



Study on the economic impact of an agreement between the EU and the Ukraine

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LIST OF ABBREVIATIONS

AETR	European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport
AsMAP	Association of International Road Transport Carriers of Ukraine
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
EU27	EU12 + EU 15
EU28	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
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

UA Ukraine

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 Ukraine. Such services are currently regulated by bilateral intergovernmental agreements between Member States and Ukraine. 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 a modest but positive boost to trade, output and employment for both parties. The largest gains come from removal of bilateral permitting arrangements; remove of transit permits has a smaller effect. Full liberalisation could boost total trade by more than €0.5 billion per year. Liberalisation increases the EU's road-freighted exports to Ukraine more than it does imports from Ukraine under all scenarios.

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

Road transport services operating between EU Member States and Ukraine 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 Ukraine. The permit system imposes operational constraints on operators and an administrative burden. 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 are reflected in the price of final goods supplied to the market.

There are differences among the agreements signed by Member States with Ukraine. 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 2014 a total of 560,680 permits were granted on a bilateral basis to Ukraine by the 25 Member States with which Ukraine has bilateral road transport agreements. Combined bilateral and transit permits account for 82% of all permits provided to Ukraine transport companies. The largest number of permits was granted by Poland, Germany, Hungary and Slovakia.

Alongside the permits that are based on bilateral agreements, the International Transport Forum (ITF) 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.

There is a system for allocating quota among ECMT Member Countries. The system 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 3,300 annual licenses were issued to Ukrainian operators, of which 2,940 (89%) were valid for EURO V Safe lorries.

Analysis suggests that the EU hauliers have access to sufficient permits but regularly experience delays and problems at the border. Ukrainian hauliers report a shortage of bilateral permits being a problem in servicing many Member States and a transit permit deficit for some countries.

The research conducted for this study suggests that EU hauliers have, in aggregate, access to a sufficient supply of Ukrainian permits. The main difficulties that EU hauliers experience are the waiting times for customs procedures and other checks performed at borders. Though the average wait time is acceptable, in many cases long delays are reported. Extended delays are caused by varying and sometimes duplicated

performed by different control authorities (e.g. checks on vehicle weight, on permits). There are also reports of Ukrainian control agents seeking off record payments.

The principal issue for Ukrainian hauliers is that demand for bilateral permits exceeds the supply provided by many Member States (Hungary, Slovakia, Czech Republic, Romania, Austria, Italy, Greece, Poland, Scandinavian and Baltic countries). There is also a deficit of transit permits for certain Member States (e.g. France, Spain). The supply number of permits has remained nearly constant, rather than growing in line with trade.

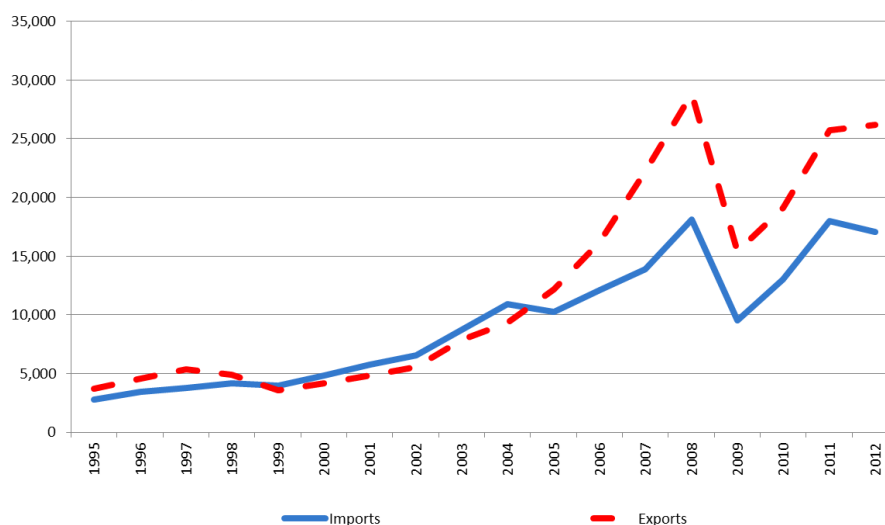
Despite these constraints EU-Ukraine trade has grown rapidly over the past decade

EU trade with Ukraine has grown substantially since 2000. The 2009 economic crisis sent that growth into reverse but 2012 it had recovered to pre-crash levels. (Figure EX.1). In 2012 EU exports to Ukraine totalled worth €23.8 billion while imports were worth €14.6 billion, yielding a positive trade balance for the EU of €9.2bn.

Ukraine is primarily a source of raw materials, heavy industry products (iron and metals, semi-finished products), cereals and other foodstuffs. These are generally carried by other modes than road. The EU's exports are mostly manufactured goods, chemicals and automotive products.

