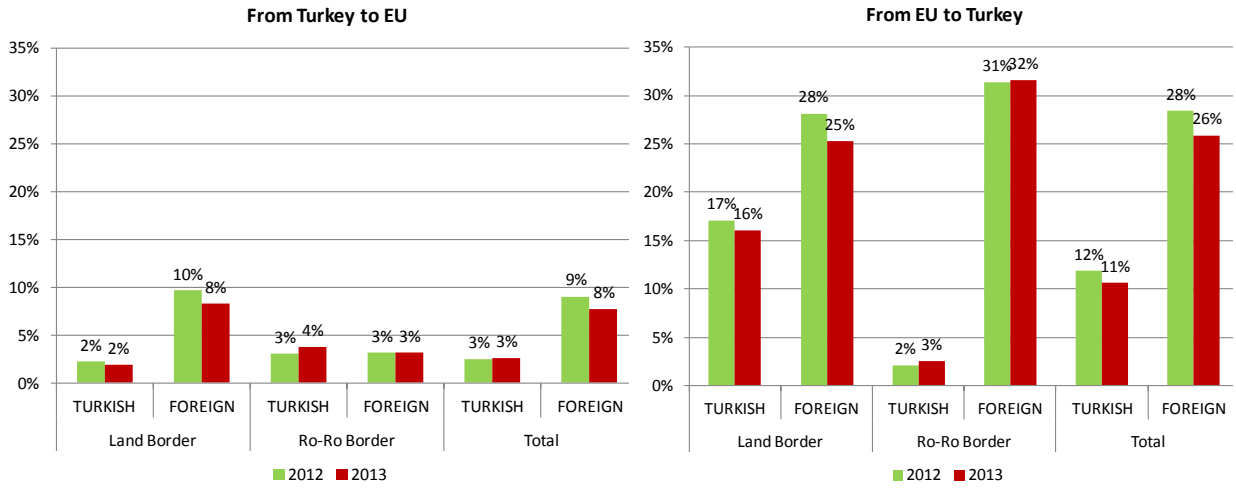


Source: TRT analysis of UND data

The balance of flows is confirmed by figures related to empty trips. Though not related specifically to EU-Turkey trade, Turkish data record empty and laden vehicles at each border crossing per direction (inbound and outbound Turkey). The figure below demonstrates that the rate of empty trips is higher for foreign vehicles (mostly European) than for Turkish vehicles, and higher on average for vehicles entering Turkey than vehicles leaving the country.

Table 4.3 **Empty trucks account for a higher share of trucks coming into Turkey from Europe than of those heading for Europe**

Share of empty Turkish and foreign vehicles crossing the Turkish border en route to/from whole Europe, including transit traffic



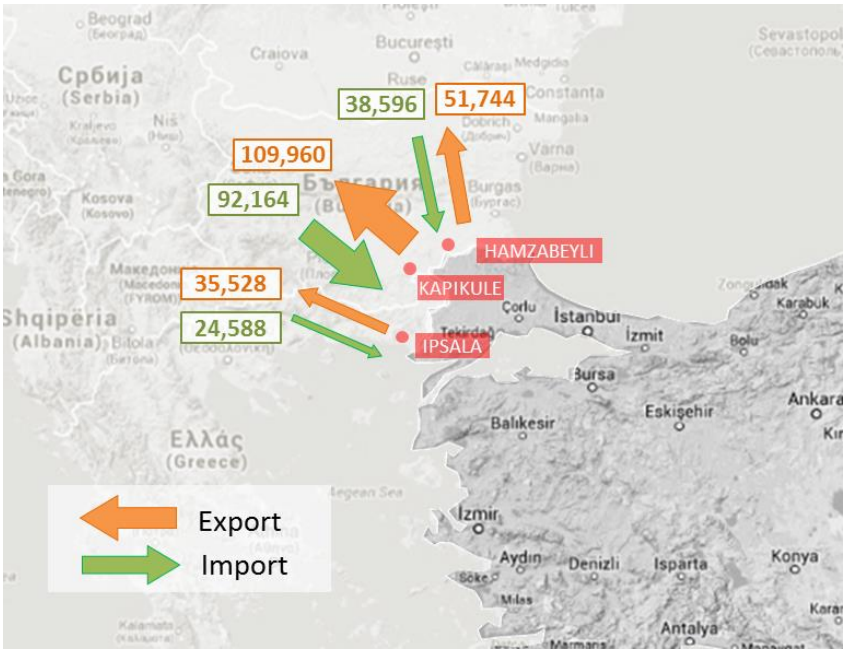
Source: UND data

Border crossings

Turkey has three land border crossings with EU countries that are used by goods vehicles (with Greece and Bulgaria). Data at border crossings were provided by Turkish institutions. Figure 4.5 shows the location and the flows of Turkish vehicles recorded at the road border crossings towards EU , in Greece and Bulgaria

Figure 4.5 **The busiest land border crossings for the road freight movements between the EU and Turkey are on the Bulgaria-Turkey border**

Truck movements between the EU and Turkey at land borders (2013)



Source: Authors' analysis of UND data

Data on border crossing waiting times at the Bulgarian border suggest typical wait times of around three hours. Trucks leaving Turkey to come into the EU tend to wait longer than those leaving the EU to enter Turkey (Table 4.4)[26]. Waiting times spiked upwards during recent disputes between Turkey and Bulgaria due to roadside checks performed by Bulgarian and Turkish authorities.

Table 4.4 **Estimated waiting times at border between Bulgaria and Turkey (hours)**

Border crossing			Outbound EU-Turkey (hours)					Inbound Turkey-EU (hours)				
			2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Bulgaria-Turkey	Kapitan Andreevo (BG)	Kapikule (TR)	1.1	1.3	1.7	2.8	3.0	3.3	3.5	3.3	3.3	3.1

Source: IRU's BWTO

5 The road freight sector in the EU and Turkey

5.1 The EU international road freight sector

The road haulage market in the EU comprises around 600,000 predominantly small enterprises, with an average size of four employees per company. This number has been stable over recent years. Eighty per cent of companies have fewer than 10 employees; 99% have fewer than 50 employees[27]. The size distribution of firms varies by Member State (Figure 5.1). The distribution of employment across these firms of different sizes also varies. For example 60% of sector employees in Poland work in firms with between one and five employees; the equivalent figure in Austria is 10% (Figure 5.2).

In 2012 road transport in the EU 27 generated close to 1,700 billion tonne-km, 4% less than in 2004 and roughly 13% less than in the peak year of 2007. Of this, international operations account for around one third (the rest being national transport)[28].

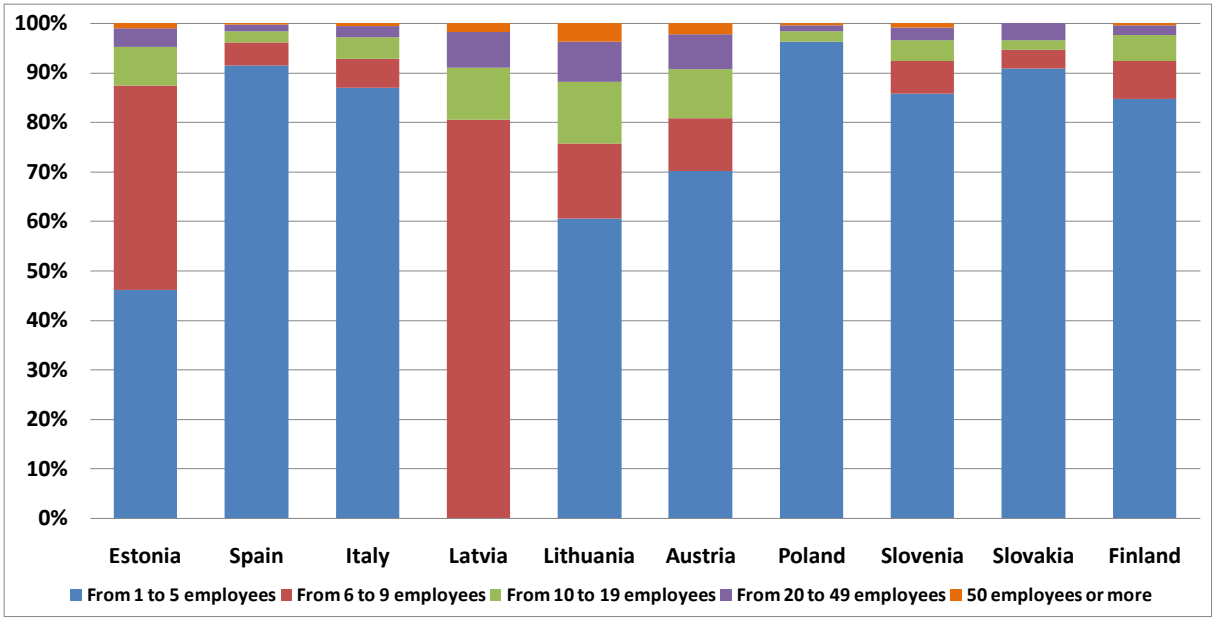
[26] These data come from a database managed by the IRU. The database does not hold information about waiting times at the Ipsala and Hamzabeyli border crossings.

[27] EC 2014, COM (2014) 222 final

[28] idem

Figure 5.1 **Eighty per cent of EU hauliers have fewer than ten employees**

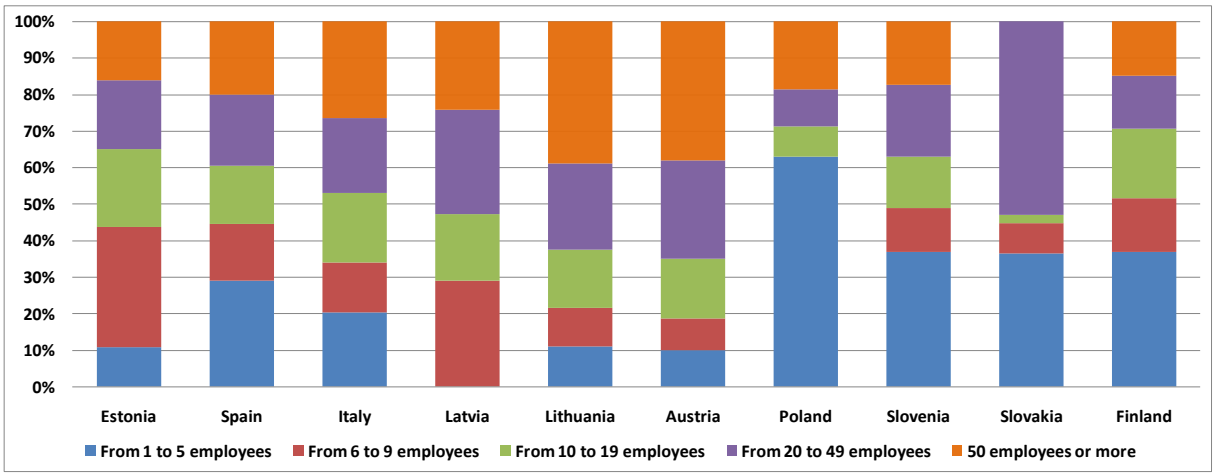
Number of road transport firms in EU countries per type of firm, 2011



Source: TRT analysis of Eurostat data

Figure 5.2 **The concentration of employment in large (>50 employee) firms varies significantly across the EU road haulage market**

Number of employees in road transport firms in EU countries per type of firm, 2011

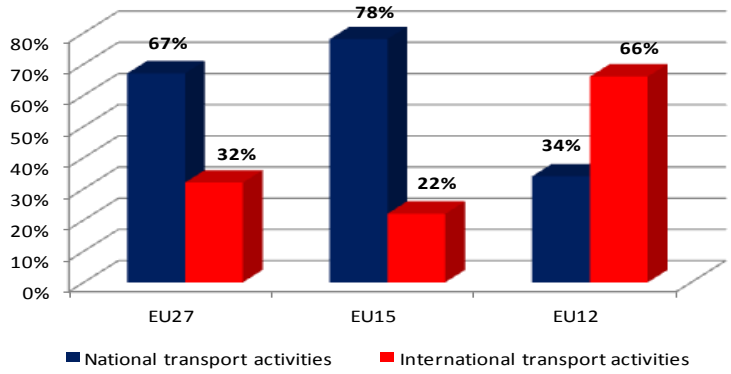


Source: TRT analysis of Eurostat data

For the EU as a whole, domestic transport accounts for two thirds of the road freight market. International activities are a much more significant part of the market for the EU12 than the EU15 (Figure 5.3).

Figure 5.3 **Non-domestic markets are more important to EU12 hauliers than their EU15 counterparts**

Share of national and international transport activities of EU road operators (in %)

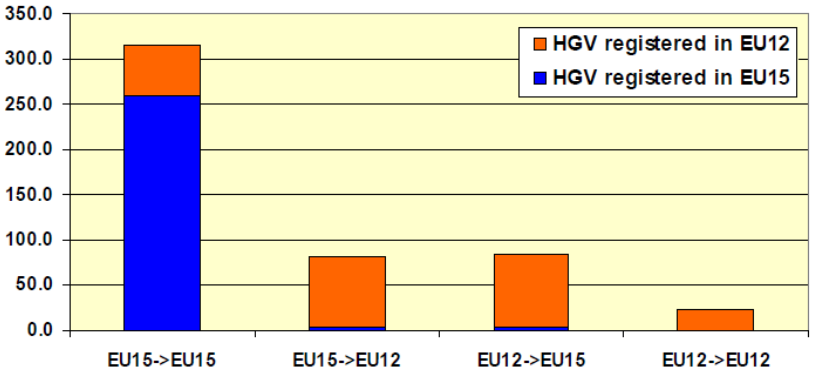


Source: European Parliament, 2013

Hauliers from the eastern Member States are cost competitive with EU15 hauliers where they are allowed to compete. Transport within and between EU15 Member States are mainly carried out by EU15 hauliers but movement of freight by road between EU15 and EU12 countries is carried out almost exclusively by EU12 hauliers (Figure 5.4).

Figure 5.4 **EU12 hauliers carry most of the road freight moved between the EU15 and EU12**

International road freight transport activities between and within 15 "old" and 12 "new" EU member states; by origin of HGV (2010, billion tkm)



Source: European Commission, 2011

Firms from the eastern Member States dominate international transport both in bilateral exports/import activities[29] (Figure 5.5) and in crosstrades[30] (74% of which are carried out by hauliers from EU12 countries).[31] The biggest share of EU crosstrades are carried out by hauliers from Poland (27%) followed by those from the Czech Republic (10%), Slovakia (8%), Hungary and Lithuania (7% each) (Figure 5.6).

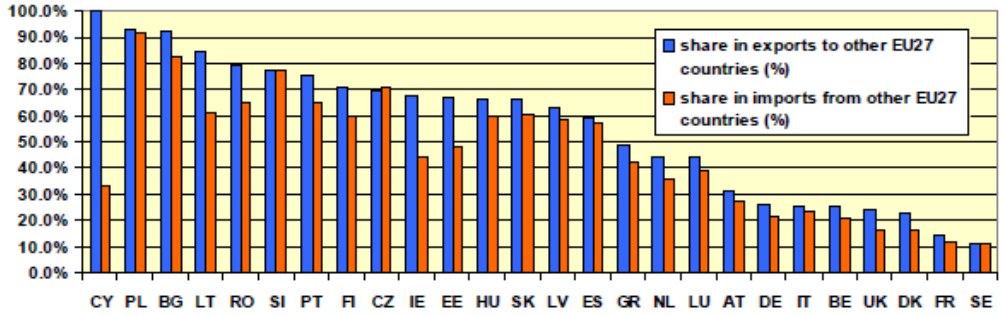
[29] Bilateral international transport regards the activities where either the loading or unloading activity takes place in the country where the vehicle is registered

[30] Crosstrade refers to trading activities where loading and unloading take place in two different countries, neither of which is the country where the vehicle is registered.

[31] International freight transport include bilateral, crosstrade and cabotage activities.

Figure 5.5 **EU12 hauliers have a larger share of their domestic intra-EU import/export trade than do hauliers in the EU15**

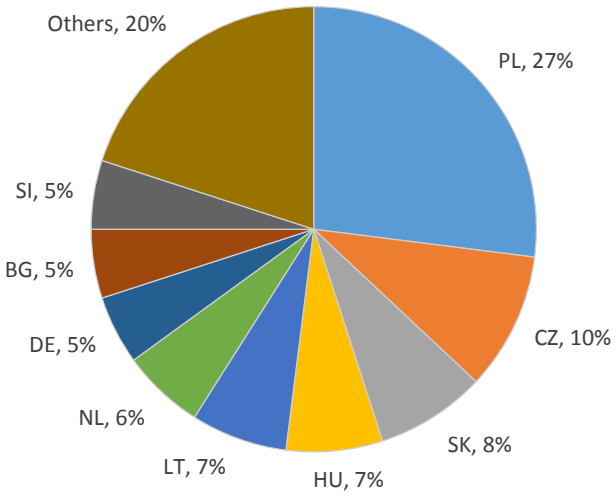
Share of home based vehicles in tonne-km generated in exports to and imports from other EU27 countries in 2010(%)



Source: European Commission, 2011

Figure 5.6 **Polish hauliers handle more than a quarter of EU crosstrade**

Origin of hauliers active in crosstrade in the EU in 2010 (based on tonne-km)



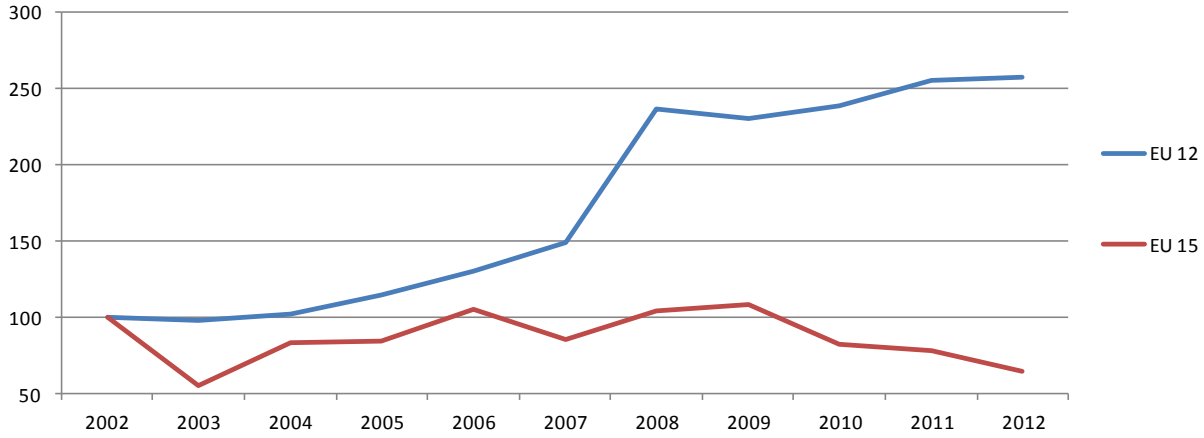
Source: European Commission, 2011

Note: data on small transport firms (1-5 employees) are not available for Latvia

Supported by those successes in the intra-EU market, the heavy truck fleet in the eastern EU has grown significantly since 2002 while that in the western EU has shrunk (Figure 5.7).

Figure 5.7 **The EU12 HGV fleet has been expanding while the EU15's has shrunk**

Index of the number of registered heavy lorries (over 10.0 tonnes) in EU 15 and EU12 countries, 2002 to 2012 (2002=100)

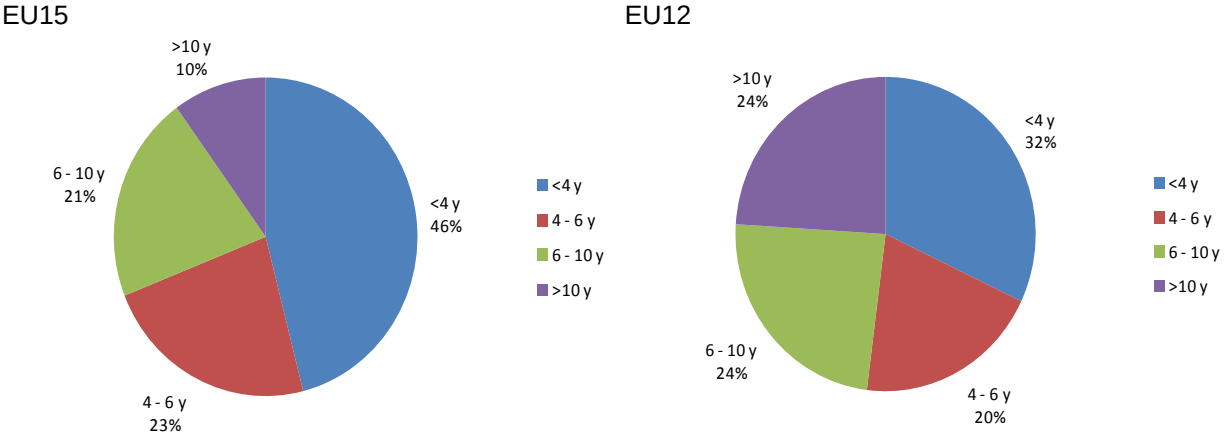


Source: TRT analysis of Eurostat data

The EU road freight fleet is relatively new. Across the EU as a whole, 43% of all vehicle-km are registered by vehicles of less than 4 years, 22 % of vehicle-km by vehicles ranging from 4 to 6 years and a further 22% by vehicles that are 6 to 10 years old. Vehicles that are more than 10 years old account only for the 13% of total traffic. There is more use of older vehicles in the EU12 as compared to the EU15. As an example, 24% of vehicle-km by hauliers from the EU12 are registered by trucks that are more than 10 years old, as compared to just 10% in the EU15 (Figure 5.8).

Figure 5.8 **On a vehicle-km basis EU12 hauliers are, in total, more reliant on older vehicles than their EU15 counterparts**

Age distribution of HGV used by EU hauliers, 2010. Share in total vehicle-km



Source: European Commission, 2011

5.2 The Turkish international road freight sector

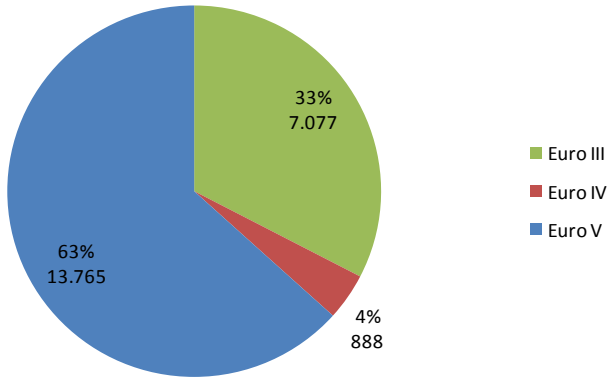
In Turkey, there are around 600,000 vehicles with a loading capacity over 3.5 tonnes used for domestic and international goods transport. According to data provided by UND, as of March 2014, the Turkish international road freight transport sector has 2,087 firms with a total fleet of 60,878 trucks, 15,149 lorries and 71,219 semi-trailers and around 500,000 persons employed. 34% of those

companies (700 firms) operate in the EU market with 53,000 vehicles (21,000 tractors, 2,000 lorries and 30,000 semitrailers).

The Turkish fleet has engines that meet Euro III, IV or V emission standards (Figure 5.9). This is partly a consequence of alignment with EU legislation and partly driven by the bonus granted within the ECMT license system, which awards additional travel permits based on the environmental performance of the vehicles used. By illustration, 79% of the vehicles of the first nine companies listed as per ECMT license distribution criteria are Euro V (Table E.7 in Appendix E).

Figure 5.9 **Almost two thirds of the Turkey international road freight fleet meets the Euro V standard**

Turkish international road freight fleet by vehicle motor type (2013)



Source: UND

There are 569 foreign capital companies established in Turkey operating in road transportation. They represent 25% of the total companies operating in Turkey in the international road freight transport sector (which includes hauliers, forwarders and agents).

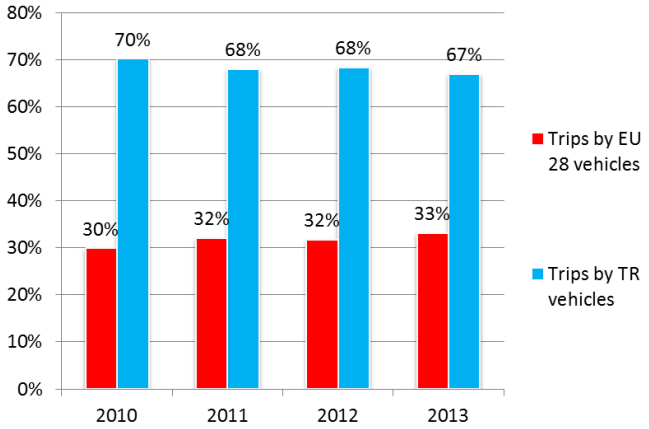
Data on the concentration of the market have not been located, though some indication is provided by the distribution of ECMT licenses. The 4,258 yearly permits available in 2014 were distributed to around 750 different companies. 358 permits went to 10 enterprises, and 55 to just one firm.