Figure EX.1 - By 2012 EU trade with Ukraine had recovered most of the ground lost in 2009

EU exports to, and imports from Ukraine (US\$ millions)



Source: UNCTADstat

Around 80% of EU exports to Ukraine and 30% of imports, in value terms, travel by road. Eurostat data suggests that 5.3 million tonnes of EU exports and 3.5 million tonnes of EU imports are carried by road to/from Ukraine each year. Lower value, bulk commodities tend to be shipped by other modes. EU road-freighted imports have grown 40% since 2008, whereas exports have only just recovered to their pre-crash level. Germany, Netherlands, Hungary and Poland export more goods (as measured in tonnes) by road to Ukraine than they import. France and Italy import more by road from Ukraine than they export.

In value terms, manufactured goods are an important component of the road-freighted import trade. The most valuable EU road-freighted export category is machinery and transport equipment. The trade volume data show significant quantities of chemicals, food, beverages, wood products, agriculture products, metal products and machinery and equipment moving from the EU to Ukraine, and wood, food products, beverages and chemicals being carried in the opposite direction.

More than 60% of road-freighted EU exports to Ukraine cross over the Poland-Ukraine border

Ukraine has eight land border crossings with EU countries that are used by goods vehicles (with Poland, Slovakia, Hungary and Romania). Border crossings points with Belarus and Moldova may be used by hauliers heading to Romania/Bulgaria and to the Baltic States countries respectively. Estimates developed from quota data¹ suggest that 62% of EU road-freighted exports crossed into Ukraine via crossings on its border with Poland, and 17% via crossings on its Hungarian border. The growth in border traffic reflects the growth in overall trade, with a near four-fold increase in HGV movements across the Polish-Ukrainian border since 2000.

According to the border crossing waiting times observatory managed by the International Road Transport Union, hauliers (EU and Ukrainian) typically have to wait a maximum of 3 hours when entering in Ukraine and 7 hours when leaving Ukraine. However, anecdotal reports collected through the consultation of stakeholders suggest that it often takes hauliers significantly longer to leave Ukraine.

There are some similarities but also notable differences between the EU and Ukrainian road freight sectors

The road freight sector in both the EU and Ukraine is dominated by small businesses. Eighty per cent of EU haulage companies have fewer than ten employees; 99% of firms have fewer than fifty. In Ukraine between 80% and 90% of road haulage firms have fewer than ten trucks, though those operating in the international haulage market tend to be larger - half the firms have more than ten vehicles.

There are significant differences between the EU and Ukraine in the profile of the age and environmental performance of the fleet. 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). In Ukraine, by contrast, nearly 74% of the commercial vehicle fleet is Euro 0 vehicles, most of the rest (nearly 20%) is of Euro II stock. Euro IV (0.6%) and Euro V (0.4%) account for just the 1% of the total fleet. The Ukrainian fleet operating in the EU is thus much cleaner than the vehicles typical of the domestic market.

The EU road haulage market is itself not homogenous. 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 cross-trade. 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.

The available information suggests that Ukrainian hauliers carry the majority of EU-Ukraine road freight in both directions. Ukrainian firms have a cost advantage over EU operators. Another factor affecting the market share is the imbalance of trade flows (which translated into freight rates that are higher for EU exports than for imports), and the seasonality (prices fluctuate widely during year). The high risk of empty back runs and price volatility makes the EU-Ukraine trade less attractive for EU operators.

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

Ukraine is a partner country of the EU within the framework of the European Neighbourhood Policy (ENP) and the Eastern Partnership. Negotiations on a new EU-Ukraine Association Agreement were launched in March 2007 and concluded in December 2011. The EU-Ukraine Association Agenda was adopted in November 2009 and updated in 2011. The Agenda, which replaced the previous Action Plan, facilitated the entry into force of the Association Agreement signed on 27 June 2014. The Action Plan was endorsed by

¹ The political situation prevailing in Ukraine during 2014 limited access to official data in some areas of the research.

Ukraine through adoption of a new law² which provides the legal basis for the alignment of the Ukrainian legislation to the EU *acquis*. A number of decrees have been adopted to enact the provisions laid down in this law.

The Action Plan identified that Ukraine needed to: ensure that the international and national transport sector is regulated in terms of access to the profession; introduce and enforce mandatory driving times and rest periods in the international transport sector in compliance with international standards; and adopt and start implementation of an action plan for improving road safety. At the right of writing, a new “Automobile Transport” law is in preparation. Its requirements will be developed on the basis of the EU standards and, therefore, will secure a full alignment to the EU *acquis* in the area of commercial road transport. The new law will embed the standards currently laid down in the Regulations and Directives that are included into the Association agreement concluded between Ukraine and the EU.