5.3 Distribution of the EU – Turkey road freight market

EU hauliers have around a third of the road freight import trade (including ro-ro traffic) from Turkey (Figure 5.10) though the average figure masks very substantial differences between the western and eastern EU markets. In 2013 hauliers from the EU15 had only 13% of the Turkey import market for those countries whereas hauliers from the EU13 carried almost two thirds of the imports to the EU13. Overall, the share of road freight between EU and Turkey that is carried by EU vehicles has been rising slowly in recent years as EU13 hauliers have gained an increasing share of the trade (Figure 5.11). A similar trend is observed in the freight export trade to Turkey.

Figure 5.10 **EU hauliers are gradually winning a large share of the road freight import trade from Turkey but account for only a third of trips**

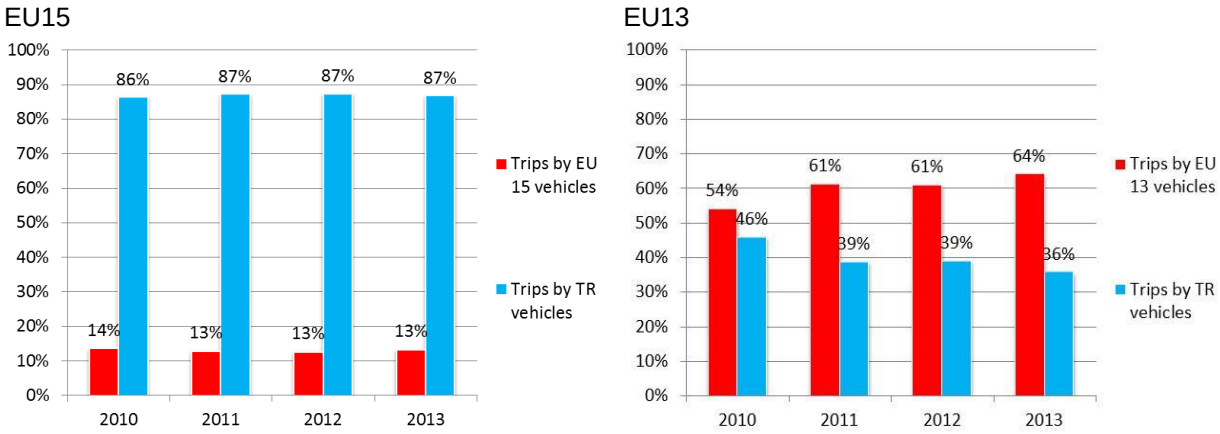
Market shares in EU28 imports from Turkey



Source: TRT analysis of UND data

Figure 5.11 **Turkish hauliers carry most of the EU15's road freight imports from Turkey but are less successful in the EU13 market**

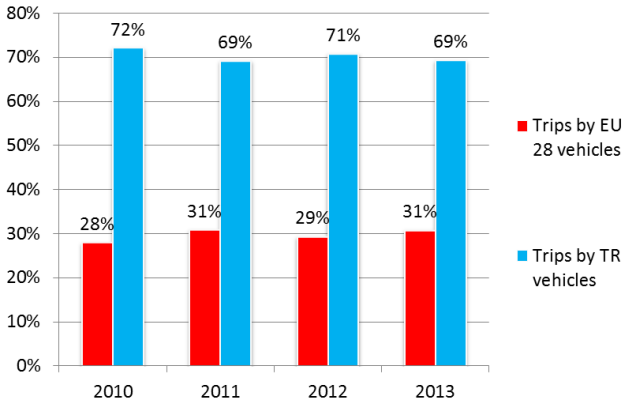
Market shares in EU15 and EU13 imports from Turkey



Source: TRT elaboration on UND data

Figure 5.12 **A large majority of the EU's road exports to Turkey are carried by Turkish hauliers**

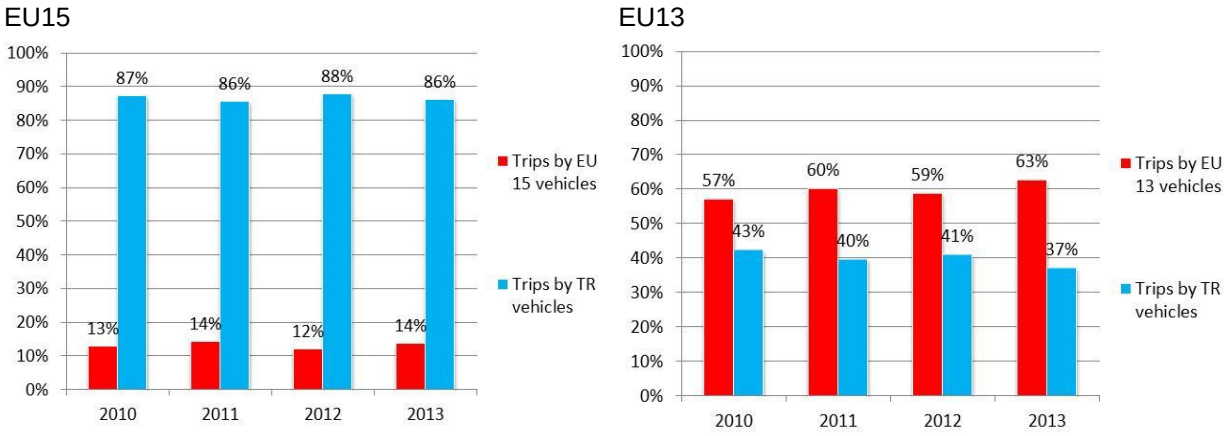
Market shares in EU28 exports to Turkey



Source: TRT elaboration based on UND data

Figure 5.13 **As with imports, Turkish hauliers manage most of the EU15's road freight export market but much less of the EU13 market**

Market shares in EU15 and EU13 exports to Turkey



Source: TRT elaboration on UND data

5.4 Cost comparison of EU and Turkish road transport operators

This section compares the costs of Turkish road transport operators with those of hauliers from selected EU countries. The EU countries used for this comparison are:

- those which are closest to Turkey borders and for which relevant data are available i.e. Hungary and Romania; and
- Turkey's major EU trading partner countries, i.e. Poland, Italy, Germany and France.

Cost data for the EU countries have been analysed at a higher level of disaggregation than for Turkey. Diesel costs refer to 2014. All figures for Europe, with the exceptions of fuel costs, refer to 2010 while all figures for Turkey refer to the current year. All costs strictly related to vehicle operation and maintenance have been reported in €/km. Wage data refer to yearly compensation.

Vehicle related costs are similar to those charged in the selected eastern Member States (Hungary, Poland and Romania), and lower than rates in the selected western Member States (Italy, Germany and France). The taxes paid for vehicle are similar for almost all the countries considered with the exceptions of Romania, where the value is very low (€0.002/km) (Table 5.1, Figure 5.14).

Table 5.1 **Non-labour costs of Turkish hauliers are comparable to those of their EU competitors**

Comparison of main costs of transport firms between EU countries and Turkey

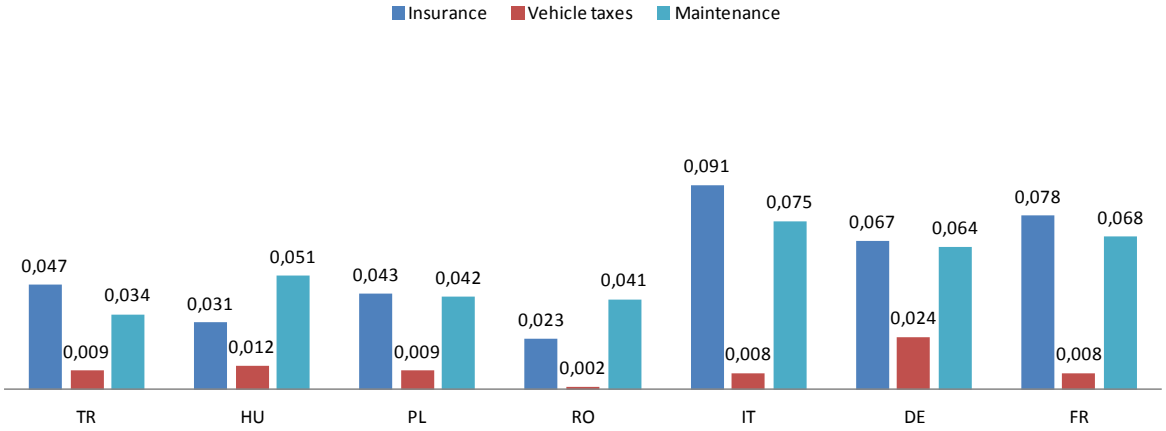
Costs	Value	TR	HU	PL	RO	IT	DE	FR
Insurance	**€/km**	0.047	0.031	0.043	0.023	0.091	0.067	0.078
Vehicle taxes	**€/km**	0.009	0.012	0.009	0.002	0.008	0.024	0.008
Diesel cost*	**€/l**	1.571	1.344	1.218	1.420	1.677	1.434	1.298
Maintenance - repairs	**€/km**	0.034	0.051	0.042	0.041	0.075	0.064	0.068
Wages	**€/yr**	19,980	28,315	23,967	22,181	51,485	47,930	56,654

Source: Authors' analysis on the basis of Ernst and Young, 2011, http://www.fuel-prices-europe.info/index.php?sort=4, UND.

"": Diesel cost include VAT.*

Figure 5.14 **Hauliers from the EU15 comparator countries have higher insurance and maintenance costs than those from Turkey and the EU12**

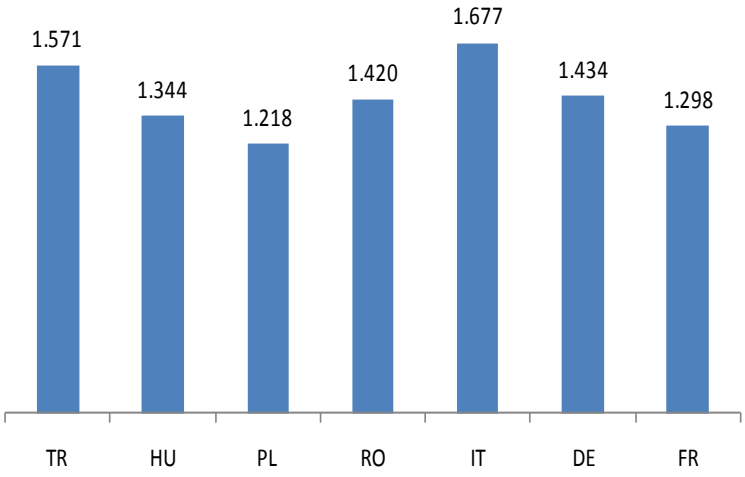
Cost of transport firms in Turkey and in EU countries, €/km



Source: Authors' analysis on the basis of Ernst and Young, 2011, UND.

Figure 5.15 **Diesel costs at the pump in Turkey are higher than those of most comparator Member States but a tax concession significantly reduces the effective cost of fuel for hauliers serving the export market**

Diesel costs in Turkey and in EU countries, €/l



Source: http://www.fuel-prices-europe.info/index.php?sort=4.

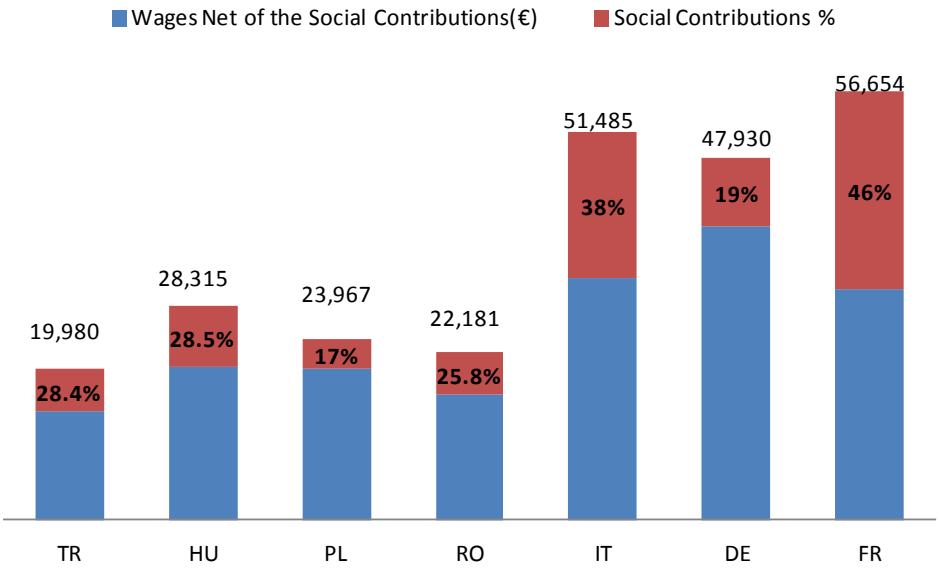
Diesel costs in Turkey are higher than those in most of the comparator Member States but, as a measure to support the export, truck operators benefit from a tax concession (corresponding to nearly half of the fuel price) when buying fuel at the border before export trips from Turkey. The average price in this case is far lower than for the EU countries.

Truck driver salaries in Turkey are the lowest of the comparator group (€1,665 per month) but close to level seen in Romania (€1,848) and Poland (€1,997). The differential between Turkish salaries and those in some other EU states is much larger, e.g. Italy (€4,920), Germany (€3,994) and France (€4,721).

Turkish transport operators pay employer social contributions[32] which (at 28%) are comparable to those in Hungary and Romania, much lower than for example in France (46% of social contributions) and Italy (39%). The lowest percentages of contributions are paid by employers in Poland (17%) (see Figure 5.16).

Figure 5.16 **Turkish hauliers' non-wage labour costs are similar to those of their eastern EU counterparts**

Level of wages and social contributions (%) paid by transport firms to drivers in Turkey and relevant EU countries (Euro/year)



Source: Authors' analysis based on Ernst and Young, 2011, UND.

Notes: Figures for EU refer to the year 2010 while figures for Turkey refer to the current year. In Romania the social contributions vary from 20.8% to 30.8%; an average of 25.8% has been considered.

6 The regulatory framework for road freight transport in Turkey and its alignment to the EU road transport *acquis*

This section describes the regulatory baseline for the impact assessment beyond the permitting system, i.e. the fit between the EU *acquis* as it relates to road freight transport and Turkish national legislation.

Turkey has treaty-based relations with the EU, initiated under the framework of an association regime grounded on the Ankara Agreement[33] that Turkey signed with the European Economic Community (EEC) in 1963. The Ankara Agreement - which came into effect on 1st December 1964 and was further extended with the Additional Protocol[34] that entered into force in 1973 - set out basic common goals to guide the bilateral economic and trade relations between Turkey and the EEC, and envisaged a three-staged approach for ultimately establishing a customs union whilst declaring Turkey's right to full

[32] For Turkey the "social contribution paid by the employer" refer to the *"wages charges for employer before concessions/deductions"* while for EU countries these refer to "*contributions for public welfare and accident insurance paid by the employer"*

[33] Agreement Establishing an Association Between the European Economic Community and Turkey (Signed at Ankara, 1 September 1963).

[34] Additional Protocol and Financial Protocol signed on 23 November 1970, annexed to the Agreement establishing the Association between the European Economic Community and Turkey and on measures to be taken for their entry into force - Final Act – Declarations. Official Journal L 293 , 29/12/1972 P. 0004 – 0056.

membership, once the custom union was completed (as it was in 1995 when Decision No 1/95[35] of the EC-Turkey Association Council was adopted).

By agreeing to enter the customs union, Turkey made a major step towards the integration with the EU. For the customs union to operate smoothly, Turkey had to embrace a large part of the EU's legislation, in particular, laws relating to customs, trade policy, competition and the protection of intellectual, industrial and commercial property. As such, Decision No 1/95 provided a stimulus to efforts to align its domestic law with the EU *acquis*.

Turkey took an important step down the path to accession to the EU in 1999 when it received (as laid down in Article 28 of the Ankara Agreement) 'candidate country' status. Accession negotiations were formally opened in 2005. Simultaneously, a Negotiation Framework Document (NFD) was adopted with the purpose of determining the principles of EU-Turkey negotiations, the rules of the negotiations as well as the negotiation chapters. These high level initiatives define the framework for consideration of the alignment of Turkey's national legislation with the EU rules in the area of road freight transport.

Transport policy was one of the eight chapters suspended in December 2006 by the European Commission after Turkey failed to fully implement the Additional Protocol to the Association Agreement. Pending the reopening of that chapter, a dialogue between Turkey and the European Commission started on 9 December 2013. This acknowledged the efforts the country is making to align its road transport legislation to the corresponding EU norms and to improve its administrative and enforcement capacity. It provides a platform for information exchange and development of common solutions in problematic segments of the road transport sector.

The most important developments in the modernisation of Turkey's road transport sector have been the adoption of a framework law (Road Transport Law[36]) and a by-law (Road Transport Regulation[37]) on road transport that came into force in 2003 and 2004 respectively (Turkish Ministry of Transport and Communications, 2011; Isik 2007 and 2010)). These aim to govern the Turkish road transport sector in line with the corresponding EU standards and requirements, and so pave the way for improving the sector's quality, competitiveness and reliability in the services provided. The Road Transport Regulation was updated in 2009 to reflect the latest developments in EU legislation.

As acknowledged by the EC in its 2012[38] and 2011[39] reports on the progress made by Turkey on its path to EU membership, further important improvements have been achieved in the implementation of the digital tachograph system, which works efficiently and is in compliance with AETR rules (now it also covers domestic transport operations) (EC, 2012).

Measures to regulate work and rest periods, driver training and roadside technical checks on commercial vehicles have also, in the judgement of the Commission, been implemented adequately (EC, 2012). In January 2013 Turkey become a party of the Convention on Road Traffic[40] (commonly known as the Vienna Convention), so taking an important step towards the alignment of driver licences to the EU standards.

[35] Decision No 1/95 of the EC-Turkey Association Council of 22 December 1995 on implementing the final phase of the Customs Union.

[36] Road Transport Law No 4925 of 19 July 2003.

[37] Road Transport Regulation (Official Gazette of the Republic of Turkey No 25571 of 2 September 2004).

[38] European Commission (2012). Commission Staff Working Document "Turkey 2012 Progress Report" (SWD(2012) 336 final), accompanying the document "Communication from the Commission to the European Parliament and the Council: Enlargement Strategy and Main Challenges 2012-2013.

[39] European Commission (2011). Commission Staff Working Paper "Turkey 2011 Progress Report" (SEC(2011) 1201 final, accompanying the document" Communication from the Commission to the European Parliament and the Council: Enlargement Strategy and Main Challenges 2011-2012.

[40] The Convention on Road Traffic, of 1968, also known as the Vienna Convention on Road Traffic, as it was concluded in Vienna in 1968, regulates all facets of driving behaviour, such as speed and distance between vehicles, intersections and obligation to give way. Moreover, it details the technical conditions for the admission of vehicles to international traffic and provides models for domestic and international driving permits.

Despite this progress, however, EC reports suggest that technical and implementation capacity lag behind the normative developments and require further improvements. Table 2.25 below gives an overview of the alignment of Turkey's road transport legislation to the corresponding EU *acquis*. A more detailed discussion of the Turkish legislation and its fit to the EU *acquis* is provided in Appendix E.2.

Table 6.1 **Overview of the alignment of Turkey's road transport legislation to the corresponding EU acquis**

Field of intervention	Relevant EU norms and requirements	Transposing act(s)	Current degree of alignment	Reasons for non-convergence/Hindrances to full convergence	Degree of further alignment required
Access to the market and the profession	Regulations (EC) No 1071/2009 on access to the profession Regulation (EC) No 1072/2009 on access to the market *Main requirements:* Set the following basic criteria for engagement in the occupation of road transport operator • Effective and stable establishment. • Good repute. • Appropriate financial standing. • Professional competence.	• Road Transport Law of 19 July 2003 • Road Transport Regulation of 2 September 2004 • Regulation on Training for Professional Competence in Road Transport Operations.	**Partially aligned.** Only the basic requirements set by the EU *acquis* for the access to the market and the profession have been transposed into Turkish national law.	Not provided.	Full harmonization to this legislation shall be considered in the Turkey accession process.
Social aspects of road transport	Regulation (EC) No 561/2006 on driving hours and rest periods. *Main requirements:* Sets common rules for maximum daily driving times, breaks and rest periods of professional drivers engaged in road freight and passenger transport.	• Labour Law of 10 June 2003 • Law on Working Time of 6 April 2004 • Road Transport Regulation of 2 September 2004	**Partially aligned** All main provisions governing driving times and rest periods of professional drivers have been introduced in Turkey. However, self-employed drivers are excluded from its scope of application and, therefore, not aligned to the provisions laid down in Directive 2002/15/EC.	Not relevant.	Need of further alignment is identified with respect to self-employed drivers, who are at present excluded from the scope of the Labour Law whose provisions are, consequently, not consistent with Directive 2002/15/EC. Studies on further harmonisation of national legislation by Ministry of Labour and Social Security are still continuing.
	Regulation (EEC) No 3821/85 on the digital tachograph. *Main requirements:* Set requirements on construction, installation, use and testing of recording equipment (tachograph).	• Law on "Tachograph Devices used in International Road Transport" of 21 May 2010 • Law on "Inspection and Sealing of Recording Equipment" of 12 January 2012 • Law on "Recording Equipment Workshop Services" of 14 February 2012	**Fully aligned.** All main provisions governing the implementation of the tachograph have been introduced in Turkey. Turkey has adapted to the system via completing required legal and structural harmonization. For domestic operations, the implementation of the digital tachograph will be gradually achieved (by 2017).	Not relevant.	No need of further alignment identified.

Field of intervention	Relevant EU norms and requirements	Transposing act(s)	Current degree of alignment	Reasons for non-convergence/Hindrances to full convergence	Degree of further alignment required
Driving licenses	Directive 2006/126/EC on driving licenses. *Main requirements:* Set requirements on minimum requirements of driver training and testing, minimum standards for driving examiners and progressive access of young people to the categories of two-wheeled vehicles.	• Amendment to the Law on Road Transport of 2 August 2013.	**Not aligned.** Turkey has ratified the Vienna Convention on Road Traffic as well as of the European Agreement supplementing this Convention. However, its system is not yet aligned to the EU *acquis*.	Not provided.	Not provided. Studies are still underway with the purpose of identifying procedures to secure an effective implementation of this new regulatory setting.
Technical standards	Directive 96/53/EC on dimensions and weights of road vehicles. *Main requirements:* Establishes maximum weight and dimensions of heavy commercial vehicles.	• Law on "Procedures for Loading of Road Vehicles of 8 November 2011	**Fully aligned.** The current legislative framework is completely aligned to the provisions laid in Directive 96/3/EC.	Not relevant.	No need of further alignment identified.
	Directive 92/6/EEC on speed limitation devices as amended by Directive 2002/85/EC. Main requirements: Establishes the requirements for installing speed limitations devices to commercial vehicle engaged in freight and passenger transport operations.	• Amendment to the Law on Road Transport of 19 February 2014	**Fully aligned.** Fitting of speed limitation devices now compulsory.		
Transport of dangerous goods	Directive 2008/68/EC on dangerous goods. *Main requirements:* Establishes a common regime for all aspects of the inland transport of dangerous goods, by road, rail, and inland waterway.	• Law on "Carriage of Dangerous Goods by Road	**Fully aligned.** New regulatory framework aligned to the corresponding EU *acquis* since 1 January 2014	Not relevant.	No need of further alignment identified.

7 The liberalisation scenarios

This section explains the scenarios for liberalisation of the EU-Turkey road freight sector that have been examined as part of this study. The scenarios are defined according to the regulatory requirements that are removed. The principal requirements of interest to this study are:

- Permits granted on the basis of bilateral agreements concluded to facilitate exchanges between couples of countries;

- Permits granted on the basis of bilateral agreements concluded to enable transit on the territory of a country for trade relations among another partner country and a third country. In this respect, a further differentiation can be made between permits granted for free and so called “payable” permits.

Another variable that should be taken into account is the contracting party, i.e. who is entitled to negotiate quotas. As an example, the EU may be given legal ownership of the negotiation process and replace Member States in the agreement of quotas with external contracting partners. This may in itself have liberalisation effects, e.g. if it changes the number and distribution of quotas.

The scenarios are:

- **Business as Usual.** This scenario assumes the quota systems continue as today under Member State control. They are assumed to evolve according to the market needs and the negotiations between partners. It embodies certain assumptions about evolution of legislation (further alignment to the EU *acquis* and the subsequent enforcement of the legislation), macroeconomics (GDP, trade) and microeconomics (operating costs including as main factor, labour costs) and the number of permits granted (number and type) with special attention to transit issues and payable transit in specific countries.

- **Transit liberalisation.** This scenario sees a move to free transit for the external partner (Turkey). It should solve the issue which stakeholders, such as the Turkish hauliers, see as the principal constraint on EU-Turkey trade. The application would entail some practical problems as all bilateral agreements would need to be discussed in order to clearly quantify the number of bilateral permits to be granted. Today, in some cases, transit and bilateral permits are negotiated together.

- **Transit liberalisation plus additional EU permits.** This scenario aims to remove the constraints to trade imposed by the limited number of permits currently issued. The estimation of demand, relevant to determination of ‘real needs’ as indicated in the table, needs to be clearly defined. The result is very close to a full liberalization context.

- **EU management of quotas.** This scenario assumes that the EU has legal ownership of the negotiation process with external partners. This requires allocation of the number of permits globally negotiated by the EU with the partner country to Member States.

- **Full liberalisation.** This entails a full liberalisation of services between the EU and Turkey. Provided that it will lead to a reduction of control over the inbound and outbound flows, a full opening scenario would require strong measures that can secure the proper enforcement of the EU regulations as well as surveillance to guarantee that fees and other restrictions are not introduced at national level to undermine the intent of the liberalisation. In this scenario, also ECMT licenses system would be affected by liberalization and, therefore, a strong reduction of the overall ECMT licenses distributed shall be considered alike.

For all liberalisation scenarios it is assumed that there would be clauses committing the external partner and EU to fair and consistent interpretation and administration of the rules, and a mechanism

to deal with reports of deviation from that practice. The aim of this would be eliminate the problems reportedly experienced by some EU hauliers with *ad hoc* inspections and requirements being imposed at a local level by officials in Turkey.

The timing of the transition is also crucial. The initial hypothesis is that all actions proposed are immediate (e.g. starting in 2015 or 2016), without considering gradual changes that would be very difficult either to define or to control. in case, whether the objective is full opening, e.g. by 2020, transition phases can be represented by "intermediate" scenarios.

The scenarios are summarised in Table 7.1.

Table 7.1 **Definition of liberalisation scenarios**

Nr	Scenario Name	Bilateral permits	Transit permits	EU permits / licenses	EU agreements
1	**Business as usual**	no change to baseline	no change to baseline	none	none
2a	**Transit liberalisation**	Agreement adaptation	removal	none	Not required, but transit liberalisation needs a decision of individual Member States
2b	**Transit liberalisation + additional EU permits**	Agreement adaptation	removal	add according to real needs	yes
3	**EU management of quotas**	removal	removal	bilateral EU permits	yes
4	**Full liberalisation**	removal	removal	not necessary	not necessary

8 Impact assessment

This section provides the estimated transport and economic impacts of the scenarios described above, by comparison with the reference scenario. The figures are based on the use of: (i) an econometric gravity model for the estimation of future trade and transport flows, (ii) an elasticity-based estimation of the response of trade flows to trade cost changes, and (iii) input-output analysis which allows the study of economy-wide and sector-specific consequences of the liberalisation scenarios. The approach taken and assumptions used are described in detail in Appendix F. The sections below only present and discuss the key results of the assessment. After presenting the reference case, we report in detail on the results of the full liberalisation scenario, and later discuss findings from intermediate liberalisation scenarios.

All reported results refer to the year 2016 as a probable year of the implementation of the change in regulation. Prices are fixed at the level of 2012. The results of liberalisation scenarios come from static modelling experiments. This means that the reported changes relative to the reference scenario apply to each following year. More specifically, the reported increase of annual trade volume by 1% relative to the reference scenario means that the trade volume is predicted to be 1% higher not only in one year, but in every year following the implementation of the change in regulation.

Though the modelling suggests an instant response from the economy to the regulation change, in practice these effects will take some time to fully materialize, as the economy will have to adapt to the new situation. New production capacities have to be built, the personnel trained, the trading partners found and the contracts signed. The full extent of the liberalisation impact would be realized three to five years years after the regulatory changes.

8.1 Reference scenario

The reference, or 'business as usual' (BAU), scenario represents the situation in which the bilateral quota system continues as it is today to 2016. Thus, the EU has no active role in the management of permits. This baseline serves as the reference scenario for the evaluation of the consequences of the liberalisation scenarios simulated.

Table 8.1 **The model suggests a 13% growth in import road freight trips between 2012 and 2016 in the business-as-usual scenario**

Import trips from Turkey to:	Data for 2012			Business as usual scenario		
				Estimate for 2016		
	Turkish vehicles	EU vehicles	Total trips	Turkish vehicles	EU vehicles	Total trips
EU15	226197	12245	238442	252265	13623	265888
EU13	67740	108972	176712	79200	124471	203671
Eastern EU*	59119	107396	166515	69346	122773	192118
Northern EU	25247	0	25247	29544	0	29544
Southern EU	66285	4359	70644	71787	4709	76497
Western EU	143286	9462	152748	160788	10612	171400
Total EU	**293937**	**121217**	**415154**	**331465**	**138094**	**469559**
(% change)				**(+13%)**	**(+14%)**	**(+13%)**

Source: UND data and own calculations

** Eastern EU: Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia*
Northern EU: Baltic States, Denmark, Sweden, Finland, Great Britain
Southern EU: Croatia, Greece, Italy, Portugal, Slovenia, Spain
Western EU: Austria, Belgium, France, Germany, Luxembourg, the Netherlands

In 2016 the estimated number of trips by EU and Turkish hauliers importing goods into the EU is 470,000, up 13% on 2012. This projection takes account of the current economic growth forecasts (IMF) for Turkey and for the EU Member States.

8.2 Full liberalisation

The full liberalisation scenario involves the abolition of bilateral and transit permits. Where payable permits and additional *ad hoc* rules for transit exist in the EU countries, we assume that the rules applied to Turkish hauliers will be the same as the rules applied to EU hauliers (e.g. no requirement to use train service in Austria).

It is estimated that a one-way trip to southern Germany via Austria will become €600 cheaper. The trip through Serbia, Hungary and Slovakia to Poland will become €300 cheaper, and a trip to Romania – €100 cheaper. The largest absolute savings are realised on routes that cross both, Hungary and Austria. The ferry connections to Trieste (Italy) and Toulon (France) will remain attractive for hauliers (cheaper than a trip by road). The share of traffic using these ro-ro connections is assumed to remain unchanged in the scenarios.

8.2.1 Impacts on value of trade

The analysis suggests that **full liberalisation would increase the value of EU-Turkey trade by an estimated €3.5 billion, out of which €1.9 billion are additional imports from Turkey and €1.6 billion are exports to Turkey.** The largest expected effect is a rise in imports from Turkey into Germany, France, the Netherlands, and the UK as the reduction of transport costs in central Europe makes Turkish goods more competitive. Trade with EU Member States that are close neighbours of Turkey also increases, but not by as much in relative terms.

A large part of the EU road exports to Turkey is transported by the Turkish vehicles. The significant reduction of travel costs for Turkish hauliers in the liberalisation scenario thus leads to an increase in the volume of EU exports to Turkey. An estimated increase of export value by €1.6 billion corresponds to +2.1% of EU goods exports to Turkey and +0.1% of total extra-EU exports.

Lower trade barriers mean that Turkish products will be available at a lower price to consumers. The direct savings for the final consumers in the EU economy are estimated at €140 million per annum.

Table 8.2 **In value terms, full liberalisation boosts EU imports from Turkey by 7.9% and exports by 4.9%, as compared to business-as-usual**

	Full liberalisation scenario, 2016		
	Additional EU road imports, million Euro	Additional EU road exports, million Euro	Direct consumer savings, million Euro
EU15	1542	1289	95
EU13	352	277	47
Eastern EU*	250	216	43
Northern EU	349	271	11
Southern EU	279	234	27
Western EU	1016	845	61
Total EU	**1894**	**1566**	**143**
Change rel. to BAU, %	**7.9%**	**4.9%**	

*Source: DIW Econ. *see footnote to Table 8.1*

8.2.2 Macroeconomic and sectoral impacts

The growth in trade with Turkey will have positive impacts on the sectors of the EU economy most actively participating in these trade relations: mainly, manufacturing of machinery, vehicles, and equipment, metals production, production of furniture, etc. The Member States with largest positive effects are also the ones most actively involved in trade with Turkey: Germany, France, UK, Romania, Bulgaria. It is, however, not possible to trace the impacts precisely. Given the small share of Turkey in the overall EU exports and imports, the macroeconomic effects for individual countries are negligible.

The growth of EU exports to Turkey obviously requires more production activity and additional labour input. The total effect on EU employment is estimated to be in the order of 14 thousand new jobs (0.01% of total employment).

One potential effect is the substitution of within-EU or third-country imports with Turkish products. The analysis of such processes would require the knowledge of price differentials and consumer preferences for a range of commodities stemming from different destinations and is beyond the scope of this study.

Table 8.3 **Modelling suggests that effects of full liberalisation will be greatest in the textiles sector**
Sectoral effects of the full liberalisation scenario in Turkey

Sector	Output effect, € mln	Output effect on EU-majority owned firms, € mln	Employment effect, thousand persons
Agriculture, Hunting, Forestry and Fishing	91	0	4.7
Mining and Quarrying	10	0	0.0
Food, Beverages and Tobacco	76	7	0.4
Textiles and Textile Products	834	30	7.4
Leather, Leather and Footwear	1	0	0.0
Wood and Products of Wood and Cork	1	0	0.0
Pulp, Paper, Paper , Printing and Publishing	19	1	0.2
Coke, Refined Petroleum and Nuclear Fuel	5	0	0.0
Chemicals and Chemical Products	185	33	0.6
Rubber and Plastics	11	2	0.1
Other Non-Metallic Mineral	31	2	0.4
Basic Metals and Fabricated Metal	286	14	2.9
Machinery, nec	280	30	3.7
Electrical and Optical Equipment	138	15	1.1
Transport Equipment	211	22	2.3
Manufacturing, nec; Recycling	55	2	0.9
Services	23		0.2
Total	2257	158	24.9
Total change compared to BAU scenario, %	**0.21%**	**0.52%**	**0.10%**

Source: DIW Econ

There will be additional cost savings for public budgets associated with the removal of the bilateral negotiation processes on the composition and distribution of permits (administrative costs). It was not possible to quantify these cost savings due to lack of data.

For Turkey, the input-output modelling suggests that road transport liberalisation with the EU can boost output by around €2.3 billion, compared to the reference scenario. This effect would be concentrated in certain sectors: textile production (37%), machinery and equipment (28%), agriculture and food products (8%), metal products (13%), chemical products (8%).

The employment effect in the Turkish economy is estimated to be in the order of 25 thousand new jobs. This corresponds to an increase by around 0.1% of total employment. The effect on Turkish GDP is estimated to be +0.15%.

EU-majority owned firms have a significant presence in some sectors of the Turkish economy. Thus, the overall expansion of output due to additional export demand will have an impact on the turnover and profits of such firms. Out of the total figure of €2.3 billion of additional turnover, an estimated €0.16 billion, or seven per cent, would accrue to EU-majority owned firms, mainly in the textiles, chemicals and machinery industries. It is expected that the Turkish haulage industry would capture most of the increase in volume of the EU-Turkey road freight market, as described further below.

8.2.3 Impact on the EU-Turkey haulage market

With the modelling approach taken, full liberalisation results in 8% more import trips from Turkey than seen under the business-as-usual scenario. The reason is that without the border barriers imposed by the quota restrictions, the potential of Turkish exports (induced by the size of the EU economy) can be realized to a greater extent. Under the assumptions made, the number of trips by EU hauliers increases only slightly, by 3% (Turkish quotas pose no significant restriction to EU exports). The additional growth is mainly captured by Turkish hauliers whose trips increase by 11%.

Table 8.4 **Full liberalisation is projected to trigger an eight per cent increase in road haulage trips as compared to business-as-usual**

Predicted import trips by road in the full liberalisation scenario

Import trips from Turkey to:	Full liberalisation scenario		
	Estimation for 2016		
	Turkish vehicles	EU vehicles	Total trips
EU15	275190	13805	288995
EU13	91817	127762	219580
Eastern EU	80314	126043	206357
Northern EU	33068	0	33068
Southern EU	76614	4780	81395
Western EU	177011	10745	187755
Total EU	**367007**	**141568**	**508575**
Change rel. to BAU, %	**11%**	**3%**	**8%**

*Source: DIW Econ. Numbers may not add up exactly due to rounding. *see footnote to Table 8.1*

8.2.4 Changes in distribution of traffic

It is inevitable, given the location of the routes between Turkey and its largest EU markets that **the growth in road freight traffic will be unevenly distributed across the EU Member States.** Abolition of current rules and charges, such as the transit permit charges imposed on Turkish vehicles, would prompt certain changes in the routes chosen by the hauliers. The modelling suggests that changes in transport costs will see some traffic redirected from routes using roads in Croatia, Slovenia, and Poland to routes through Hungary and Czech Republic. This primarily relates to trips to northern Germany and further to Denmark and Sweden. Another change is that a lot of traffic that

formerly went through Romania is redirected via Serbia, which offers shorter routes. The largest projected increases in truck movements following liberalisation are expected in Bulgaria and Hungary. The cost-efficient ro-ro connections to Trieste and Toulon will continue to be used by the Turkish hauliers (shares of traffic using these connections are assumed to remain the same as in the current data).

Table 8.5 **The modelling suggests some redistribution of EU-Turkey road freight traffic among Member States**

Distribution of total Turkey-EU import trips (bilateral and transit) in the 2016 scenarios

Country	Business as usual scenario	Full liberalisation scenario	Absolute change	Relative change
Austria	158072	165699	7628	5%
Belgium	27047	29040	1993	7%
Bulgaria	327361	358111	**30750**	9%
Croatia	81631	50030	**-31601**	-39%
Czech Republic	23321	48464	**25144**	108%
Denmark	3463	5714	2251	65%
Estonia	239	720	481	202%
Finland	629	1479	850	135%
France	44933	48400	3466	8%
Germany	164786	182372	17587	11%
Greece	42470	43756	1286	3%
Hungary	82744	128795	**46051**	56%
Italy	129773	140242	10469	8%
Latvia	450	1200	751	167%
Lithuania	851	1828	977	115%
Luxembourg	429	782	353	82%
Netherlands	14973	16629	1656	11%
Poland	28654	25784	-2871	-10%
Portugal	202	795	593	294%
Romania	148853	141038	**-7815**	-5%
Slovakia	53985	66327	12342	23%
Slovenia	78556	47034	**-31522**	-40%
Spain	9083	10188	1105	12%
Sweden	5444	5561	118	2%
United Kingdom	20210	21358	1148	6%

Source: DIW Econ

8.3 Transit liberalisation

We now consider the case with partial liberalisation in 2016 that simulates the abolition of transit permits only (including *ad hoc* transit charges).

In this scenario the retention of bilateral quotas could mean a constraint to EU market access for Turkish vehicles and vice versa. However, as the current data (2012-2014) suggest, given the maximum amount of available quotas, the only existing bilateral restriction for Turkish vehicles arises from the quota allocation in Spain (Figure F.5, Appendix F). We argue that this restriction is currently

overcome using the ECMT permits. We assume that it will be possible to overcome this shortage using ECMT licenses also in the business-as-usual scenario.

For the transit liberalisation scenario coming into force in 2016, we estimate that a deficit of bilateral quotas will arise for Italy (around 3,500 additional bilateral permits required in 2016), Finland (800), Lithuania (100), and, again, Spain (3,500). In all other cases the current bilateral permits will still be sufficient.

8.3.1 Impacts on value of trade

The analysis suggests that **transit liberalisation would increase the value of EU-Turkey trade by an estimated €3.3 billion, of which €1.8 billion are additional imports from Turkey and €1.5 billion are exports to Turkey.** The reduction in impacts as compared to the full liberalisation scenario is primarily due to the residual border barriers presented by bilateral permits that lead to travel delays (time spent to arrange the permits and get them on board of the vehicle). However, as the principal barriers - the transit charges - are abolished in this scenario, the overall impacts are very close to the impacts of the full liberalisation scenario.

Table 8.6 **In value terms, transit liberalisation boosts EU imports from Turkey by 7.4% and exports by 4.6%, as compared to business-as-usual**

Import trips from Turkey to:	Transit liberalisation scenario, 2016		
	Additional EU road imports, million Euro	Additional EU road exports, million Euro	Direct consumer savings, million Euro
EU15	1488	1244	92
EU13	293	222	44
Eastern EU	200	166	41
Northern EU	334	261	11
Southern EU	258	216	26
Western EU	989	823	59
Total EU	**1781**	**1466**	**136**
Change rel. to BAU, %	**7.4%**	**4.6%**	

*Source: DIW Econ. Numbers may not add up exactly due to rounding. *see footnote to Table 8.1*

8.3.2 Macroeconomic and sectoral impacts

For Turkey, input-output modelling suggests that road transport liberalisation with the EU will boost output by around €2.1 billion.

The employment effect in the Turkish economy is estimated to be in the order of 23 thousand new jobs. This corresponds to an increase by around 0.09% of total employment. The effect on Turkish GDP is estimated to be +0.14%.

Some sectors of the Turkish economy are characterized by significant presence of EU-majority owned firms. Thus, the overall expansion of output due to additional export demand will have an impact on the turnover and profits of such firms. Out of the total figure of €2.1 billion of additional turnover, €0.15 billion are on the part of EU-majority owned firms, mainly in the textiles, chemicals and machinery industries.

Table 8.7 **The textile sector is the largest beneficiary of transit liberalisation**
Sectoral effects of the transit liberalisation scenario in Turkey

Sector	Output effect, € mln	Output effect on EU-majority owned firms, € mln	Employment effect, thousand persons
Agriculture, Hunting, Forestry and Fishing	85	0	4.5
Mining and Quarrying	9	0	0.0
Food, Beverages and Tobacco	72	6	0.4
Textiles and Textile Products	784	28	7.0
Leather, Leather and Footwear	1	0	0.0
Wood and Products of Wood and Cork	1	0	0.0
Pulp, Paper, Paper , Printing and Publishing	17	1	0.1
Coke, Refined Petroleum and Nuclear Fuel	5	0	0.0
Chemicals and Chemical Products	174	31	0.6
Rubber and Plastics	11	2	0.1
Other Non-Metallic Mineral	29	2	0.3
Basic Metals and Fabricated Metal	269	14	2.7
Machinery, nec	263	28	3.5
Electrical and Optical Equipment	130	14	1.0
Transport Equipment	198	21	2.2
Manufacturing, nec; Recycling	52	2	0.9
Services	22		0.2
Total	2122	148	23.4
Total change compared to BAU scenario, %	**0.20%**	**0.49%**	**0.09%**

Source: DIW Econ

8.3.3 Impact on scale of traffic flows

With the modelling approach taken, full liberalisation results in 7% more import trips from Turkey than seen under the business-as-usual (BAU) scenario.

8.1 Transit liberalisation + additional EU permits

A scenario of transit liberalisation and adjustment of bilateral permits according to real needs is almost equivalent to the full liberalisation scenario in terms of key impacts. The actually needed amount of permits would then correspond to the number of trips estimated using the gravity method. Therefore the impact of trade value and macroeconomic impacts will be the same. However, there will still be a need to issue permits and to get them on board trucks. Therefore, the time savings included in the overview of the benefits of the full liberalisation scenario will not be fully realized in the case of an incomplete liberalisation. The difference to the effects of the full liberalisation scenario on traffic flows will be a decrease in the order of 1-2%.

Table 8.8 **Transit liberalisation is projected to trigger a seven per cent increase in road haulage trips as compared to business-as-usual**

Predicted import trips by road in the transit liberalisation scenario

Import trips from Turkey to:	Transit liberalisation scenario		
	Estimation for 2016		
	Turkish vehicles	EU vehicles	Total trips
EU15	274316	13781	288097
EU13	90815	124651	215465
Eastern EU	79451	122931	202382
Northern EU	32872	0	32872
Southern EU	76230	4756	80986
Western EU	176577	10745	187322
Total EU	**365130**	**138432**	**503563**
Change rel. to BAU, %	**10%**	**0%**	**7%**

*Source: DIW Econ. Numbers may not add up exactly due to rounding. *: see footnote to Table 8.1*

8.2 EU management of quotas

If EU takes over the negotiations over the bilateral quotas and can redistribute the whole amount of quotas currently issued, then the remaining surplus of quotas issued, e.g. by Bulgaria and Germany (monotype quotas) will be enough to compensate any deficit in other countries. Therefore, the impacts on trade and output will be the same as in the scenario with additional EU permits.

8.3 Summary

Analysis of different liberalisation options between EU and Turkey suggests that the largest economic impact comes from removal of transit quotas. Restrictions on transit, including certain ad hoc rules applied by some Member States are the key barrier for EU imports from Turkey, while managed by Turkish road operators.

Transit liberalisation leads to increase in the value of EU-Turkey trade by an estimate of €3.5 billion per annum, out of which €1.9 billion are additional imports from Turkey and €1.6 billion are exports to Turkey.

The 'transit plus additional permits' scenario and the 'EU management of permits' scenario have, under the modelling approach adopted, effects roughly equivalent to that of full liberalisation except that they provide somewhat smaller cost savings for the hauliers and the final consumers.

In terms of macroeconomic impacts, the effects of full liberalisation on the EU as a whole are very small. The employment effect in the Turkish economy is estimated to be in the order of 25 thousand new jobs (0.1%). The effect on Turkish GDP is estimated to be +0.15%. Out of the total figure of €2.3 billion of additional output for the Turkish economy, an estimate of €0.15 billion relates to EU-majority owned firms, mainly in the textiles, chemicals and machinery industries. Most of the increase in road freight is expected to be carried by Turkish hauliers though there would be new opportunities for EU firms.

The EU road freight sector, though still characterised by differences between EU15 and EU13 based operators, has a proven capacity to adapt. In changes that followed the enlargement of the EU and market liberalisation demonstrated how quickly the market can react. The cross trade share gained by EU13 operators shows that these countries are highly competitive also with respect to extra-EU operators (see Section 5.4). It suggests that the opening of the road freight market with neighbouring countries such as Turkey could represent a major opportunity for operators based in those countries. The large share held by Turkish operators in the exchanges with EU15 countries may be contended

and bring benefits especially to EU-13 operators. The removal of the current problems experienced by some EU hauliers in Turkey is assumed to be part of the package. The impacts of the removal of the tax concession relating to fuel costs that is enjoyed by Turkish hauliers working the EU export market have not been modelled.

The current arrangements have economic consequences but also a social dimension. The long time the drivers have to wait at the borders for instructions can provoke stress and compromise road safety. It makes it more difficult for drivers to complete the trip according to their schedule whilst taking the uninterrupted rest as required by the AETR rules.

There is also an environmental dimension in so far as total road traffic increases. The number of import trips from Turkey into the EU rises by 8% (approximately +40,000 trips). The countries most affected are Hungary, Czech Republic, Bulgaria, and Germany. The additional traffic produces 60-70 ktonnes of CO_2 equivalent per year in the EU. In addition, further adverse effects, such as noise and air pollution are generated.

The overview of key impacts of the alternative scenarios is contained in the following table.

Table 8.9 **Summary of liberalisation scenarios for Turkey**

Liberalisation of freight transport between EU and Turkey	Transit liberalisa-tion	Additional quotas	EU manage-ment	Full liberalisa-tion
Effects on the EU, change with respect to BAU:				
EU road exports to Turkey, mln €	1466	1566	1566	1566
change in %	4.6%	4.6%	4.6%	4.9%
EU road imports from Turkey, mln €	1781	1841	1841	1894
change in %	7.4%	7.7%	7.7%	7.9%
Employment, thousand new jobs	13.2	14.1	14.1	14.1
Direct consumer cost savings, mln €	136	143	143	143
Selected effects in Turkey:				
Output expansion, mln €	2122	2193	2193	2257
change in %	0.20%	0.20%	0.20%	0.21%
Extra output of EU-majority owned firms, mln €	148	153	153	158
Employment effect, thousand new jobs	23.4	24.2	24.2	24.9
GDP effect, %	0.14%	0.15%	0.15%	0.15%
Additional GHG emissions, Gg CO_2 eq. per year	61	64	64	67

9 Conclusions

This report has considered the impacts of removing some or all of the bilateral quota and permitting arrangements that current apply to road freight services operating between EU Member States and Turkey.

It concludes that regulatory reform would yield overall benefits in terms of growth in trade, economic output and jobs. The great impact comes from removing the quota instruments that currently cause the greatest constraints on trade – the transit permits required by Turkish hauliers passing through many Member States.

Benefits of liberalisation accrue to both the EU and Turkey. The modelling suggests that if the quota system is removed, in full or in part, EU exports to Turkey will grow more rapidly than under a business-as-usual scenario. This will support employment and prosperity within the EU.

Imports from Turkey into EU are expected to grow even faster than EU exports. This import growth will benefit the Turkish economy, but also the EU consumers that will enjoy lower prices for Turkish goods as regulatory costs are removed from the supply chain, and the EU firms with production facilities in Turkey that sell back into the EU market.

Any agreement to liberalise current quota arrangements should include terms that provide assurance that EU hauliers will not be subject to interference when they conduct legitimate trade, and that controls will be applied according to the law.

Further alignment of Turkish law to the EU *acquis* in the area of commercial road transport is also required. Turkey, a candidate country, has committed itself to a quick approximation to the relevant EU norms. Further harmonisation of enforcement and controls must be included in any agreement.

The extensive use of ro-ro for Turkey-EU freight illustrates how alternative modes can compete on trade routes. The removal of transit and bilateral constraints for Turkish hauliers may lead to a shift in the market in favour of road. Moves to liberalise road freight should be accompanied by consideration of how to sustain the competitiveness of ro-ro services, in line with the EU's policy of shifting road freight to other modes (e.g. via Motorways of the Sea programme).

Appendix A. References

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Appendix B. Current EU legislative framework applying to the road freight sector

B.1 Current EU legislative framework applying to the road freight sector

The EU *acquis* in the area of road freight transport is large in scope. Over the last two decades the EU has modernised, streamlined and further harmonised a fragmented body of rules that was no longer adequate to cope with the complexity of, and the new challenges posed by, the newly formed market and social conditions that were triggered by the liberalisation process that occurred in this economic domain during the 1990s. Competition has intensified following the completion of the internal market and the two EU enlargement processes that occurred in 2004 and 2007.

Against this background, two principal objectives have remained at the heart of the legislation: (i) reducing distortions of competition by ensuring that transport operators are placed on an equal footing and are subject to the same set of harmonised rules, while (ii) improving compliance of transport operators with social legislation and road safety rules.

One area where the legislative intervention of the EU has played a pivotal role in creating a new regulatory framework that aims at removing disparities and market distortions between transport companies operating is the **access to the road market sector.** This is, at present, liberalised in both goods and passenger transport, with the partial exception of cabotage.

Although Article 71 (Title V) of the Treaty of Rome explicitly provides for the freedom to supply international inland transport services and for the obligation to establish the conditions of access for non-resident hauliers to domestic road freight haulage in a Member State (i.e. the rules that would govern cabotage), it took almost 40 years to complete the liberalisation process. Historically, access to the market for road transport services in Europe was subject to bilateral intergovernmental agreements on the basis of which the governments annually agreed on road permit quotas for freight road transport. It was only through adoption of Regulation (EEC) No 881/92[41] and, one year later, of Regulation (EEC) 3118/93[42] that the system based on quota restrictions was abolished (as from 1 January 1993) and cabotage authorised. This was initially subject to licence under a quota system and later, as from 1 July 1998[43], allowed under a Community licence without quantitative restrictions.

These two pieces of EU legislation - Regulations (EEC) No 881/92 and 3118/93 – had defined the rules for international road freight transport within the EU for almost 15 years, before being replaced by Regulation (EC) No 1072/2009[44] that came into effect in May 2011. This new Regulation - which defines the terms of access to the international haulage market - is the legislative response to the evolution of the road freight transport sector that followed the liberalisation and the completion of the internal market, as well as of the increase in competition that followed EU enlargement in 2004 and 2007. It clarifies the terms of cabotage operations, so as to avoid any potential market distortions or disturbances[45]. In addition, the Regulation promotes harmonisation across Member States, providing ,

[41] Council Regulation (EEC) 881/92 of 26 March 1992 on access to the market in the carriage of goods by road within the Community to or from the territory of a Member State or passing across the territory of one or more Member States (OJ L 95 of 09.04.1992).

[42] Council Regulation (EEC) No 3118/93 of 25 October 1993 laying down the conditions under which non-resident carriers may operate national road haulage services within a Member State.

[43] It is worth reminding that the adoption of Regulations (EEC) 881/92 and 3118/93 followed the Court of Justice ruling of 22 May 1985 which set 1 January 1993 as the target date for establishing the internal market.

[44] Regulation (EC) No 1072/2009 of 21 October 2009 on common rules for access to the international road haulage market.

[45] Unlike in Regulation (EEC) No 3118/93 which only permitted cabotage operations conducted on a "temporary basis" by non-resident transport operators, without precisely defining the notion of "temporariness", Article 8 of Regulation (EC) No 1072/2009 states that cabotage should be limited to a maximum of three operations within a period of seven days and within the 7-day period hauliers can either perform cabotage in one Member State only or in one or more Member States as long as it is allowed for a maximum of one operation within three days in each Member State.

for example, standardisation of certified copies of Community Licences and Driver Attestations / Community Authorisations.

An additional area where the EU has intervened to harmonise existing rules is the **access to the profession**. A liberalised single market should have uniform provisions regarding access to the profession. Regulation (EC) No 1071/200937, which applies from 4 December 2011 and repeals Directive 96/26/EC36, moves in this direction and lays down a set of norms that aim to clarify the existing legal setting, as well as to increase the effectiveness of their implementation across all EU Member States.

Efforts have been made as well to harmonise **social and working conditions** for employees in the road transport sector, as well as to improve general road safety. Ideally, liberalisation - and the consequential increase in competition - should have been accompanied by a parallel process of harmonisation in employment and working conditions of road freight transport workers, and professional drivers in particular, so as to secure equal operating conditions for transport companies across all EU Member States. This has, however, not happened. Wide differences in terms of labour and social market structures, regulations and enforcement mechanisms continue to exist across the EU.

To date, the regulatory framework on the social aspects for the road transport sector[46] has been consolidated in Directive 2002/15/EC[47] (known as the "Working Time Directive") and Regulation (EC) No 561/2006[48], the latter being enforced through the mechanisms established by Directive 2006/22/EC[49]. Regulation (EC) 561/2006 is of particular importance because of its role in defining maximum driving hours and minimum rest periods of professional drivers (of vehicles with a permissible mass higher 3.5 tonnes). It has played an essential role in both improving road safety and working conditions and promoting fair competition amongst drivers across all EU Member States.

To prove that they are respecting Regulation (EC) No 561/2006, in compliance with Regulation (EEC) No 3821/85[50], road hauliers must install a recording equipment (a "tachograph"). Member States are required to establish adequate enforcement mechanisms in accordance with Directive 2006/22/EC[51] (known as the "Enforcement Directive").

Finally, Directive 2003/59/EC[52] contributes to the efforts to improve road safety in Europe by setting standards for new drivers and maintaining and enhancing, through initial qualification and periodic training, the professionalism of existing truck and bus drivers throughout the EU.

[46] This regulatory framework is further complemented by Regulation (EEC) No 3821/198519 (referred to as the "Tachograph regulation" on the recording device) and Directive 2003/59/EC (referred to as the "Training Directive" introducing the Certificate of Professional Competence, or CPC),

[47] Directive 2002/15/EC of 11 March 2002 on the organisation of the working time of persons performing mobile road transport activities.

[48] Regulation (EC) No 561/2006 of 15 March 2006 on the harmonisation of certain social legislation relating to road transport and amending Council Regulations (EEC) No 3821/85 and (EC) No 2135/98 and repealing Council Regulation (EEC) No 3820/85

[49] Directive 2006/22/EC of 15 March 2006 on minimum conditions for the implementation of Council Regulations (EEC) No 3820/85 and (EEC) No 3821/85 concerning social legislation relating to road transport activities and repealing Council Directive 88/599/EEC.

[50] Council Regulation (EEC) No 3821/85 of 20 December 1985 on recording equipment in road transport

[51] Directive 2006/22/EC of 15 March 2006 on minimum conditions for the implementation of Council Regulations (EEC) No 3820/85 and (EEC) No 3821/85 concerning social legislation relating to road transport activities and repealing Council Directive 88/599/EEC.

[52] Directive 2003/59/EC of 15 July 2003 on the initial qualification and periodic training of drivers of certain road vehicles for the carriage of goods or passengers, amending Council Regulation (EEC) No 3820/85 and Council Directive 91/439/EEC and repealing Council Directive 76/914/EEC.

Box B.1: The AETR Agreement

Signed on 1 July 1970 with the support of the United Nations Economic Commission for Europe (UNECE), the AETR Agreement has since been signed and ratified by 46 Contracting Parties.

The Agreement (per Article 2 ("Scope")) applies in the territory of each Contracting Party and to all international road transport undertaken by any vehicle registered in the territory of the said Contracting Party or in the territory of any other Contracting Party. Similar to the EU legislation, the Agreement applies to vehicles used for the carriage of goods that exceed 3.5 tonnes and passenger vehicles with a capacity of more than nine persons including the driver. Journeys to or through the countries that are signatories to the AETR Agreement are subject to AETR rules. These rules apply to the whole journey, including any EU countries passed through.

From September 2010, the AETR rules have been amended to recognise the digital tachograph and are closely aligned with Regulation (EC) No 561/2006.

Harmonisation efforts for vehicles have focused on **technical standards**, particularly their weight, size and emissions. For example, to improve road safety and to facilitate the internal market and the free movements of transport services, Directive 96/53/EC[53] established standard limit values for the weight and size of commercial vehicles, making sure that Member States do not restrict circulation of vehicles which comply with these limits from performing international transport operations within their territories.

Directive 2002/85/EC[54], which repealed and widened the scope of Directive 92/6/EEC[55], requires the fitting of **speed limitation devices** on commercial vehicles. Originally restricted to N3 vehicles (heavy goods vehicles with maximum mass above 12 tonnes) and M3 vehicles (buses) above ten tonnes, Directive 2002/85/EC extended the obligation to fit a speed limiter to N2 vehicles (smaller HGVs with maximum mass between 3.5 and 12 tonnes) and M2 vehicles (buses with more than eight seats + plus a driver's seat with maximum mass not exceeding 5 tonnes) and M3 vehicles below ten tonnes.

A further example of EU law that relates as much as road safety as to competition between transport companies operating in different Member States is Directive 2009/40/EC[56] on **roadworthiness**. This Directive aims to foster approximation of Member States' national laws on roadworthiness tests for motor vehicles and their trailers, with the aim of promoting greater harmonisation in the frequency of checks and the standards of checking methods that are in use across the EU.

A further area where legislation has pursued twin goals of increasing road safety and guaranteeing a level playing field to transport operators concerns are the rules and requirements for transport of **dangerous goods**. These rules are set in Directive 2008/68/EC[57], which establishes a common regime for all aspects of the inland transport of dangerous goods, by road (Annex I), rail (Annex II) and inland waterway (Annex III).

[53] Council Directive 96/53/EC of 25 July 1996 laying down for certain road vehicles circulating within the Community the maximum authorized dimensions in national and international traffic and the maximum authorized weights in international traffic.

[54] Directive 2002/85/EC of 5 November 2002 amending Council Directive 92/6/EEC on the installation and use of speed limitation devices for certain categories of motor vehicles in the Community.

[55] Council Directive 92/6/EEC of 10 February 1992 on the installation and use of speed limitation devices for certain categories of motor vehicles in the Community.

[56] Directive 2009/40/EC of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers, as amended by Directive 2010/48/EU.

[57] Directive 2008/68/EC of 24 September 2008 on the inland transport of dangerous goods.

Appendix C. Bilateral agreements signed by Turkey with EU Member States

Table C.1 EU Member States with which Turkey has concluded bilateral road transport agreement

EU Member State	Agreement concluded	Date of conclusion	Post-accession modifications
Austria	✓	21 January 1971	21 February 1978
Belgium	✓	10 January 1970	26 October 1977
Bulgaria	✓	16 April 1977	29 July 1979 and 27 January 2007
Croatia	✓	9 January 1998	-
Cyprus	No agreement concluded		
Czech Republic	✓	30 June 1981	-
Denmark	✓	14 July 1977	22 February 2007
Estonia	✓	9 October1995	-
Finland	✓	3 August 1977	-
France	✓	14 November 1969	10 November 1976
Germany	✓	21 December 1977	-
Greece	✓	4 April 1970	-
Hungary	✓	14 September 1969	21 August 1978
Ireland	No agreement concluded		
Italy	✓	30 June 1971	21 February 1978
Latvia	✓	21 January 1996	-
Lithuania	✓	10 February 1994	-
Luxembourg	✓	25 May 1988	-
Malta	No agreement concluded		
Netherlands	✓	6 December 1971	21 February 1978 and 24 April 2003
Poland	✓	14 May 1978	15 Aril 2003
Portugal	✓	9 May 2005	-
Romania	✓	30 April 1977	-
Slovakia	✓	14 March 1982	-
Slovenia	✓	20 October 2001	-
Spain	✓	3 March 1998	-
Sweden	✓	14 May 1978	-
United Kingdom	✓	14 May 1978	20 May 2009

Source: Compilation by the authors based on Acebo-Gomez & Pombo (2009) and UND data

Table C.2 Comparison of the number of bilateral permits (excluding third country) granted to, and used by Turkish hauliers by selected EU Member States over the period 2009-2013

Year		EU Member States				
		Bulgaria	Germany	Croatia	Greece	Italy
2009	Granted	292,500	167,550	55,000	55,000	48,000
	Used	178,285	134,127	52,531	40,361	41,666
	Remaining	*39%*	*20%*	*4%*	*27%*	*13%*
2010	Granted	97,000	167,550	60,000	55,000	48,000
	Used	177,092	167,550	51,227	37,542	43,048
	Remaining	*40%*	*0%*	*15%*	*32%*	*10%*
2011	Granted	297,000	170,050	60,000	55,000	48,000
	Used	166,609	138,172	52,346	45,698	44,687
	Remaining	*44%*	*19%*	*13%*	*17%*	*7%*
2012	Granted	283,000	170,050	60,000	55,000	48,000
	Used	157,421	128,559	52,792	39,589	41,984
	Remaining	*44%*	*24%*	*12%*	*28%*	*13%*
2013	Granted	299,500	170,050	60,000	55,000	48,000
	Used	143,665	129,363	51,138	39,436	43,363
	Remaining	*52%*	*24%*	*15%*	*28%*	*10%*

Source: Compiled by the authors based on UND data

Table C.3 Permits issued by Romania and Hungary: comparison between number of permits granted and used

Year	Type of permits	Romania			Hungary		
		Granted	Used	Remaining	Granted	Used	Remaining
2009	Free	25,000	24,998	*1%*	24,423	24,423	*0%*
	Payable	23,000	19,497	*15.2%*	16,400	15,649	*4.6%*
2010	Free	25,000	25,000	*0%*	27,500	27,329	*1%*
	Payable	23,000	19,445	*15.5%*	16,400	13,658	*16.7%*
2011	Free	30,500	30,457	*1%*	24,189	24,179	*1%*
	Payable	23,000	21,427	*6.84%*	16,400	13,560	*17.3%*
2012	Free	33,000	32,430	*1%*	27,390	27,378	*1%*
	Payable	23,000	13,184	*42.7%*	16,400	12,699	*22.6%*
2013	Free	36,000	35,996	*1%*	31,911	31,898	*1%*
	Payable	23,000	2,510	*89.1%*	16,400	7,438	*54.7%*

Source: Compiled by the authors based on UND data

Appendix D. ECMT (ITF) Licenses distribution

Globally, as at 1st January in 2014 37,376 annual licenses and 15,336 licenses were issued covering 43 ECMT Member States.

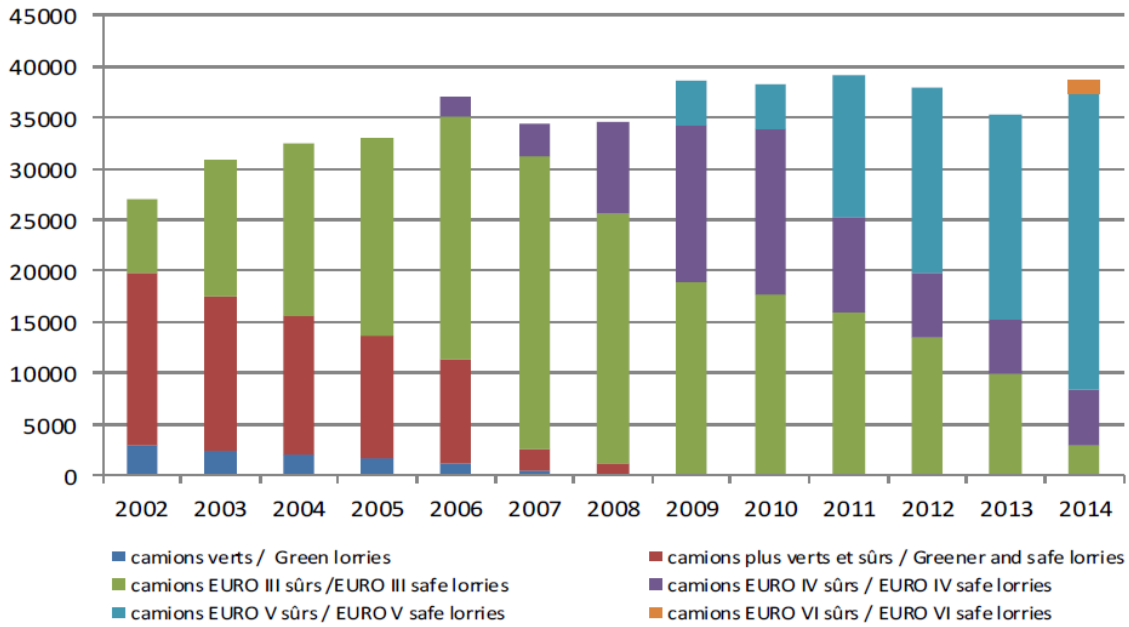
Table D.1 Distribution of ECMT Multilateral annual licenses among all ECMT Member States as at 1st January 2014

ECMT Country	EURO3 Safe lorries	EURO4 Safe lorries	EURO5 Safe lorries	EURO6 Safe lorries	Total annual licenses
Albania	120	24	110	-	*254*
Armenia	150	24	60	12	*246*
Austria	-	-	96	-	*96*
Azerbaijan	160	180	100	-	*440*
Belarus	-	-	2,560	-	*2,560*
Belgium	80	150	150	-	*440*
Bosnia-Herzegovina	-	-	1,280	-	*1,280*
Bulgaria	60	-	1,160	-	*1,220*
Croatia	-	-	1,500	-	*1,500*
Czech Republic	144	492	140	-	*776*
Denmark	40	72	120	120	*352*
Estonia	118	138	540	-	*796*
Finland	100	120	100	60	*380*
France	80	240	300	-	*620*
Georgia	106	60	330	-	*496*
Germany	220	240	690	-	*1,150*
Greece	80	5	5	-	*90*
Hungary	108	90	700	-	*898*
Ireland	10	18	40	36	*104*
Italy	-	268	-	-	*268*
Latvia	70	240	570	-	*880*
Liechtenstein	-	6	10	12	*28*
Lithuania	150	132	650	-	*932*
Luxembourg	2		100	108	*210*
Macedonia	-	-	1,310	84	*1,394*
Malta	20	42	30	24	*116*
Moldova	20	42	30	24	*116*
Montenegro	-	-	560	-	*560*
Netherlands	50	120	200	240	*610*
Norway	24	72	110	120	*326*
Poland	120	600	1,410		*2,130*
Portugal	44	48	100	60	*252*
Romania	-	192	1,510	-	*1,702*
Russia	-	-	670	-	*670*
Serbia	-	-	1,790	-	*1,790*
Slovakia	-	600	500	-	*1,100*

ECMT Country	EURO3 Safe lorries	EURO4 Safe lorries	EURO5 Safe lorries	EURO6 Safe lorries	Total annual licenses
Slovenia	164	48	410	-	*622*
Spain	106	180	70	-	*356*
Sweden	60	150	120	120	*450*
Switzerland	18	60	150	180	*408*
Turkey	344	174	3,740	-	*4,258*
Ukraine	-	360	2,940	-	*3,300*
United Kingdom	20	60	50	60	*190*
Total	**2,768**	**5,271**	**28,041**	**1,296**	**37,376**

Source: Compilation by the authors based on ITF data

Figure D.1 ECMT licenses distribution incentivises the use of greener vehicles (licences by truck categories, 2002-2014)



Source: International Transport Forum, 2014

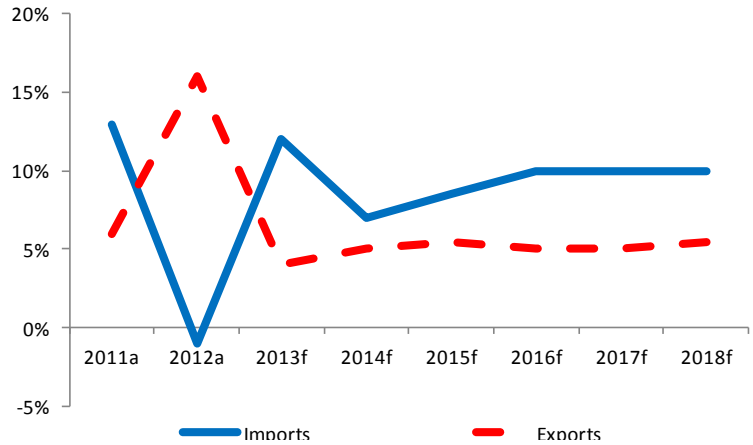
Appendix E. Data and figures related to Turkey market and EU Turkey trade

E.1 Trade and transport data

Turkey is aiming to reach its full potential as an international trading hub. Strategically positioned on a traditional and historic trade route between Asia and Europe, it has seen its foreign trade growing with all areas of the world in recent years. IMF projections suggest Turkish exports will grow on average more than 5% from 2013 to 2017, while import growth is expected to exceed 9.5% during the same period. Growth in Turkey's foreign trade is expected to drive continued expansion in its transportation and logistics industries.

Figure E.1 **Turkey's import growth is expected to outpace export expansion over the next 5 years**

Forecast growth of imports & exports, Turkey, 2011- 2018



Source: Investment Support and Promotion Agency of Turkey, IMF[58]

[58] Valuation of exports are based on free on board (FOB), valuation of imports are based on cost, insurance, freight (CIF). a: actual f: forecast

Table E.1 Main EU partners of Turkey (million Euro); all transport modes

Country name	EU's IMPORTS from Turkey					EU's EXPORTS to Turkey				
	2009	2010	2011	2012	2013	2009	2010	2011	2012	2013
EU 15 Countries										
AUSTRIA	578	624	756	779	799	863	1,076	1,248	1,270	1,319
BELGIUM	1,287	1,468	1,762	1,832	1,944	1,691	2,403	2,841	2,870	2,900
DENMARK	494	571	634	765	759	422	508	528	561	617
FINLAND	141	223	253	234	225	573	836	928	864	939
FRANCE	4,441	4,521	4,888	4,816	4,815	5,061	6,107	6,622	6,672	6,093
GERMANY	7,020	8,573	10,022	10,204	10,339	10,078	13,136	16,483	16,653	18,253
GREECE	1,168	1,084	1,114	1,091	1,083	809	1,149	1,832	2,750	3,170
IRELAND	211	254	255	269	285	587	655	602	658	626
ITALY	4,212	4,859	5,635	4,951	5,069	5,419	7,587	9,646	10,395	9,715
LUXEMBURG	14	19	39	40	40	57	86	117	113	103
NETHERLANDS	1,526	1,844	2,330	2,521	2,669	1,819	2,355	2,874	2,842	2,534
PORTUGAL	290	350	320	342	465	298	378	435	503	513
SPAIN	2,008	2,646	2,814	2,887	3,270	2,694	3,623	4,450	4,685	4,845
SWEDEN	534	707	850	921	867	1,364	1,441	1,647	1,658	1,543
UK	4,230	5,415	5,858	6,756	6,616	2,482	3,506	4,200	4,379	4,727
Sub-total EU 15	28,154	33,159	37,528	38,410	39,244	34,218	44,845	54,453	56,873	57,897
EU 13 Countries										
BULGARIA	991	1,120	1,164	1,311	1,487	795	1,274	1,777	2,147	2,084
CROATIA	0	0	0	0	152	0	0	0	0	146
CYPRUS[59]	1	0	1	3	1	0	0	1	0	0
CZECH REP.	349	520	637	611	583	734	993	1,263	1,560	1,979
ESTONIA	77	67	94	131	149	73	109	266	243	194
HUNGARY	318	330	366	402	493	700	1,035	1,074	919	927
LATVIA	47	49	84	99	114	37	53	93	125	130
LITHUANIA	109	156	197	214	303	59	89	106	171	134
MALTA	475	305	644	713	668	96	147	235	167	57
POLAND	943	1,124	1,264	1,441	1,555	1,296	1,960	2,514	2,376	2,401
ROMANIA	1,573	1,944	2,069	1,940	1,976	1,615	2,583	2,730	2,520	2,712
SLOVAKIA	155	342	289	304	329	580	693	642	678	841
SLOVENIA	426	271	443	426	504	178	218	250	243	230
Sub-total EU 13	5,464	6,229	7,252	7,597	8,314	6,162	9,155	10,950	11,150	11,835
TOTAL EU 28	**33,617**	**39,389**	**44,781**	**46,006**	**47,558**	**40,381**	**54,000**	**65,404**	**68,023**	**69,732**

Source: UND on TurkStat data

[59] SOUTHERN CYPRUS

Table E.2 International annual road freight transport; EU imports from Turkey ('000 tonnes)

REPORTING COUNTRY	2008	2009	2010	2011	2012	2013
EU 15 Countries						
AUSTRIA	340	325	335	333	296	258
BELGIUM	161	143	175	168	175	201
DENMARK	59	52	51	55	56	53
FINLAND	9	11	17	25	20	19
FRANCE	319	257	283	326	336	343
GERMANY	1,147	916	1,158	1,295	1,218	1,203
GREECE	482	455	328	303	285	255
IRELAND	20	2	1	1	1	3
ITALY	133	109	127	125	135	137
LUXEMBURG	12	3	4	7	8	7
NETHERLANDS	133	113	167	166	181	213
PORTUGAL	8	7	18	6	4	5
SPAIN	91	78	93	106	100	114
SWEDEN	34	32	53	53	71	60
UK	3	1	2	2	152	170
Sub-total EU 15	2,951	2,506	2,812	2,972	3,038	3,040
EU 13 Countries						
BULGARIA	709	1,062	926	895	905	936
CROATIA	No data available					
CYPRUS	0	0	0	0	0	0
CZECH REP.	108	87	114	136	138	144
ESTONIA	3	3	3	3	3	4
HUNGARY	124	98	113	109	109	133
LATVIA	7	7	10	10	9	9
LITHUANIA	13	11	10	12	14	14
MALTA	No data available					
POLAND	270	249	277	280	284	299
ROMANIA	881	637	731	724	659	645
SLOVAKIA	52	47	65	74	85	83
SLOVENIA	28	28	38	33	29	26
Sub-total EU 13	2,195	2,228	2,287	2,276	2,233	2,294
TOTAL EU 28	5,146	4,734	5,099	5,248	5,271	5,334

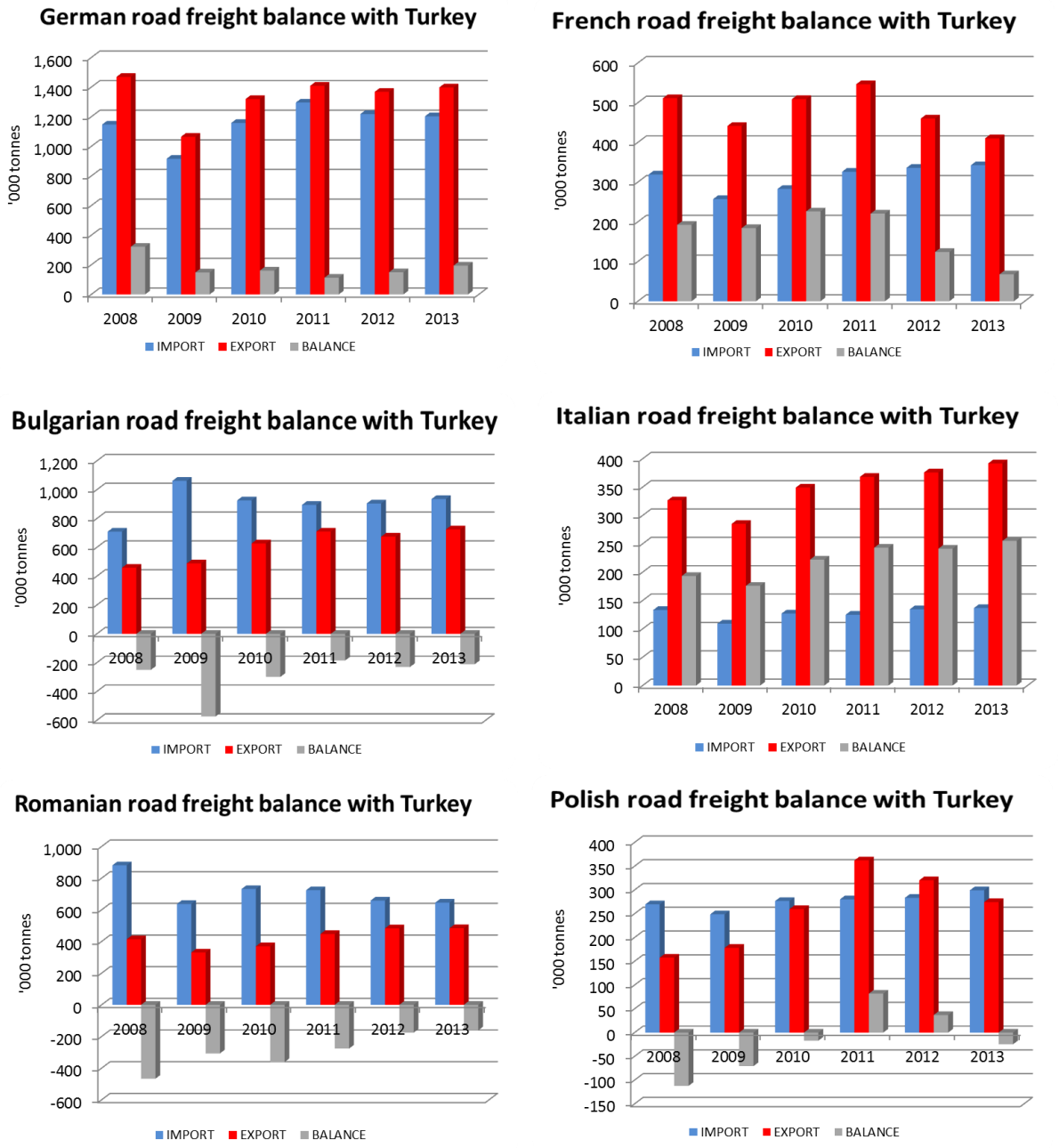
Source: EUROSTAT; EXTRA EU27 Trade by reporting country

Table E.3 International annual road freight transport; EU export to Turkey ('000 tonnes)

REPORTING COUNTRY	2008	2009	2010	2011	2012	2013
EU 15 Countries						
AUSTRIA	145	137	157	182	225	214
BELGIUM	335	299	355	379	353	334
DENMARK	21	18	22	24	22	25
FINLAND	14	12	26	17	20	17
FRANCE	511	441	509	547	460	410
GERMANY	1,469	1,065	1,319	1,409	1,368	1,398
GREECE	281	309	265	219	255	208
IRELAND	3	3	4	4	5	5
ITALY	327	285	349	368	376	392
LUXEMBURG	8	10	29	30	29	34
NETHERLANDS	263	254	335	303	299	358
PORTUGAL	5	3	3	5	5	6
SPAIN	110	90	109	118	125	132
SWEDEN	54	36	51	47	62	77
UK	15	9	3	3	86	95
Sub-total EU 15	3,562	2,972	3,537	3,654	3,689	3,705
EU 13 Countries						
BULGARIA	459	488	627	710	674	725
CROATIA	No data available					
CYPRUS	0	0	0	0	0	0
CZECH REP.	81	69	100	126	134	154
ESTONIA	0	1	3	4	2	1
HUNGARY	108	104	142	171	162	162
LATVIA	1	15	2	4	4	3
LITHUANIA	1	1	4	5	2	4
MALTA	No data available					
POLAND	158	178	260	362	320	275
ROMANIA	414	330	370	447	483	484
SLOVAKIA	48	54	81	76	93	97
SLOVENIA	41	46	63	57	51	51
Sub-total EU 13	1,312	1,288	1,653	1,963	1,926	1,956
TOTAL EU 28	4,873	4,261	5,190	5,617	5,614	5,661

Source: EUROSTAT; EXTRA EU27 Trade by reporting country

Figure E.2 **International road freight transport balance between Turkey and the main EU trading partners ('000 tonnes)**



Source: EUROSTAT; EXTRA EU27 Trade by reporting country

Table E.4 Empty entrance – empty exit by Turkish and foreign vehicles (border gates) to/from whole Europe, including transit traffic

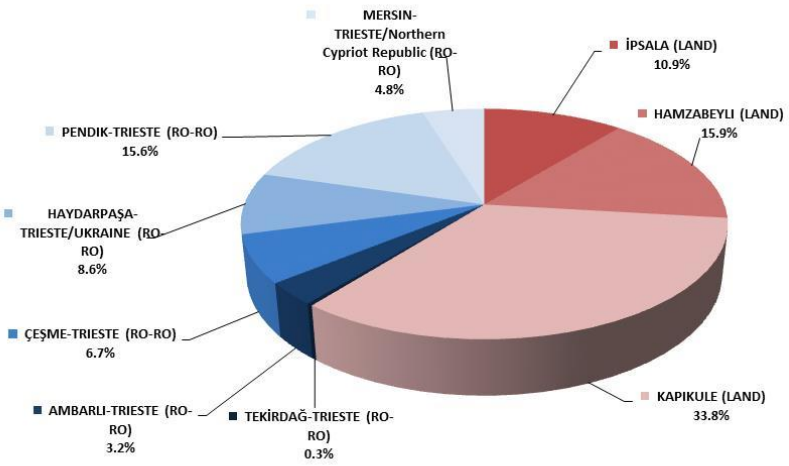
BORDER GATE	TURKISH & FOREIGN TRUCK	2012						2013					
		EXIT			ENTRY			EXIT			ENTRY		
		EMPTY	LOADED	Total	EMPTY	LOADED	Total	EMPTY	LOADED	Total	EMPTY	LOADED	Total
Land Border*	TURKISH	4,950	220,311	225,261	37,737	183,075	220,812	3,805	198,060	201,865	31,976	166,723	198.699
	FOREIGN	17,980	168,300	186,280	55,233	141,007	196,240	15,953	176,497	192,450	50,640	149,959	200.599
Land Border subtotal		22.930	388,611	411,541	92,970	324,082	417,052	19,758	374,557	394,315	82,616	316,682	399,298
Ro-Ro Border**	TURKISH	3,687	115,804	119,491	2,544	116,413	118,957	5,118	129,081	134,199	3,434	131,332	134.766
	FOREIGN	616	18,708	19,324	5,673	12,420	18,093	682	20,924	21,606	7,121	15,403	22.524
Ro-Ro Border subtotal		4.303	134,512	138,815	8,217	128,833	137,050	5,800	150,005	155,805	10,555	146,735	157,290
Total	TURKISH	8,637	336,115	344,752	40,281	299,488	339,769	8,923	327,141	336,064	35,410	298,055	333.465
	FOREIGN	18,596	187,008	205,604	60,906	153,427	214,333	16,635	197,421	214,056	57,761	165,362	223.123
Total		27.233	523,123	550,356	101,187	452,915	**554,102**	25,558	524,562	**550,120**	93,171	463,417	**556,588**

Source: UND data

* HAMZABEYLI, İPSALA, KAPIKULE
** AMBARLI, ÇEŞME, HAYDARPAŞA, PENDIK, İSKENDERUN, MERSİN

Figure E.3 Share of the Turkish hauliers' trips from Turkey to the EU by border crossing type (2013)
(ro-ro traffic is shown in shades of blue, land crossings in shade of red)

39% of the EU's import loaded trips from Turkey to Europe (also to non EU Member States) are made via ro-ro terminals (2013)

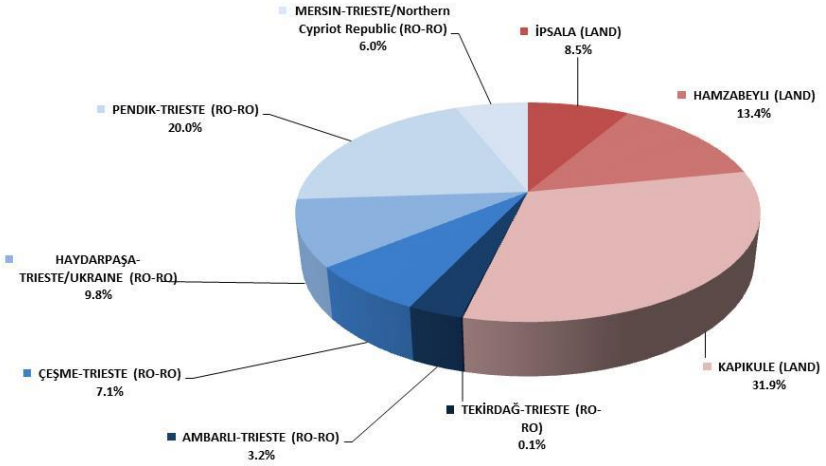


Border Gate	Trips (Imports to EU)
İPSALA (LAND)	35,528
HAMZABEYLI (LAND)	51,744
KAPIKULE (LAND)	109,960
TEKİRDAĞ-TRIESTE (RO-RO)	1,087
AMBARLI-TRIESTE (RO-RO)	10,235
ÇEŞME-TRIESTE (RO-RO)	21,778
HAYDARPAŞA-TRIESTE/UKRAINE (RO-RO)	28,066
PENDIK-TRIESTE (RO-RO)	50,794
MERSIN-TRIESTE/ Northern Cypriot Republic (RO-RO)	15,718
Total	**324,910**

Source: Authors' analysis of UND data (EU's Import loaded Trips to EU from Turkey by Turkish vehicles (by border gate))

Figure E.4 Share of the Turkish haulers' trips from the EU to Turkey by border crossing type (2013)

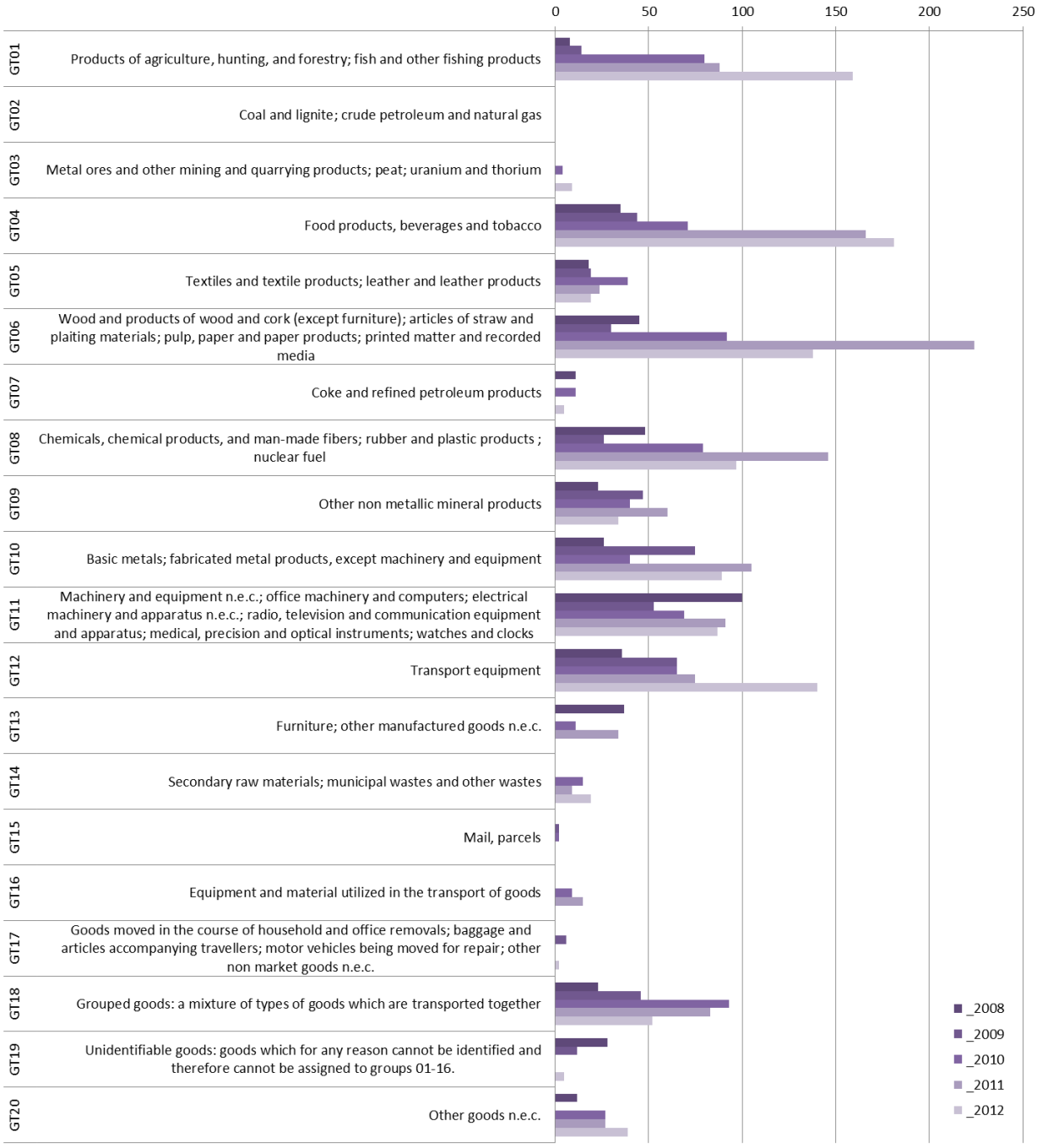
46% of the EU's export loaded trips from Europe (also from non EU Member States) to Turkey pass through ro-ro borders (2013)



Border Gate	Trips Exports from EU)
İPSALA (LAND)	24,588
HAMZABEYLI (LAND)	38,596
KAPIKULE (LAND)	92,164
TEKİRDAĞ-TRIESTE (RO-RO)	300
AMBARLI-TRIESTE (RO-RO)	9,292
ÇEŞME-TRIESTE (RO-RO)	20,454
HAYDARPAŞA-TRIESTE/UKRAINE (RO-RO)	28,271
PENDIK-TRIESTE (RO-RO)	57,918
MERSIN-TRIESTE/ Northern Cypriot Republic (RO-RO)	17,431
Total	**289,014**

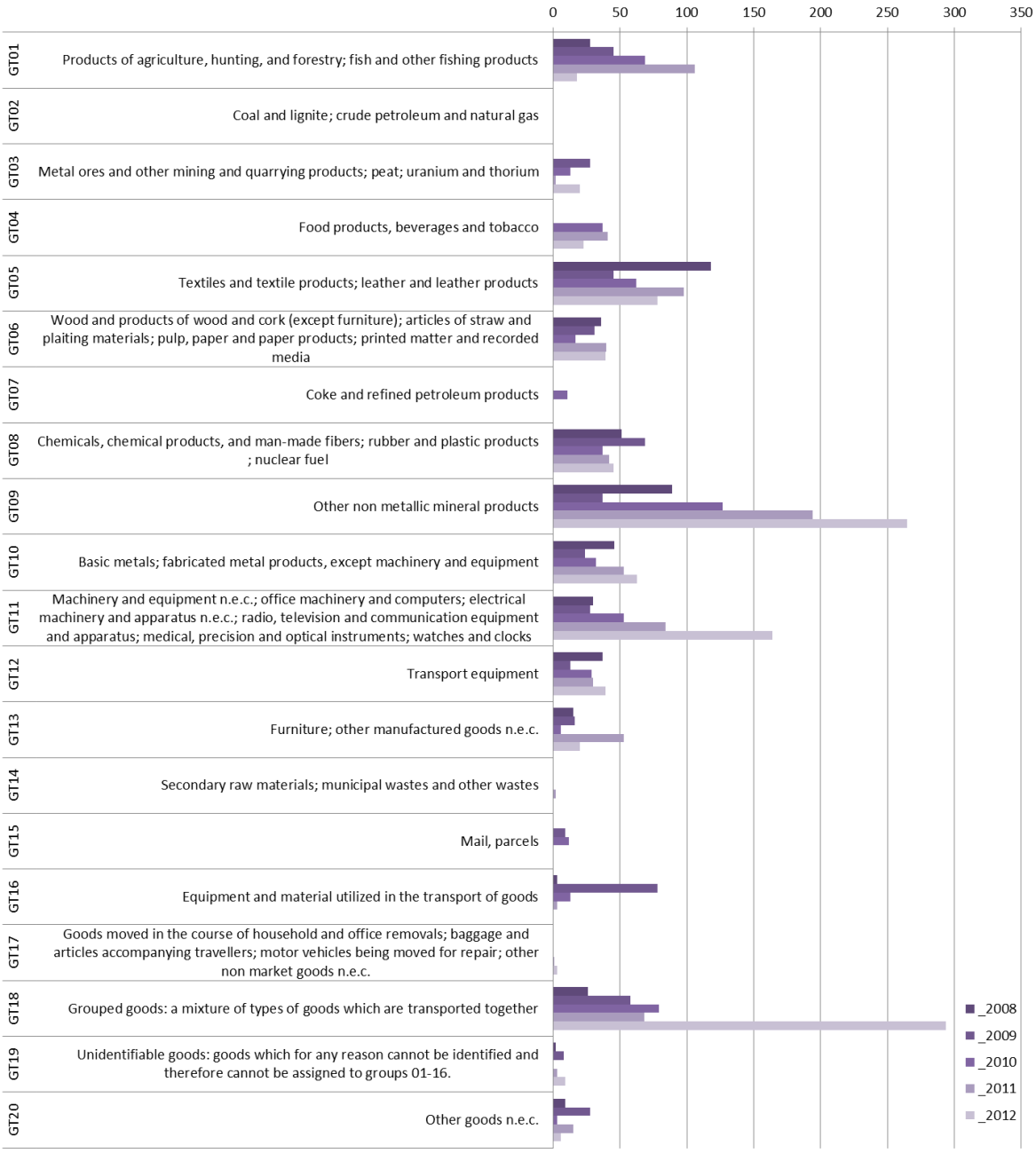
Source: Authors' analysis of UND data (EU's Export loaded Trips from EU to Turkey by Turkish vehicles (by border gate))

Figure E.5 International annual road freight transport - goods loaded in EU reporting country and unloaded in Turkey (by group of goods NST07; '000t)



Source: EUROSTAT

Figure E.6 International annual road freight transport - goods loaded in Turkey and unloaded in EU reporting country (by group of goods NST07; '000t)



Source: EUROSTAT

Table E.5 EU's Import loaded road trips from Turkey to European countries by Turkish Vehicles (2013), share of land and ro-ro trips

EU's IMPORT TRIPS BY ROAD FROM TURKEY to EU BY TURKISH VEHICLES in 2013				
COUNTRY OF DESTINATION	**WESTERN LAND TRIPS**	**WESTERN & SOUTHERN RO-RO TRIPS**	**TOTAL EU's Import 2013**	**Share Ro-Ro**
EU 15 Countries				
AUSTRIA	4,630	2,035	6,665	31%
BELGIUM	3,561	4,336	7,897	55%
DENMARK	1,767	299	2,066	14%
FINLAND	460	91	551	17%
FRANCE	8,764	18,992	27,756	68%
GERMANY	47,879	37,458	85,337	44%
GREECE	16,163	30	16,193	0%
IRELAND	118	45	163	28%
ITALY	8,190	32,294	40,484	80%
LUXEMBURG	118	201	319	63%
NETHERLANDS	7,697	2,918	10,615	27%
PORTUGAL	93	182	275	66%
SPAIN	3,365	7,120	10,485	68%
SWEDEN	3,411	1,308	4,719	28%
UK	8,489	8,497	16,986	50%
Sub-total EU 15	114,705	115,806	230,511	50%
EU 13 Countries				
BULGARIA	11,924	1	11,925	0%
CROATIA	1,352	39	1,391	3%
CYPRUS[60]	-	3,169	3,169	100%
CZECH REP.	2,810	496	3,306	15%
ESTONIA	101	8	109	7%
HUNGARY	3,329	263	3,592	7%
LATVIA	172	2	174	1%
LITHUANIA	528	21	549	4%
MALTA	No data available			
POLAND	7,437	1,733	9,170	19%
ROMANIA	23,797	3	23,800	0%
SLOVAKIA	1,866	320	2,186	15%
SLOVENIA	995	336	1,331	25%
Sub-total EU 13	54,311	6,391	60,702	11%
TOTAL EU 28	**169,016**	**122,197**	**291,213**	**42%**
Other European Countries				
ALBANIA	3,897	-	3,897	0%
BELARUS	1,964	259	2,223	12%
BOSNIA HERZEGOVINA	3,007	29	3,036	1%
KOSOVO	97	-	97	0%
LIECHTENSTEIN	3	5	8	63%
MACEDONIA	4,591	-	4,591	0%
MOLDAVIA	1,544	1	1,545	0%
MONTENEGRO	294	-	294	0%
NORWAY	677	178	855	21%
SERBIA	4,122	1	4,123	0%
SWITZERLAND	1,940	1,426	3,366	42%
UKRAINE	2,399	493	2,892	17%
Sub-total Other European Countries	24,535	2,392	26,927	9%
TOTAL Europe	193,551	124,589	318,140	39%

Source: UND data

[60] NORTHERN CYPRUS

Table E.6 EU's Export loaded road trips from European countries to Turkey by Turkish Vehicles (2013), share of land and ro-ro trips

EU's EXPORT TRIPS BY ROAD FROM EU TO TURKEY BY TURKISH VEHICLES IN 2013				
COUNTRY OF LOADING	**WESTERN LAND TRIPS**	**WESTERN RO-RO TRIPS**	**TOTAL EU's Export 2013**	**Share Ro-Ro**
EU 15 Countries				
AUSTRIA	4,343	955	5,298	18%
BELGIUM	2,256	2,594	4,850	53%
DENMARK	865	96	961	10%
FINLAND	477	55	532	10%
FRANCE	4,951	14,758	19,709	75%
GERMANY	63,341	44,136	107,477	41%
GREECE	11,382	30	11,412	0%
IRELAND	-	2	2	100%
ITALY	-	60,382	60,382	100%
LUXEMBURG	44	386	430	90%
NETHERLANDS	4,586	1,622	6,208	26%
PORTUGAL	87	143	230	62%
SPAIN	-	-	-	-
SWEDEN	2,319	143	2,462	6%
UK	3,231	2,849	6,080	47%
Sub-total EU 15	97,882	128,151	226,033	57%
EU 13 Countries				
BULGARIA	6,785	-	6,785	0%
CROATIA	513	7	520	1%
CYPRUS[61]	-	642	642	100%
CZECH REP.	2,552	94	2,646	4%
ESTONIA	40	18	58	31%
HUNGARY	4,857	46	4,903	1%
LATVIA	27	-	27	0%
LITHUANIA	173	8	181	4%
MALTA	No data available			
POLAND	9,076	368	9,444	4%
ROMANIA	19,379	2	19,381	0%
SLOVAKIA	3,965	17	3,982	0%
SLOVENIA	3,914	29	3,943	1%
Sub-total EU 13	51,281	1,231	52,512	2%
TOTAL EU 28	**149,163**	**129,382**	**278,545**	**46%**
Other European Countries				
ALBANIA	313	-	313	0%
BELARUS	464	291	755	39%
BOSNIA HERZEGOVINA	706	3	709	0%
KOSOVO	8	-	8	0%
LIECHTENSTEIN	2	-	2	0%
MACEDONIA	446	-	446	0%
MOLDAVIA	175	51	226	23%
MONTENEGRO	7	-	7	0%
NORWAY	521	13	534	2%
SERBIA	1,586	-	1,586	0%
SWITZERLAND	1,424	878	2,302	38%
UKRAINE	224	1,115	1,339	83%
Sub-total Other European Countries	5,876	2,351	8,227	29%
TOTAL Europe	155,039	131,733	286,772	46%

Source: UND data

[61] NORTHERN CYPRUS

Table E.7 Engine rating of the vehicles of the first nine companies listed as per ECMT license distribution criteria

COMPANY NAME	Fleet operating to Europe				
	EURO III	EURO IV	EURO V	EURO VI	TOTAL
OMSAN LOJİSTİK A.Ş.	268	35	194	-	497
NETLOG LOJİSTIK HİZMETLERİ A.Ş.	31	10	329	-	370
MARS LOJİSTİK ULUSL.TAŞ.DEP.DAĞ.VE TİC.A.Ş.	7	-	355	-	362
EKOL LOJİSTİK A.Ş.	2	-	291	-	293
EKOL LOJİSTİK LTD.ŞTİ.	-	-	292	-	292
BARSAN GLOBAL LOJİSTİK VE GÜMRÜK MÜŞAVİRLİĞİ ANONİM ŞİRKETİ	1	-	288	-	289
MERTUR OTOMOTİV VE TAŞIMACILIK ANONİM ŞİRKETİ	161	5	79	-	245
GÖK-BORA ULUSLARARASI NAKLİYAT VE TİCARET ANONİM ŞİRKETİ	50	8	157	-	215
EYÜP LOJİSTİK ULUSLARARASI KARA VE DENİZ NAKLİYATI TİCARET ANONİM ŞİRKETİ	2	2	208	-	212
Total	522	60	2,193	-	2,775
%	18.8%	2.2%	79.0%	0.0%	100.0%

Source: UND

The data above suggest that hauliers from EU12 countries would be cost competitive with Turkish operators, especially in bilateral trades (i.e. eastern EU country-Turkey). Activities related to cross-trades are less likely to involve Turkish operators given that such activities are likely to be related to the principle of “free movement of workers” which accordingly only involves hauliers of the EU Member States.

A complete analysis of the trends of these variables over the last year cannot be done due to lack of comprehensive time series. The EU market has, however, seen some specific changes that can be observed in:

- faster growth of international road market operated by Eastern countries hauliers;
- increase of the number of road transport companies established in the EU12 countries, (many are subsidiaries of holding companies based in EU15);
- intangible changes in road freight market concentration (measured e.g. through changes in average dimension of companies and market shares held by bigger operators).

Table E.8 Number of loaded trips made by Turkish vehicles from Turkey to each EU destination country

Destination Country	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Change
EU 15 Countries											
AUSTRIA	6,073	7,168	7,500	7,757	7,635	6,404	6,267	6,927	6,901	6,668	-3.4%
BELGIUM	5,881	4,807	6,024	7,168	7,526	6,542	7,194	8,280	8,085	7,895	-2.4%
DENMARK	1,282	1,673	2,200	2,276	2,630	2,129	2,182	1,891	2,272	2,064	-9.2%
FINLAND	179	353	328	508	636	827	732	606	578	551	-4.7%
FRANCE	18,421	19,405	22,556	25,731	24,833	21,584	27,869	28,633	28,079	27,753	-1.2%
GERMANY	61,285	63,970	70,651	81,152	81,660	68,825	80,684	90,104	87,845	85,313	-2.9%
GREECE	19,974	23,568	26,200	28,403	31,113	27,490	20,406	18,846	16,976	16,184	-4.7%
IRELAND	341	364	212	345	290	300	194	206	153	163	6.5%
ITALY	30,492	37,599	37,184	37,743	36,053	29,414	34,628	36,004	37,699	40,473	7.4%
LUXEMBURG	241	363	316	139	671	225	205	328	370	319	-13.8%
NETHERLANDS	8,395	8,609	9,181	11,222	10,761	9,197	10,750	10,967	12,006	10,610	-11.6%
PORTUGAL	107	135	142	281	380	258	263	183	183	275	50.3%
SPAIN	3,843	4,452	5,546	7,374	6,955	5,829	7,574	7,135	8,143	10,485	28.8%
SWEDEN	2,210	2,513	2,748	3,506	3,384	2,780	3,675	4,394	4,644	4,721	1.7%
UK	17,469	17,988	20,157	23,862	18,375	14,068	16,208	15,742	17,060	16,981	-0.5%
Sub-total EU 15	176,193	192,967	210,945	237,467	232,902	195,872	218,831	230,246	230,994	230,455	-0.2%
EU 13 Countries											
BULGARIA	13,529	18,451	19,153	25,068	28,079	25,094	14,972	10,898	12,317	11,926	-3.2%
CROATIA	2,546	2,754	3,548	3,938	3,703	2,480	1,707	1,538	1,686	1,391	-17.5%
CYPRUS[62]	0	0	0	4,119	4,978	3,833	4,750	3,114	3,558	3,169	-10.9%
CZECH REP.	1,026	1,452	1,594	2,645	3,364	2,727	3,206	3,849	3,688	3,305	-10.4%
ESTONIA	5	2	24	46	117	28	55	28	69	109	58.0%
HUNGARY	4,612	5,389	5,641	6,334	5,869	4,535	4,265	3,765	3,209	3,589	11.8%
LATVIA	3	25	98	118	74	94	115	155	168	173	3.0%
LITHUANIA	126	131	224	291	284	170	140	253	456	553	21.3%
MALTA	No data available										
POLAND	5,267	5,563	7,235	10,973	9,586	8,487	8,920	8,684	9,804	9,180	-6.4%
ROMANIA	25,391	33,609	35,868	53,294	49,348	32,279	35,585	31,263	28,116	23,792	-15.4%
SLOVAKIA	400	710	837	1,769	1,686	1,749	2,522	2,083	1,985	2,186	10.1%
SLOVENIA	1,090	1,087	1,137	1,557	1,353	1,199	1,623	1,458	1,598	1,331	-16.7%
Sub-total EU 13	53,995	69,173	75,359	110,152	108,441	82,675	77,860	67,088	66,654	60,704	-8.9%
Sub-total EU 28	**230,188**	**262,140**	**286,304**	**347,619**	**341,343**	**278,547**	**296,691**	**297,334**	**297,648**	**291,159**	**-2.2%**
Other European Countries											
ALBANIA	3,192	3,733	3,326	4,658	4,864	4,559	3,828	3,854	3,909	3,895	-0.4%
BELARUS	95	234	318	507	590	673	1,184	1,513	2,043	2,344	14.7%
BOSNIA HERZEGOVINA	176	694	405	331	176	170	3,156	3,384	3,139	3,034	-3.3%
KOSOVO	0	0	0	0	329	86	120	86	108	97	-10.2%
LIECHTENSTEIN	0	0	0	0	15	22	9	4	8	8	0.0%
MACEDONIA	5,043	4,640	4,625	5,891	6,728	6,674	6,080	5,412	5,029	4,589	-8.7%
MOLDAVIA	1,232	1,489	1,855	2,765	3,312	1,648	1,773	1,778	1,575	1,548	-1.7%
MONTENEGRO	0	0	0	51	417	348	368	411	396	294	-25.8%
NORWAY	327	360	470	530	570	545	744	681	789	855	8.4%
SERBIA	5,398	5,668	6,571	9,199	7,956	5,862	3,858	3,582	3,729	4,122	10.5%
SWITZERLAND	2,151	1,955	2,207	2,585	2,575	3,065	3,336	3,445	3,511	3,366	-4.1%
UKRAINE	1,761	2,894	3,064	3,678	6,192	4,704	4,976	5,404	5,421	5,159	-4.8%
Sub-total Other European Countries	19,375	21,667	22,841	30,195	33,724	28,356	29,432	29,554	29,657	29,311	-1.2%
TOTAL	249,563	283,807	309,145	377,814	375,067	306,903	326,123	326,888	327,305	320,470	-2.1%

Source: UND data

[62] NORTHERN CYPRUS

Table E.9 Number of loaded trips made by foreign vehicles from Turkey to each EU destination country

Destination Country	2010	2011	2012	2013	Change
EU 15 Countries					
AUSTRIA	2,741	2,575	2,507	2,478	-1.2%
BELGIUM	2,038	1,573	1,771	1,493	-15.7%
DENMARK	946	1,126	874	976	11.7%
FINLAND	425	736	383	375	-2.1%
FRANCE	4,560	5,069	6,450	6,106	-5.3%
GERMANY	12,443	12,098	10,589	13,131	24.0%
GREECE	1,127	1,344	1,155	1,093	-5.4%
IRELAND	149	50	118	42	-64.4%
ITALY	2,928	3,052	2,982	3,349	12.3%
LUXEMBURG	3	18	6	22	266.7%
NETHERLANDS	1,933	1,796	1,861	1,948	4.7%
PORTUGAL	167	169	269	245	-8.9%
SPAIN	2,668	2,473	2,730	2,068	-24.2%
SWEDEN	307	322	315	473	50.2%
UK	2,219	1,643	1,634	1,631	-0.2%
Sub-total EU 15	34,654	34,044	33,644	35,430	5.3%
EU 13 Countries					
BULGARIA	43,037	49,667	46,003	44,915	-2.4%
CROATIA	1,191	1,047	1,099	1,074	-2.3%
CYPRUS[63]	12,728	14,973	15,737	16,305	3.6%
CZECH REP.	3,611	4,198	5,178	5,423	4.7%
ESTONIA	237	336	542	785	44.8%
HUNGARY	2,949	3,848	4,305	4,718	9.6%
LATVIA	410	341	393	512	30.3%
LITHUANIA	1,297	1,277	1,535	1,426	-7.1%
MALTA	No data available				
POLAND	8,324	10,091	9,742	10,167	4.4%
ROMANIA	15,021	17,241	16,422	19,903	21.2%
SLOVAKIA	2,448	2,717	3,121	3,075	-1.5%
SLOVENIA	390	431	302	375	24.2%
Sub-total EU 13	91,643	106,167	104,379	108,678	4.1%
Sub-total EU 28	**126,297**	**140,211**	**138,023**	**144,108**	**4.4%**
Other European Countries					
ALBANIA	560	651	813	1,024	26.0%
BELARUS	1,427	1,095	1,371	1,857	35.4%
BOSNIA HERZEGOVINA	1,473	1,696	2,145	2,483	15.8%
KOSOVO	58	62	119	177	48.7%
LIECHTENSTEIN	0	0	2	5	150.0%
MACEDONIA	7,936	6,666	7,114	7,427	4.4%
MOLDAVIA	2,371	5,594	6,172	6,079	-1.5%
MONTENEGRO	264	151	242	243	0.4%
NORWAY	27	52	80	96	20.0%
SERBIA	3,074	3,476	4,307	4,691	8.9%
SWITZERLAND	400	562	482	598	24.1%
UKRAINE	6,434	10,393	12,460	13,332	7.0%
Sub-total Other European Countries	24,024	30,398	35,307	38,012	7.7%
TOTAL	150,321	170,609	173,330	182,120	5.1%

Source: UND data

[63] NORTHERN CYPRUS

Table E.10 Market share of foreign and Turkish vehicles in import trips from Turkey's western border to the EU, by destination country

Destination Country	2010		2011		2012		2013	
EU 15 Countries	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles
AUSTRIA	30.4%	69.6%	27.1%	72.9%	26.6%	73.4%	27.1%	72.9%
BELGIUM	22.1%	77.9%	16.0%	84.0%	18.0%	82.0%	15.9%	84.1%
DENMARK	30.2%	69.8%	37.3%	62.7%	27.8%	72.2%	32.1%	67.9%
FINLAND	36.7%	63.3%	54.8%	45.2%	39.9%	60.1%	40.5%	59.5%
FRANCE	14.1%	85.9%	15.0%	85.0%	18.7%	81.3%	18.0%	82.0%
GERMANY	13.4%	86.6%	11.8%	88.2%	10.8%	89.2%	13.3%	86.7%
GREECE	5.2%	94.8%	6.7%	93.3%	6.4%	93.6%	6.3%	93.7%
IRELAND	43.4%	56.6%	19.5%	80.5%	43.5%	56.5%	20.5%	79.5%
ITALY	7.8%	92.2%	7.8%	92.2%	7.3%	92.7%	7.6%	92.4%
LUXEMBURG	1.4%	98.6%	5.2%	94.8%	1.6%	98.4%	6.5%	93.5%
NETHERLANDS	15.2%	84.8%	14.1%	85.9%	13.4%	86.6%	15.5%	84.5%
PORTUGAL	38.8%	61.2%	48.0%	52.0%	59.5%	40.5%	47.1%	52.9%
SPAIN	26.0%	74.0%	25.7%	74.3%	25.1%	74.9%	16.5%	83.5%
SWEDEN	7.7%	92.3%	6.8%	93.2%	6.4%	93.6%	9.1%	90.9%
UK	12.0%	88.0%	9.5%	90.5%	8.7%	91.3%	8.8%	91.2%
Sub-total EU 15	13.7%	86.3%	12.9%	87.1%	12.7%	87.3%	13.3%	86.7%
EU 13 Countries								
BULGARIA	74.2%	25.8%	82.0%	18.0%	78.9%	21.1%	79.0%	21.0%
CROATIA	41.1%	58.9%	40.5%	59.5%	39.5%	60.5%	43.6%	56.4%
CYPRUS[64]	72.8%	27.2%	82.8%	17.2%	81.6%	18.4%	83.7%	16.3%
CZECH REP.	53.0%	47.0%	52.2%	47.8%	58.4%	41.6%	62.1%	37.9%
ESTONIA	81.2%	18.8%	92.3%	7.7%	88.7%	11.3%	87.8%	12.2%
HUNGARY	40.9%	59.1%	50.5%	49.5%	57.3%	42.7%	56.8%	43.2%
LATVIA	78.1%	21.9%	68.8%	31.3%	70.1%	29.9%	74.7%	25.3%
LITHUANIA	90.3%	9.7%	83.5%	16.5%	77.1%	22.9%	72.1%	27.9%
MALTA	No data available							
POLAND	48.3%	51.7%	53.7%	46.3%	49.8%	50.2%	52.6%	47.4%
ROMANIA	29.7%	70.3%	35.5%	64.5%	36.9%	63.1%	45.5%	54.5%
SLOVAKIA	49.3%	50.7%	56.6%	43.4%	61.1%	38.9%	58.4%	41.6%
SLOVENIA	19.4%	80.6%	22.8%	77.2%	15.9%	84.1%	22.0%	78.0%
Sub-total EU 13	54.1%	45.9%	61.3%	38.7%	61.0%	39.0%	64.2%	35.8%
Sub-total EU 28	**29.9%**	**70.1%**	**32.0%**	**68.0%**	**31.7%**	**68.3%**	**33.1%**	**66.9%**
Other European Countries								
ALBANIA	12.8%	87.2%	14.5%	85.5%	17.2%	82.8%	20.8%	79.2%
BELARUS	54.7%	45.3%	42.0%	58.0%	40.2%	59.8%	44.2%	55.8%
BOSNIA HERZEGOVINA	31.8%	68.2%	33.4%	66.6%	40.6%	59.4%	45.0%	55.0%
KOSOVO	32.6%	67.4%	41.9%	58.1%	52.4%	47.6%	64.6%	35.4%
LIECHTENSTEIN	0.0%	100.0%	0.0%	100.0%	20.0%	80.0%	38.5%	61.5%
MACEDONIA	56.6%	43.4%	55.2%	44.8%	58.6%	41.4%	61.8%	38.2%
MOLDAVIA	57.2%	42.8%	75.9%	24.1%	79.7%	20.3%	79.7%	20.3%
MONTENEGRO	41.8%	58.2%	26.9%	73.1%	37.9%	62.1%	45.3%	54.7%
NORWAY	3.5%	96.5%	7.1%	92.9%	9.2%	90.8%	10.1%	89.9%
SERBIA	44.3%	55.7%	49.2%	50.8%	53.6%	46.4%	53.2%	46.8%
SWITZERLAND	10.7%	89.3%	14.0%	86.0%	12.1%	87.9%	15.1%	84.9%
UKRAINE	56.4%	43.6%	65.8%	34.2%	69.7%	30.3%	72.1%	27.9%
Sub-total Other European Countries	44.9%	55.1%	50.7%	49.3%	54.3%	45.7%	56.5%	43.5%
TOTAL	31.6%	68.4%	34.3%	65.7%	34.6%	65.4%	36.2%	63.8%

Source: TRT elaboration on UND data (Number of EU's import loaded trips made by Turkish/Foreign vehicles from Turkey to each EU destination country)

[64] NORTHERN CYPRUS

Table E.11 Number loaded trips made by Turkish vehicles from each EU origin country to Turkey

COUNTRY OF LOADING	2010	2011	2012	2013	CHANGE
EU 15 Countries					
AUSTRIA	5,248	5,641	6,301	4,361	**-31%**
BELGIUM	4,068	4,117	3,981	4,561	**15%**
DENMARK	730	942	939	886	**-6%**
FINLAND	567	502	471	489	**4%**
FRANCE	22,381	20,439	20,317	18,351	**-10%**
GERMANY	84,615	95,521	95,256	99,062	**4%**
GREECE	14,484	11,543	11,985	11,164	**-7%**
IRELAND	85	28	21	52	**148%**
ITALY	46,514	49,736	52,709	57,980	**10%**
LUXEMBURG	4	275	177	417	**136%**
NETHERLANDS	3,571	4,315	4,215	5,546	**32%**
PORTUGAL	43	106	95	227	**139%**
SPAIN	6,522	5,949	5,345	6,673	**25%**
SWEDEN	2,891	2,927	2,506	2,308	**-8%**
UK	6,917	7,455	6,023	5,405	**-10%**
Sub-total EU 15	198,640	209,496	210,341	217,482	**3%**
EU 13 Countries					
BULGARIA	7,120	5,984	6,823	6,469	**-5%**
CROATIA	1,021	451	382	483	**26%**
CYPRUS[65]	1,846	532	666	544	**-18%**
CZECH REP.	2,190	2,468	1,789	2,151	**20%**
ESTONIA	17	15	27	47	**74%**
HUNGARY	5,365	4,848	4,656	4,545	**-2%**
LATVIA	1	11	22	26	**18%**
LITHUANIA	97	79	120	180	**50%**
MALTA	No data available				
POLAND	7,851	9,505	11,400	9,021	**-21%**
ROMANIA	17,471	22,489	22,870	18,884	**-17%**
SLOVAKIA	3,866	3,695	3,483	3,714	**7%**
SLOVENIA	3,266	4,275	4,746	3,754	**-21%**
Sub-total EU 13	50,111	54,352	56,984	49,818	**-13%**
Sub-total EU 28	**248,751**	**263,848**	**267,325**	**267,300**	**0%**
Other European Countries					
ALBANIA	359	281	337	310	**-8%**
BELARUS	493	465	635	907	**43%**
BOSNIA HERZEGOVINA	744	603	732	671	**-8%**
KOSOVO	0	1	4	8	**100%**
LIECHTENSTEIN	0	0	0	1	**-**
MACEDONIA	1,059	730	391	423	**8%**
MOLDAVIA	340	239	289	173	**-40%**
MONTENEGRO	22	20	3	7	**133%**
NORWAY	302	362	439	522	**19%**
SERBIA	1,444	1,293	1,202	1,445	**20%**
SWITZERLAND	1,691	2,196	2,112	2,034	**-4%**
UKRAINE	1,725	2,853	2,820	5,807	**106%**
Sub-total Other European Countries	8,179	9,043	8,964	12,308	**37%**
TOTAL	256,930	272,891	276,289	279,608	**1%**

Source: UND data

[65] NORTHERN CYPRUS

Table E.12 Number of loaded trips made by foreign vehicles from each EU origin country to Turkey

COUNTRY OF Merchandise	2010	2011	2012	2013	CHANGE
EU 15 Countries					
AUSTRIA	4,334	5,205	3,410	3,350	**-2%**
BELGIUM	1,065	1,047	936	1,069	**14%**
DENMARK	262	236	247	355	**44%**
FINLAND	636	314	467	418	**-10%**
FRANCE	2,917	4,471	3,811	4,161	**9%**
GERMANY	10,887	13,166	10,294	14,495	**41%**
GREECE	391	986	654	670	**2%**
IRELAND	147	45	12	49	**308%**
ITALY	3,975	4,977	4,716	5,046	**7%**
LUXEMBURG	4	23	24	103	**329%**
NETHERLANDS	2,145	1,934	1,912	2,567	**34%**
PORTUGAL	6	5	56	35	**-38%**
SPAIN	1,430	1,911	1,711	1,171	**-32%**
SWEDEN	252	339	327	514	**57%**
UK	666	569	518	651	**26%**
Sub-total EU 15	29,117	35,228	29,095	34,654	**19%**
EU 13 Countries					
BULGARIA	34,164	38,843	36,098	35,598	**-1%**
CROATIA	188	447	229	340	**48%**
CYPRUS	No data available				
CZECH REP.	2,964	3,261	3,915	4,867	**24%**
ESTONIA	82	154	99	31	**-69%**
HUNGARY	5,594	8,362	9,084	8,655	**-5%**
LATVIA	28	77	73	85	**16%**
LITHUANIA	320	437	181	184	**2%**
MALTA	No data available				
POLAND	9,078	12,226	10,523	9,679	**-8%**
ROMANIA	9,930	13,741	15,226	18,747	**23%**
SLOVAKIA	4,094	3,586	4,781	4,082	**-15%**
SLOVENIA	994	1,440	1,422	1,904	**34%**
Sub-total EU 13	67,436	82,574	81,631	84,172	**3%**
Sub-total EU 28	**96,553**	**117,802**	**110,726**	**118,826**	**7%**
Other European Countries					
ALBANIA	21	34	53	95	**79%**
BELARUS	651	769	1,138	1,299	**14%**
BOSNIA HERZEGOVINA	94	139	235	477	**103%**
KOSOVO	4	0	5	1	**-80%**
LIECHTENSTEIN	0	0	0	9	-
MACEDONIA	2,759	2,763	2,927	3,158	**8%**
MOLDAVIA	1,232	1,209	910	1,905	**109%**
MONTENEGRO	10	2	21	13	**-38%**
NORWAY	38	36	38	33	**-13%**
SERBIA	1,266	1,856	2,390	2,745	**15%**
SWITZERLAND	358	401	319	515	**61%**
UKRAINE	5,233	5,352	6,329	7,572	**20%**
Sub-total Other European Countries	11,666	12,561	14,365	17,822	**24%**
TOTAL	108,219	130,363	125,091	136,648	**9%**

Source: UND data

Table E.13 Market shares of foreign and Turkish vehicles in exports from the EU to Turkey (western border) by EU country of origin

Origin Country	2010		2011		2012		2013	
EU 15 Countries	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles	Foreign Vehicles	Turkish Vehicles
AUSTRIA	45.2%	54.8%	48.0%	52.0%	35.1%	64.9%	43.4%	56.6%
BELGIUM	20.7%	79.3%	20.3%	79.7%	19.0%	81.0%	19.0%	81.0%
DENMARK	26.4%	73.6%	20.0%	80.0%	20.8%	79.2%	28.6%	71.4%
FINLAND	52.9%	47.1%	38.5%	61.5%	49.8%	50.2%	46.1%	53.9%
FRANCE	11.5%	88.5%	17.9%	82.1%	15.8%	84.2%	18.5%	81.5%
GERMANY	11.4%	88.6%	12.1%	87.9%	9.8%	90.2%	12.8%	87.2%
GREECE	2.6%	97.4%	7.9%	92.1%	5.2%	94.8%	5.7%	94.3%
IRELAND	63.4%	36.6%	61.6%	38.4%	36.4%	63.6%	48.5%	51.5%
ITALY	7.9%	92.1%	9.1%	90.9%	8.2%	91.8%	8.0%	92.0%
LUXEMBURG	50.0%	50.0%	7.7%	92.3%	11.9%	88.1%	19.8%	80.2%
NETHERLANDS	37.5%	62.5%	30.9%	69.1%	31.2%	68.8%	31.6%	68.4%
PORTUGAL	12.2%	87.8%	4.5%	95.5%	37.1%	62.9%	13.4%	86.6%
SPAIN	18.0%	82.0%	24.3%	75.7%	24.2%	75.8%	14.9%	85.1%
SWEDEN	8.0%	92.0%	10.4%	89.6%	11.5%	88.5%	18.2%	81.8%
UK	8.8%	91.2%	7.1%	92.9%	7.9%	92.1%	10.7%	89.3%
Sub-total EU 15	12.8%	87.2%	14.4%	85.6%	12.2%	87.8%	13.7%	86.3%
EU 13 Countries								
BULGARIA	82.8%	17.2%	86.7%	13.3%	84.1%	15.9%	84.6%	15.4%
CROATIA	15.6%	84.4%	49.8%	50.2%	37.5%	62.5%	41.3%	58.7%
CYPRUS[66]	No data available							
CZECH REP.	57.5%	42.5%	56.9%	43.1%	68.6%	31.4%	69.4%	30.6%
ESTONIA	82.8%	17.2%	91.1%	8.9%	78.6%	21.4%	39.7%	60.3%
HUNGARY	51.0%	49.0%	63.3%	36.7%	66.1%	33.9%	65.6%	34.4%
LATVIA	96.6%	3.4%	87.5%	12.5%	76.8%	23.2%	76.6%	23.4%
LITHUANIA	76.7%	23.3%	84.7%	15.3%	60.1%	39.9%	50.5%	49.5%
MALTA	No data available							
POLAND	53.6%	46.4%	56.3%	43.7%	48.0%	52.0%	51.8%	48.2%
ROMANIA	36.2%	63.8%	37.9%	62.1%	40.0%	60.0%	49.8%	50.2%
SLOVAKIA	51.4%	48.6%	49.3%	50.7%	57.9%	42.1%	52.4%	47.6%
SLOVENIA	23.3%	76.7%	25.2%	74.8%	23.1%	76.9%	33.7%	66.3%
Sub-total EU 13	57.4%	42.6%	60.3%	39.7%	58.9%	41.1%	62.8%	37.2%
Sub-total EU 28	**28.0%**	**72.0%**	**30.9%**	**69.1%**	**29.3%**	**70.7%**	**30.8%**	**69.2%**
Other European Countries								
ALBANIA	5.5%	94.5%	10.8%	89.2%	13.6%	86.4%	23.5%	76.5%
BELARUS	56.9%	43.1%	62.3%	37.7%	64.2%	35.8%	58.9%	41.1%
BOSNIA HERZEGOVINA	11.2%	88.8%	18.7%	81.3%	24.3%	75.7%	41.6%	58.4%
KOSOVO	100.0%	0.0%	0.0%	100.0%	55.6%	44.4%	11.1%	88.9%
LIECHTENSTEIN	-	-	-	-	-	-	90.0%	10.0%
MACEDONIA	72.3%	27.7%	79.1%	20.9%	88.2%	11.8%	88.2%	11.8%
MOLDAVIA	78.4%	21.6%	83.5%	16.5%	75.9%	24.1%	91.7%	8.3%
MONTENEGRO	31.3%	68.8%	9.1%	90.9%	87.5%	12.5%	65.0%	35.0%
NORWAY	11.2%	88.8%	9.0%	91.0%	8.0%	92.0%	5.9%	94.1%
SERBIA	46.7%	53.3%	58.9%	41.1%	66.5%	33.5%	65.5%	34.5%
SWITZERLAND	17.5%	82.5%	15.4%	84.6%	13.1%	86.9%	20.2%	79.8%
UKRAINE	75.2%	24.8%	65.2%	34.8%	69.2%	30.8%	56.6%	43.4%
Sub-total Other European Countries	58.8%	41.2%	58.1%	41.9%	61.6%	38.4%	59.2%	40.8%
TOTAL	29.6%	70.4%	32.3%	67.7%	31.2%	68.8%	32.8%	67.2%

Source: TRT elaboration on UND data (Number of EU's export loaded trips made by Turkish/Foreign vehicles to Turkey from each origin country)

[66] NORTHERN CYPRUS

E.2 Turkish legislation and its alignment with the EU acquis

Access to the market and the profession

In the area of access to the market and the profession, theTurkish legislative framework is defined by: the Road Transport Law[67]; Road Transport Regulation[68]; and Regulation on Training for Professional Competence in Road Transport Operations. This legislation introduces:

- Conditions for admission to occupation and market access;
- A new licensing system/mechanism for transport operations;
- Rights, responsibilities and obligations for the carriers and transport undertakings as well as consumers/users;
- Rules regarding competition in the sector and rules for control and inspection;
- Rights, responsibilities and obligations of the personnel who work in transport sector;
- Rules and procedures for training and obtaining the Professional Competence Certificate;
- Rules and procedures for transport of dangerous goods by road.

Turkey has its own authorization system for road transport operators that is based on requirements that are consistent with Regulation (EC) No 1071/2009, but Turkish legislation is only partially harmonized with the EU *acquis*. Full harmonization to EU norms shall be considered in context of accession.

Social aspects of road transport activities

In Turkey three authorities have responsibilities in setting rules for driving and rest times, and their enforcement. These authorities are:

- the Ministry of Labour and Social Security (MoLSS), which is in charge of the definition of norms on working time and, therefore, on driving times and rest periods;
- the Ministry of Interior (Road Traffic Police), which is responsible for the enforcement of such rules; and
- the Ministry of Industry and Trade, which is responsible for establishing the technical specifications for recording equipment (tachographs).

Working time, driving times and rest periods are governed by three main pieces of legislation:

- **Labour Law[69]**. This law, which came into effect in 2003, regulates rights and obligations concerning working conditions and the work environment of employers and workers employed with a labour contract. Self-employed drivers are excluded from the scope of this law;
- **Law on Working Time**[70]. This law, enacted in 2004, describes the principles governing the application of working time. It defines working time as the period of time the employee spends at the workplace. As with the Labour Law, self-employed drivers are excluded from its scope;

[67] See previous note 29 on page 48.

[68] See previous note 30 on page 48.

[69] Labour Law No 4587 of 10 June 2003 (Official Gazette of the Republic of Turkey No 25134 of 10 June 2003).

[70] Law on Working Time (Official Gazette of the Republic of Turkey No 25425 of 6 April 2004).

- **Road Transport Regulation**[71]. Adopted in 2004, this law applies to all drivers (including self-employed) of vehicles that either carry goods for commercial purposes and whose weight limit exceeds 3.5 tonnes, or which transport passengers for commercial purposes and whose transport capacity exceed 9 persons, including the driver.

Turkey has also ratified (in 2003) the ILO Convention concerning Hours of Work and Rest Periods in Road Transport. It is a signatory to the AETR Agreement and in 2013 became party to Amendment Packages No. 4, 5 and 6 among the aims of which are monitoring of the implementation of the Agreement, the mandatory use of the digital tachograph and the improvement of road and traffic control safety. Once this process is completed, regulation of working and resting periods will be aligned with the EU, and Turkey will have remedied its deficiencies regarding inspection.

Driving time and rest periods are governed by national rules which are almost aligned to the AETR rules. Given that the AETR rules are strongly aligned with Regulation (EC) No 561/2006, it can be argued that the Turkish legislation approximates closely to the corresponding EU *acquis*, though studies on further harmonisation of the national legislation by Ministry of Labour and Social Security and are still continuing. Equally, it is also worth underlining that self-employed drivers are still excluded from the scope of the Labour Law cited above and, therefore, the regulatory setting in this domain cannot be considered aligned to the EU *acquis* under the provisions laid down in Directive 2002/15/EC. Table E.19 compares the Turkish, AETR and EU regulation of driving times and rest periods.

The Ministry of Transport, Maritime Affairs and Communications is the national authority responsible for the implementation of the digital tachograph in Turkey. Article 3-(1) of the *Takograf Cihazları Muayene Ve Damgalama Yönetmeliği* governs the transition from analogue to digital tachograph devices. In compliance with the AETR rules, and by enacting the By-law *on "Tachograph Devices used in International Road Transport*[72]", Turkey has made mandatory, since 1 January 2011, the fitting of digital tachograph for all commercial vehicles engaged in both international freight (goods vehicles with mass above 3.5 tonnes) and passenger (buses carrying more than nine people including the driver) transport operations. Turkey has then achieved its adaptation to the tachograph system by completing the required legal and structural harmonization and the system is now fully operational.

Statutory fitting of such devices for domestic operations applies from 30 June 2014 as required by the by-law on "Inspection and Sealing of Recording Equipment"[73] and the by-law on "Recording Equipment Workshop Services"[74] but, while newly registered vehicles will have to be equipped with a digital tachograph, older vehicles will be required to gradually equip digital tachographs within a five year period (until 2017).

[71] See previous note 30.

[72] By-law on "Tachograph Devices used in International Road Transport" (Official Gazette of the Republic of Turkey Jo 27587 of 21 May 2010).

[73] By-law on "Inspection and Sealing of Recording Equipment" (Official Gazette of the Republic of Turkey No 28171 of 12 January 2012.

[74] By-law on "Recording Equipment Workshop Services" (Official Gazette of the Republic of Turkey No 28204 of 14 February 2012).

Table E.14 Comparison between domestic, AETR and EU rules governing driving times and rest periods

Item	Domestic provision	AETR provision	EU provision
Daily driving time	Maximum 9 hours.	Maximum 9 hours. This may be extended to 10 hours not more than twice during the week.	Maximum 9 hours. This may be extended to 10 hours not more than twice during the week.
Daily rest	At least 11 hours of consecutive rest (regular daily rest period). This may be reduced to a minimum of 9 consecutive hours not more than 3 times in a week.	At least 11 hours of consecutive rest (regular daily rest period). This may be reduced to a minimum of 9 consecutive hours not more than 3 times in a week.	At least 11 hours of consecutive rest (regular daily rest period). This may be split into two periods of at least 3 and 9 uninterrupted hours respectively.
Weekly rest	24 hours.	45 consecutive hours. This may be reduced to a minimum of 36 consecutive hours if taken at the place where the vehicle or the driver is normally based, or to a minimum of 24 consecutive hours if taken elsewhere.	45 consecutive hours. This may be reduced to a minimum of 24 consecutive hours if compensated for by an equivalent period of rest taken in one block before the end of the third week following the week in question. The compensating rest must be attached to a period of rest of at least 9 hours.
Break	45 minutes after a driving period of 4.5 hours. This break may be replaced by breaks of at least 15 minutes each distributed over the driving period.	45 minutes after a driving period of 4.5 hours. This break may be replaced by breaks of at least 15 minutes each distributed over the driving period or immediately after this period.	45 minutes after a driving period of 4.5 hours. This break may be replaced by a break of at least 15 minutes followed by a break of at least 30 minutes each distributed over the driving period.

Source: Compiled by the authors based on Turkish legislation, AETR Agreement and Regulation (EC) No 561/2006

Driving licenses

On 22 January 2013 Turkey became a signatory party of the Vienna Convention on Road Traffic as well as of the European Agreement[75] supplementing this Convention. This Convention has been ratified by means of Law No. 6299 "*Ratifying Our Accession to the Convention on Road Traffic and the European Agreement Supplementing This Convention*"[76]. This required amendment of the Law on Road Transport No 2918 by adopting Law No 6495 "*Amending Certain Laws and Decree Laws*"[77], a change which harmonized driving licences issued in Turkey with those in EU and international recognition thereof. Studies are to identify procedures to ensure effective implementation of the new regulations are in progress.

[75] The European Agreement supplementing the Convention, which was concluded under UNECE auspices in 1971, is aimed at achieving greater uniformity in the rules governing road traffic in Europe. To this end, the European Agreement establishes road safety standards that are stricter than those of the Convention. It also makes obligatory provisions that are of recommendatory nature in the Convention.

[76] By-law No 6299 (Official Gazette of the Republic of Turkey No 28288 of 10 May 2012).

[77] By-law No 6495 (Official Gazette of the Republic of Turkey No 28726 of 2 August 2013).

Technical standards (maximum weights and dimensions of commercial vehicles)

Article 128 of the Road Transport Regulation and the Law on "*Procedures for Loading of Road vehicles*[78]" regulate the weight and dimensions of vehicles and vehicle combinations. Their provisions are fully aligned to Directive 96/53/EC, as also illustrated by the comparison between national and EU requirements as reported in Table E.20 and Table E.21.

Table E.15 Comparison between domestic and EU rules governing permissible maximum dimension (in metres)

Country	Height	Width	Length		
			Lorry on trailer	Road Train	Articulated vehicle
EU-28	4 m	2.55 m	12 m	18.75 m	16.5 m
Turkey	4 m	2.55 m	12 m	18.75 m	16.5 m

Source: Compiled by the authors based on Turkish legislation and EU Directive 96/53/EC

Table E.16 Comparison between domestic and EU rules governing permissible maximum weight of commercial vehicles (in tonnes)

Country	Weight per bearing axle	Weight per drive axle	Lorry 2 axles	Lorry 3 axles	Road-train 4 axles	Road-train 5 or more axles	Articulated vehicle 5 or more axles
EU-28	10	11.5	18	26	36	40	40
Turkey	10	11.5	18	25	32	40	40

Source: Compiled by the authors based on Turkish legislation and EU Directive 96/53/EC

The legal base is further complemented by alignment to the provisions of the UNECE International Convention on the Harmonization of Frontier Controls of Goods that Turkey ratified in 2006. Annex 8[79] ("*Facilitating border crossing procedures for international road transport*"), which entered into force in 2008, introduced a set of new measures aiming at simplifying and coordinating a large number of administrative procedures, including those dealing with:

- the technical control of road vehicles, by accepting the International Technical Inspection Certificate; and
- the acceptance of the International Vehicle Weight Certificate.

In 2012 a new circular[80] was issued for scrapping commercial vehicles manufactured before 1990. This circular resulted in the scrapping of 107,052 buses, trucks, oil tankers, tow trucks, minibuses and small trucks.

Technical standards (speed limitation devices)

The fitting of speed limitation devices has been made compulsory for certain types of vehicles following the adoption in January 2014 of an amendment[81] to the Law on Road Transport.

[78] By-law on "Procedures for Loading of Road Vehicles (Official Gazette of the Republic of Turkey No 28461 of 8 November 2011).

[79] The amendments to Annex 8 have been transposed into the EU *acquis* by means of Council Decision 2009/161/EC of 25 September 2008 Approving on behalf of the Community Annex 8 to the International Convention on the Harmonisation of Frontier Controls of Goods.

[80] Communiqué No. 66 on the Withdrawal of Certain Road Motor Vehicles from Traffic ((Official Journal of Turkey No 28470 of 17 November 2012).

Transport of dangerous goods

Turkey has been a contracting party of the European Agreement concerning the International Carriage of Dangerous Goods by Road (commonly known as the ADR Agreement) since 22 February 2010. Entering this agreement has made it possible for Turkey to overcome the main obstacle to alignment to the EU legislation in this field.

The provisions set by the ADR Agreement were transposed into the national legislation by the adoption in 2007 of the By-law on "*Carriage of Dangerous Goods by Road*", later replaced on 1 January 2014 by a new law[82] that defines an updated regulatory framework for the carriage of dangerous goods by road. Also procedures and principles governing the liability, obligations and labour conditions of the parties involved in the carriage of dangerous goods are provided.

However, as noted by the latest EC progress report for Turkey (EC, 2013), dangerous goods transport remains an area of concern in the light of the insufficient number of competent staff in the newly established Directorate General for Dangerous Goods, despite a marked increase in the number of road checks.

[81] By-law amending the Law on Road Transport (Official Gazette of the Republic of Turkey No 28918 of 19 February 2014).

[82] By-law on "Carriage of Dangerous Goods by Road" (Official Gazette of the Republic of Turkey No 28801 of 24 October 2013.

Appendix F. Impact assessment methodology

In this section we describe the approach used to evaluate the liberalisation scenarios. We apply two key methodologies: (i) the econometric gravity model for the estimation of trade and transport flows and (ii) the input-output analysis which allows the study of economy-wide and sector-specific consequences of the liberalisation scenarios. In the following we describe both methods as well as the background of the baseline scenario.

F.1 Methods

Gravity equation estimation

The first step in the analysis is the estimation of transport flows in the absence of the current bilateral agreements on road transport, which pose an additional barrier to trade between Turkey and the EU Member States. This additional trade restriction (in addition to other key barriers, such as distance, waiting time at the border, tariffs) arises if the number of transport permits allocated to the hauliers is substantially less than the demand for road transport accompanying trade between the countries, but also if the process of obtaining permits is bureaucratic and imposes substantial time costs and direct monetary costs.

For the purpose of determining the theoretical trade flows in the absence of bilateral quotas we turn to the well-known approach of a gravity model. This approach is known to provide a very good fit to real world trade and transport data. At the core of the model is a view of trade between two countries as resulting from their mere "mass" in terms of economic activity (total supply of goods and total demand for goods). The larger the two countries, the larger will the trade flow between them be, all other factors left aside. Trade is facilitated by geographical and cultural proximity, and is suppressed by border barriers. The gravity model takes both types of effects into account by including distance as an explanatory variable, as well as including different types of factors determining the height of border barriers (common language, common land border, trade agreements and alike). More factors may be included in the model in order to reflect other specific features of trade between the countries.

In order to estimate the parameters of the gravity model for the liberalisation scenarios, the data for Turkey cannot be used since its trade has been subject to the constraints of the bilateral agreements. Rather, we need to select a country that is already integrated in the EU road freight market. After a preliminary analysis considering several alternatives, we selected to use data on Poland in order to estimate the parameters of the gravity relationship under the conditions of quota-free transport. The fact that Poland is an EU member, while Turkey is not, is an important difference. However, no large neighbouring country with liberalized transport relations (Switzerland, Norway) can be used as a good approximation for Turkey for the purposes of this analysis. Moreover, the customs union between Turkey and the EU improves the comparability of trade relations of Poland and Turkey with the EU.

For the projection of Turkey's trade under the liberalisation scenarios, the estimated gravity model is used with the data corresponding to Turkey (GDP, trade distances and bordering countries). An additional factor used for the estimation of Turkey's road exports in the liberalisation scenario is the population having Turkish roots per country. This is an important factor for Germany, Bulgaria, Netherlands, Austria, and France.

The regression model for Poland has the following form:

$$\log\left(Road\ Exports_{ij}\right) = \beta_1 log(GDP_i) + \beta_2 \log\left(GDP_j\right) + \beta_3 log\left(Distance_{ij}\right) + \beta_4 Port_j + \beta_5 Border_{ij} + \varepsilon_{ij},$$

where Poland (and later Turkey) is denoted with letter i and the partner country with j (for $j = 1,2,\cdots n$); ε_{ij} is the error term and contains all unknown explanatory factors. The distance taken is the weighted (regional GDPs as weights) least distance per road between countries, for most countries this is close to simple distance between capital cities. Additionally, we include two dummy variables which allow to

consider whether the trading partner has a large international sea port and whether the trading partners share a common border.

The data used for the gravity model are:

(i) countries' GDP: Eurostat, IMF;
(ii) transport flows from Poland: Eurostat (International annual road freight transport - goods loaded in reporting country, by group of goods and type of transport (1 000 t), from 2008 onwards;
(iii) port: 1 for Germany (Hamburg), Belgium (Antwerp), Netherlands (Rotterdam), France (Marseille).

We estimated the regression for Poland using data from the period 2009-2012. The regression provided a very good fit, explaining more than 95% of variation in the road export flows.

Table F.1 Gravity model parameter estimates for Poland

Variable	Coefficient (standard error)
Log GDP Poland	0.79 (0.17)
Log GDP destination	0.82(0.09)
Log distance	-2.10 (0.33)
Common border	0.76 (0.34)
Intercontinental port	0.64 (0.32)

These results are then applied to Turkey. We replace the GDP of Poland by the GDP of Turkey and replace all the distances to the trading partners, starting now from Istanbul. All GDP values are projected up to 2016 using the IMF forecast. The Turkish hauliers in the full liberalisation scenario are assumed to face the same freedom of bilateral trade and transit as the EU hauliers.

Input-output analysis

The input-output analysis is a quantitative economic technique which represents the interdependencies between the branches of an economy. It can be used to study the response of the different sectors of an economy to a change in one given sector.

The input-output model goes back to Wassily Leontief, who in 1936 published the first input-output table for the U.S. economy from the year 1919. Since then, a variety of international, national and regional tables have been created. Due to their central importance for the national accounting, Leontief was awarded in 1973 with the Nobel Prize.

As part of the input-output approach, a distinction is made between the descriptive evaluation of the input-output table and the input-output analysis. In the last, assumptions based on the economic theory of production are considered in the computations conducted.

Next, (i) the structural design of the input-output table is described, (ii) the concept behind the input-output analysis is explained and (iii) the data used for the purposes of input-output analysis is presented.

(i) Structural design of the input-output table

Input-output tables present in a systematic way all economic activities undertaken in a country. They show how goods and services produced by a certain industry in a given year are distributed among the industry itself, other industries, households, etc., and present the results in a matrix (row and column) format. In this way, the input-output table summarises the inputs and outputs of all domestic

economic sectors and describes the production processes and the transactions in the economy. Figure F.1 shows a schematic diagram of the input-output table (IOT).

Figure F.1 Schematic diagram of the input-output table (IOT)

<table>
<tr><td colspan="2">Demand sector (buyer)
Supply sector (seller)</td><td colspan="3">Intermediate demand</td><td colspan="3">Final demand</td><td></td></tr>
<tr><td colspan="2"></td><td>Primary sector</td><td>Secondary sector</td><td>Tertiary sector</td><td>Consumption</td><td>Investment</td><td>Exports</td><td>Total demand</td></tr>
<tr><td rowspan="3">Intermediate input</td><td>Primary sector</td><td colspan="3" rowspan="3">Intermediate input matrix
(1st quadrant)</td><td colspan="3" rowspan="3">Final demand matrix
(2nd quadrant)</td><td rowspan="3"></td></tr>
<tr><td>Secondary sector</td></tr>
<tr><td>Tertiary sector</td></tr>
<tr><td colspan="2">Total ….</td><td colspan="3">Intermediate demand</td><td colspan="3">Final demand</td><td></td></tr>
<tr><td rowspan="3">Gross value added components</td><td>…</td><td colspan="3" rowspan="3">Primary input matrix
(3rd quadrant)</td><td colspan="4" rowspan="3">Total demand equals total supply</td></tr>
<tr><td>…</td></tr>
<tr><td>…</td></tr>
<tr><td colspan="2">Imports</td></tr>
<tr><td colspan="2">Total supply</td><td colspan="3"></td></tr>
</table>

The intermediate input matrix describes the interdependencies between the economic activities. For example, the columns show the domestic intermediate goods consumed by the corresponding activities.

In addition to the intermediate demand of goods used as inputs, the input-output table also gives the final demand. The matrix of final demand provides the distribution of the produced goods between the elements of the final demand, namely: public and private consumption, investments and exports.

The third quadrant represents the primary input matrix. This primarily includes salaries, and the net operating surplus.

(ii) Concept behind the input-output analysis

In contrast to the descriptive analysis, the input-output analysis (IOA) is a model-based evaluation of the input-output table. The underlying assumptions in the standard static model are:

- changes over time are not considered (constant production technologies);
- each group of commodities is supplied by only one production sector;
- linear homogeneous production technologies (factor input quantities change proportionally to the output changes);
- homogeneous output within a sector (produced goods within a sector are of identical quality);

- heterogeneous production processes between economic sectors.

The starting point for the static model is the following equation system based on the input-output table:

$$\begin{array}{ccccccc} x_{11} + & \dots & + x_{1j} + & \dots & + x_{1n} + & Y_1 = & X_1 \\ \vdots & & \vdots & & \vdots & \vdots & \vdots \\ x_{i1} + & \dots & + x_{ij} + & \dots & + x_{in} + & Y_i = & X_i \\ \vdots & & \vdots & & \vdots & \vdots & \vdots \\ x_{n1} + & \dots & + x_{nj} + & \dots & + x_{nn} + & Y_n = & X_n \end{array}$$

Where x_{ij} represent the elements of the intermediate input matrix; Y_i is the total final demand for the group of commodities of the i sector; and X_i is the total demand (which is equal to total supply) for the products of the i sector.

Then, it is possible to compute the coefficients, a_{ij}, which show the direct purchases by each sector from every other sector. Due to the assumption of linear homogenous production techniques the following can be expressed with:

$$x_{ij} = a_{ij}\, X_j.$$

Thus, the above system of equations can be represented as follows:

$$\begin{array}{ccccccc} X_1 - & a_{11}X_1 + & \dots & + a_{1j}X_j + & \dots & + a_{1n}\, X_n = & Y_1 \\ \vdots & \vdots & & \vdots & & \vdots & \vdots \\ X_i - & a_{i1}X_1 + & \dots & + a_{ij}X_j + & \dots & + a_{in}\ X_n = & Y_i \\ \vdots & \vdots & & \vdots & & \vdots & \vdots \\ X_n - & a_{n1}X_1 + & \dots & + a_{nj}X_j + & \dots & + a_{nn}\, X_n = & Y_n. \end{array}$$

In matrix notation, this equation corresponds to system:

$$\boldsymbol{X} - \boldsymbol{AX} = \boldsymbol{Y}.$$

The solution of this equation system is then:

$$\begin{gathered} (\boldsymbol{I} - \boldsymbol{A})\boldsymbol{X} = \boldsymbol{Y} \\ (\boldsymbol{I} - \boldsymbol{A})^{-1}(\boldsymbol{I} - \boldsymbol{A})\boldsymbol{X} = (\boldsymbol{I} - \boldsymbol{A})^{-1}\boldsymbol{Y} \\ \boldsymbol{X} = (\boldsymbol{I} - \boldsymbol{A})^{-1}\boldsymbol{Y} \end{gathered}$$

Where $\boldsymbol{I}$ denotes the identity matrix.

The matrix $(\boldsymbol{I} - \boldsymbol{A})^{-1}$ is also called the Leontief inverse and is of central importance since it gives the direct and indirect input requirements per unit (i.e. 1 euro) of total demand. In this way, the consequences of a new vector of total final demand can be analysed by computing:

$$\Delta\boldsymbol{X} = (\boldsymbol{I} - \boldsymbol{A})^{-1}\Delta\boldsymbol{Y},$$

which gives the changes in total supply.

The analysis can be expanded to consider also the employment effects. In this case, the employment data per economic sector is required. For example, let emp_i, for $i = 1,2,\cdots,n$, be the vector containing the corresponding data (in number of persons employed) for each sector i. Then, the change in employment by sector, Δemp_i can be found using the following formula:

$$\Delta emp_i = \frac{emp_i}{X_i} \cdot \Delta X_i.$$

(iii) Data used

The IOT used for the analysis is obtained from the World Input-Output Database (WIOD). We use Turkey's IOT from 2011. It provides information about the interrelationship between 35 economic sectors. For the purpose of reporting, we have aggregated some of the sectors and this aggregated IOT is presented in Table F.2.

Table F.2 The Turkish IOT in current prices for 2011

		Intermediate Demand										Final Demand				Total demand
		Ag.	Min.	Man.	Util.	Cons.	Whl.	Hot.	Trans.	Post	Oth.	Total	Consumpt.	Invest.	Exports	Total	
Intermediate inputs	Ag.	11,610	87	35,241	5	23	135	3,107	58	3	841	51,109	39,587	1,665	6,321	47,573	98,682
	Min.	52	390	8,523	2,420	1,054	645	90	10	23	343	13,551	2,241	1,153	2,601	5,995	19,546
	Man.	6,524	1,582	127,224	1,279	15,997	4,101	6,133	7,294	1,220	19,573	190,926	127,031	35,234	128,117	290,382	481,308
	Util.	706	684	7,228	19,425	1,010	1,729	1,163	251	352	3,980	36,528	8,703	409	747	9,860	46,387
	Const.	179	35	161	135	938	293	52	72	92	2,371	4,329	419	71,777	2,642	74,837	79,167
	Whl.	4,914	1,295	45,649	1,782	6,340	5,440	2,017	7,444	755	8,233	83,869	35,236	19,856	279	55,371	139,240
	Hot.	23	183	504	51	136	1,081	59	2,560	47	1,026	5,669	33,744	127	12	33,884	39,553
	Trans.	2,425	916	26,924	1,012	3,413	7,942	1,939	33,186	908	7,809	86,475	63,821	11,312	10,928	86,062	172,536
	Post	26	77	1,263	59	194	3,421	268	1,208	1,349	2,969	10,835	14,561	99	331	14,991	25,826
	Oth.	1,983	873	15,295	698	3,140	16,017	2,912	8,115	5,343	34,047	88,422	217,946	4,850	5,041	227,837	316,259
	Imports	4,165	953	65,414	979	9,473	5,201	2,750	13,043	992	10,244						
	Total	32,607	7,076	333,426	27,844	41,716	46,005	20,491	73,241	11,086	91,437						
	Gross v.a.	66,075	12,471	147,882	34,367	37,450	93,236	19,063	99,296	14,740	224,822						
Total supply		98,682	19,546	481,308	62,210	79,167	139,240	39,553	172,536	25,826	316,259						

Source: compiled by authors based on the WIOD

For the analysis of the employment effects two data sources are used: (i) the Turkish Statistical Institute (TurkStat) which gives aggregated data for 18 sectors for the period 2009-2013, and (ii) the WIOD which gives data for 35 sectors but for the period 1995-2009. We used both sources to disaggregate the most recent data from TurkStat based on the ratios of the disaggregated sectors with respect to totals of aggregated sectors from WIOD. In this way, a disaggregated database of employment is generated for the year 2013.

The data disaggregated to 35 sectors, IOT (2011) and employment data (2013), are used for the analysis. However, for simplicity, aggregated data are presented in 10 sectors.

Table F.3 Turkish employment data for 2013 (no. of people in thousands)

	Turkey (2013)
Agriculture, forestry and fishing	6,015
Mining and quarrying	105
Manufacturing	4,632
Electricity, gas, steam, water supply, sewerage etc	218
Construction	1,782
Wholesale and retail trade	3,518
Accommodation and food service activities	1,308
Transportation and storage	1,152
Information and communication	254
Others	6,539
Total	25,523

Source: compiled by authors based on WIOD and TurkStat data

F.1.1 Background of the business as usual scenario

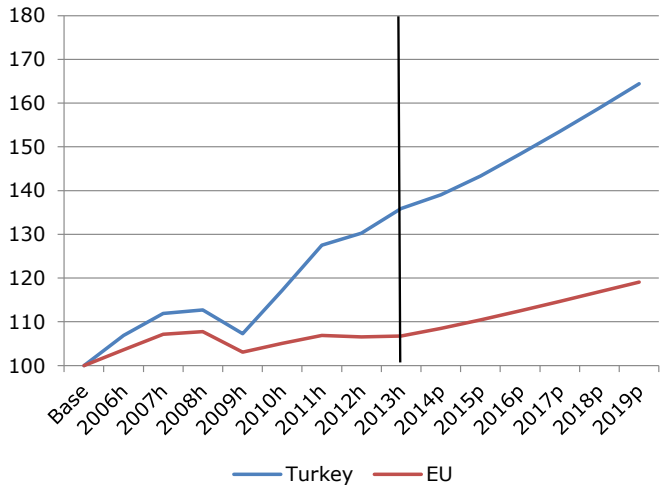
Current situation and outlook

The 'business as usual scenario' represents the situation in which the quota system and the permits granted are entered as they are today and projected to 2016, without an active role in the management of permits foreseen for the EC. This baseline serves as the reference scenario for the evaluation of the consequences of the liberalisation scenarios simulated.

We summarise the current situation including main developments of the Turkish economy and of the trade facilitated by the road transport between Turkey and the EU. This summary is the basis for the projection of the import trips from Turkey to the EU and of the development of the issued permits until 2016. For more details on past developments see Section 3.

Turkey's economy is growing at a higher rate than the EU's economy. This pattern is observed in the past data and projected to continue in the near future (see Figure F.2).

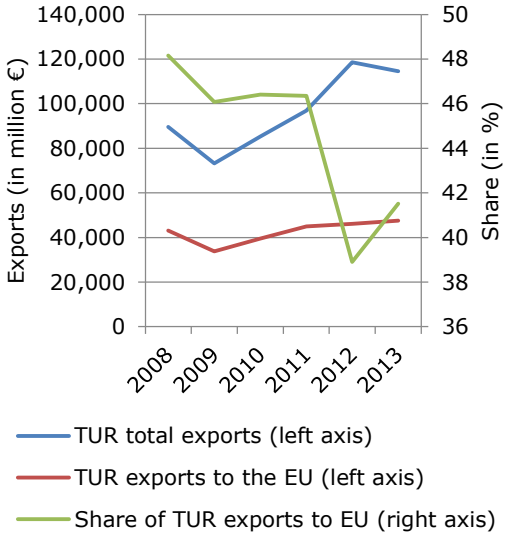
Figure F.2 Real GDP index in Turkey and the EU from 2005 to 2019



Note: 'h' in the time axis denotes historic and 'p' projection. Base year 2005 =100; *Source: compiled by authors based on IMF data, World Economic Outlook (WEO) 2014*

The imports from Turkey show a clear positive trend and it can be expected that they will continue to grow, taking into consideration the positive GDP growth projection for 2014 to 2016. However, the imports from Turkey to the EU were reasonably stable from 2009 to 2013, resulting in a decrease of the share of exports destined to the EU (see Figure F.3).

Figure F.3 Turkish exports and share of exports with destination in the EU

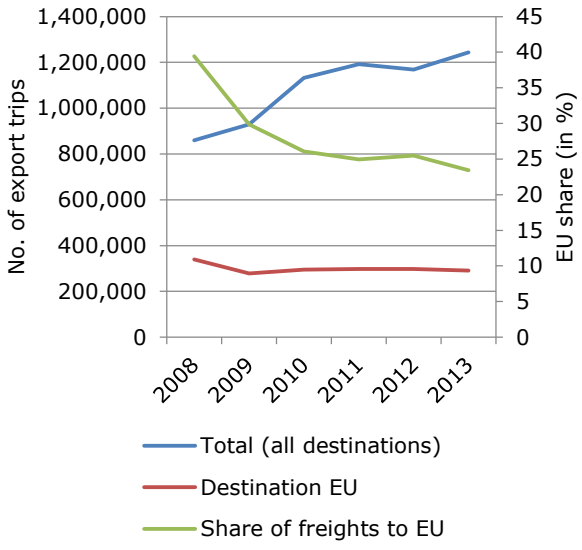


Source: compiled by authors based on Turkstat data, foreign trade statistics database

The share of Turkey's exports destined for the EU that are carried by road has slightly increased from approximately 45% in 2008 to 50% in 2013. This is probably the result of a negative development in the trade balance of Turkey with the EU. There was also an increase in trips from the EU to Turkey that carried Turkish products on their way return leg back to the EU. This trade might otherwise have been covered by the Turkish transport sector (i.e. by sea). In this way, the share of road transportation increases without significant changes in the absolute number of trips. A decrease of the share of Turkish exports covered by sea is also recorded.

The EU has been losing market share in total Turkish road exports. The latter shows a clear positive trend while the quantity of road trips (by Turkish vehicles) to the EU remains constant (see Figure F.4).

Figure F.4 Total Turkish road exports and market share of Turkish vehicles going to the EU

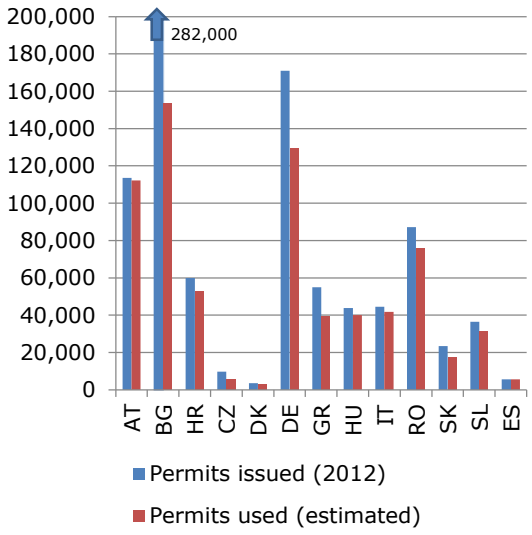


Source: compiled by authors based on UND data

The number of export trips covered by Turkish vehicles from Turkey to the EU has remained fairly constant, which gives an indication that the quota system may be posing a constraint for the Turkish road transport industry. Key countries for which the number of used bilateral and transit permits comes very close to the total number of issued permits (thus giving an indication of where the trade constraint might be binding) are Austria, Italy, Hungary, Slovenia, Croatia, Romania, and Spain (see Figure F.5).

Figure F.5 Countries indicating constraints to the Turkish road transportation sector

Permits issued and used in 2012 (No. of trips)



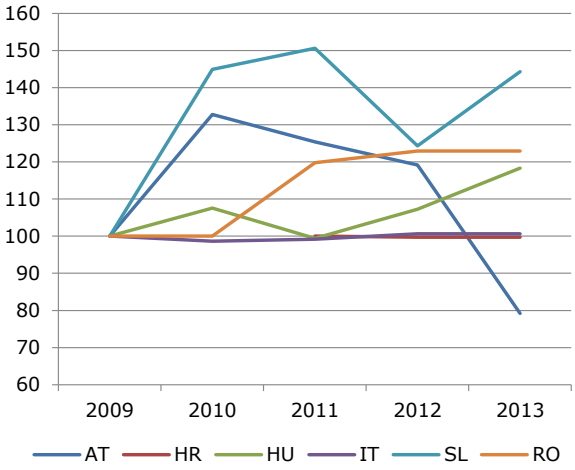
Countries with permit use higher than 85%

Note: in the diagram on the right the red colour denotes countries with a permit use rate higher than 90%, yellow denotes countries with permit use rates higher or equal to 85% and below 90%, different shades of blue and grey denote countries with use rates below 85%.

Source: compiled by authors based on UND data

Finally, Figure F.6 shows that for the countries with high shares of permits used, the number of permits issued varies. For Austria it increased in 2010 and has been falling since; Slovenia's permits seem to remain around the 2010 level; Romania's permits are reasonably constant since 2011; Hungary had two consecutive years of increase since 2011; and Italy and Croatia remain constant. For Croatia only data since 2011 are presented.

Figure F.6 Development of permits issued in selected countries (index, 2009=100)



Source: compiled by authors based on UND data

The brief description of the 'business as usual scenario' shows that Turkey is increasing exports to destinations other than the EU. Furthermore, it is clear that the moderate increase of Turkish exports per road to the EU is being covered by EU-registered vehicles. As a consequence, for the projection period until 2016 it is assumed that the exports trips per road from Turkey to the EU will grow more slowly than the GDP growth. In contrast, the trips by EU vehicles carrying Turkish exports are assumed to further increase following the GDP development.

The number of permits issued according to the bilateral agreements seems to vary over time at the country level. However, it is difficult to identify clear trends. In consequence, the total number of permits issued for Turkish vehicles by individual Member States is assumed to remain constant until 2016.

Another important question to address in the scenario description is what happens to the costs of the Turkish operators. Here, we lack relevant time series data. In the absence of such data, we assume that the labour costs of Turkish hauliers change in line with the historical development of real labour cost (4% p.a., according to TurkStat). Other cost components are assumed to remain constant in real terms.

F.2 Estimation of the transit traffic distribution for 2012

The key question for the evaluation of the liberalisation scenarios is: does the current quota system make transport operators deviate from optimal behaviour, and in what way? Section 2 described the existing system of market access and transit quotas that derives from the set of bilateral agreements signed between the EU Member States and Turkey. Data on the number of permits issued by every Member State have been gathered as well as data on their usage. The usage of permits data can actually be interpreted as giving the number of trucks that enter and cross each of the Member States on the way from Turkey to the final destination. In addition, data have been gathered on the actual export trips by Turkish trucks to all EU Member States and to other countries. Unfortunately, no precise data exist on the distribution of these trips across different alternative routes.

From the perspective of any individual Turkish transport operator, the trucks should take the cheapest route (taking account of the time costs) from the point of loading to the point of unloading of the carried goods. By default, one would expect all transport operators to follow this simple rule. In reality, quantitative restrictions as well as high transit permit charges make operators deviate from the optimal routes.

As mentioned above, no data on the exact distribution of the export trips across different alternative routes exists. For the later analysis of the liberalisation scenario, we however do need such a picture. Knowing that the trucks do deviate from the optimal routes, we therefore make an estimate of this distribution by relying on the data of permit usage, augmented in some cases by additional numbers provided by the UND.

The starting point for this estimation is the statistics of actual export trips from Turkey to different countries (second column of Table F.4).

We distribute these trips across different alternative routes by using the data on the issued transit and market access permits. In each country, the total number of these permits gives a lower bound on the number of Turkish trucks that enter and cross the territory of the country (it is a lower bound because of the existence of ECMT permits that are also actively used by the Turkish hauliers).

Moreover, we received some additional information from UND, such as that the total number of Turkish trucks that enter Austria is around 130,000. The UND also provides data on how many trips are conducted via the RoRo connections to Trieste and Odessa, and how many - by road through Western borders of Turkey. We take account of the fact that Italy does not require transit permits for trucks arriving in Trieste and then going north through Austria.

The general rule we use is that the trucks follow the cheapest routes whenever possible, and only deviate if they face quantitative restrictions given by the actually used number of permits. These restrictions lead to the formulation of a set of *ad hoc* rules (Box F.1), which seem to deliver a picture of trips that is consistent with the statistics.

In order to decide, which route is the cheapest, we have assembled a database covering possible routes that can be taken by Turkish trucks, including the routes involving ferry usage (ferries to Italy (Trieste), France (Toulon), Ukraine (Odessa)). Using the detailed cost data provided by UND, we have calculated total costs for a one-way trip of a standard truck. This includes distance-related costs (fuel, tires, repairs), time-related costs (wages, insurance, other indirect costs), permit charges, tolls, and ferry charges.

The resulting distribution of trips is displayed in Table F.4 (column 4). We are able to match the statistics for permits usage quite well, with a few important exceptions.

Table F.4 Estimation of the distribution of transit export trips by Turkish vehicles

Country	Export trips by Turkish carriers, 2012	Total number of used bilateral and transit permits, 2012*	Estimate of the implied bilateral and transit trips, 2012	Estimate of the implied transit trips, 2012
Austria	6901	112120***	131788	124887
Belgium	8085	23439**	23432	15347
Bulgaria	12317	153445	166980	154663
Croatia	1686	52792	67326	65640
Czech Republic	3688	5736	16865	13177
Denmark	2272	2801	3061	789
Estonia	69	226	214	145
Finland	578	496	578	0
France	28079	38111**	38111	10032
Germany	87845	129471**	139759	51914
Greece	16976	39589	39914	22938
Hungary	3209	40077	50556	47347
Italy	37699	41766	111368	73669
Latvia	168	342	382	214
Lithuania	456	691	693	237
Luxembourg	370	500	370	0
Montenegro	396	394	396	0
Netherlands	12006	11969	12006	0
Norway	789	1038	789	0
Poland	9804	5500	15354	5550
Portugal	183	183**	183	0
Romania	28116	47749	75950	47834
Serbia	3729	71508	80288	76559
Slovakia	1985	17659	31404	29419
Slovenia	1598	44022***	66044	64446
Spain	8143	5542	8326	183
Sweden	4644	4346	4644	0
United Kingdom	17060	0	17213	153

* Bilateral trips from Turkey to Poland, Romania, Slovenia and the UK are liberalised.

** France, Belgium, Portugal and Germany issue permits that allow multiple uses by the same vehicle.

*** GREEN bonus permits issued by Austria and Slovenia are counted twice as they allow a free entrance for each round-trip Ro-Ro ticket purchase.

Source: UND, own calculations

Austria is a critical transit country for Turkish trucks. UND reports over 130,000 Turkish trucks crossing Austria, which exceeds the number of used permits by roughly 20,000. The explanation for this phenomenon may well be the use of ECMT licenses. Turkey received 3200 ECMT licenses in 2012. These allow market access and transit throughout Europe and can be used for several trips by the same vehicle. Assuming 20 trips per year (less than one round trip in two weeks), this gives 64000 trips that could be made by Turkish vehicles. Even with less frequent trips, it is clear that the existing deficit of transit permits in Austria can be solved (and is apparently solved) with the help of ECMT permits. The same explanation can be applied to the cases of Hungary, Croatia, Germany, Bulgaria, Czech Republic, Slovakia and Spain, where the estimate is also higher than the actual number of used bilateral and transit permits. Overall, we can estimate the number of used ECMT permits as the sum of the extra permits needed for Croatia, Hungary and Italy (the most thin transit area), which equals 36000 or 11% of total export trips to the EU.

Box F.1: Ad-hoc assumptions used for trips distribution

Trips to UK:

- 90% of traffic goes by road through Germany and Belgium
- 10% of traffic goes through France after entering through Toulon

Trips by road to Benelux, Scandinavia, France, the UK:

- 75% of traffic goes through Croatia, Slovenia, Austria
- 25% of traffic goes through Hungary, Austria

Trips to Germany:

- 5% of traffic goes through Romania, Poland and Slovakia
- 15% of traffic goes through Romania, Hungary, Slovakia, and Czech Republic
- 26% of traffic goes through Croatia, Slovenia, Austria
- 10% of traffic goes through Romania, Hungary, Austria
- 44% of traffic goes through the port of Trieste and Austria (UND data)

Trips to France:

- 38% of traffic goes through the port of Trieste and crosses Italy
- 31% of traffic goes by the direct ferry through Toulon
- 31% goes by road through Austria, Germany

All traffic to Baltic States goes through Ukraine (some of it through RoRo to Odessa)

All RoRo traffic to Spain and Portugal travels via Toulon

Transit by road through Romania: Baltic States, Poland, Slovakia, Hungary, Czech Republic

The cases of Romania, Poland, and the UK are different, because there the deviation between the used permits and the estimated trips is caused by the fact that the bilateral trips are liberalised (i.e. they do not require a permit). In the case of UK the transit (which is very small, mainly to Ireland) is already liberalised. The estimated transit traffic is estimated in the column 5 of Table F.4, which is just the difference between the columns 4 and 2.

One more special case is Italy, where the part of the transit traffic that goes from Trieste to Austria does not require transit permits. UND data suggests that there are around 58,000 transit trips from the port of Trieste to the north that do not appear in the permits statistics.

With these additional explanations, we can say that the assumed distribution of trips delivers a picture that is consistent with the available statistics. The numbers in columns 4 and 5 of Table F.4 are the basis for comparing the trips in the baseline scenario and the liberalisation scenarios.