At present there is full alignment on driving times and rest periods, and on implementation of the tachograph. Alignment to the relevant EU pieces of legislation is also good in the areas of transport of dangerous goods, road worthiness and environmental standards of commercial vehicles. In the area of road worthiness it may be expected that the approximation process will continue and consider the latest EU legislative developments following the adoption of the new Directives 2014/45/EU, 2014/47/EU and 2014/46/EU.

There is partial alignment in access to the market and to the occupation and technical standards of vehicles. Ukrainian law is aligned to the EU *acquis* in as far as the basic criteria of stable organisation, good repute, financial standing and professional competence have been fully transposed into Ukrainian national law. A new draft framework law updating the existing norms regulating type approval of motor vehicles and their trailers and systems (including components and separate technical units) was due in September 2013 but was not adopted. For both areas, further alignment is expected with the adoption of the draft Law of Ukraine on “Automobile Transport”.

The situation is more problematic in relation to the training and qualification of professional drivers. At present, Ukraine does not have a legally defined system for training of professional drivers engaged in either passenger or freight transport.

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.

² Law of Ukraine No 1629 of 18 March 2004 entitled “On the State Program for Adaptation of Ukraine to the EU legislation”

The baseline is conservative. It is assumed that the overall number of freight road trips between Ukraine and the EU in 2016 will only slightly exceed the 2012 numbers by less than 6%. This is based on an appreciation of the economic impacts of the political events of 2014.

The changes associated with the four scenarios, as compared to the business as usual, are summarised in Table E.2. The analysis suggests that regulatory reform would result in positive changes to trade, economic output and jobs in both the EU and Ukraine.

The greatest impact comes from removing the quota instruments that currently cause the greatest constraints on trade – the bilateral permits required by Ukrainian hauliers. In this scenario bilateral trade grows by more than €0.5 billion / year, of which 69% is boost to EU exports and 31% growth in imports.

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

Total employment grows by almost 11,000, of which 32% accrues to the EU and 68% to Ukraine. Transit liberalisation has much smaller impact. The impacts of other two scenarios lie between full liberalisation and transit liberalisation.

Liberalisation expands the total size of the road haulage market between EU and Ukraine. 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, Ukrainian hauliers, which already have a large share of the EU-Ukraine market, would be expected to carry a significant fraction of the additional traffic. The problems that EU hauliers currently experience with *ad hoc* inspections and inconsistent interpretation of the law ought to decline (a provision requiring fair and consistent treatment of transport operators from both parties should be included in any agreement).

The liberalisation should benefit EU firms looking to source raw materials and other inputs from Ukrainian suppliers, and those selling into the Ukrainian market.

The modelling suggests that EU consumers would enjoy some savings from liberalisation (as a result of lower prices), but that the effects would be very small. Under all scenarios the projected impacts are positive but even under full liberalisation the impacts are small in relation to the size of the economy, trade and employment as a whole.

Negative impacts of liberalisation are an increase in road traffic and associated environmental impact. In the full liberalisation scenario an additional 15,000 road trips are forecast, resulting in increased carbon emissions is estimated at over 50kt CO₂e.

In summary the study concludes that regulatory reform would yield overall benefits in terms of growth in trade, economic output and jobs for the EU and Ukraine. The great impact comes from removing the quota instruments that currently cause the greatest constraints on trade – the system of bilateral permits. In economic terms the impacts of reform are expected to be modest but positive for both the EU and Ukraine.

Table EX.2 Summary of liberalisation scenarios for Ukraine

Liberalisation of freight transport between EU and Ukraine	Transit liberalisation	Additional quotas	EU management	Full liberalisation
Effects on the EU, change with respect to BAU:				
EU road exports to Ukraine, mln €	57	240	240	389
change in %	0.3%	1.3%	1.3%	2.1%
EU road imports from Ukraine, mln €	22	120	120	177
change in %	0.6%	3.1%	3.1%	4.5%
Employment, thousand new jobs	0.5	2.2	2.2	3.5
Direct consumer cost savings, mln €	6	6	6	27
Selected effects in Ukraine:				
Output expansion, mln €	42	226	226	333
change in %	0.02%	0.09%	0.09%	0.13%
Employment effect, thousand new jobs	0.9	5.0	5.0	7.4
GDP effect, %	0.00%	0.02%	0.02%	0.04%
Additional GHG emissions, '000t CO ₂ eq. per year	8	33	33	53

Source: DIW Econ

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 Ukraine. 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 Ukraine, 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 Ukraine and the ITF quota system
- A profile of the EU's overall trade with Ukraine and that fraction which is carried by road
- A comparative assessment of the international road freight sectors in the EU and Ukraine
- Details of the regulatory framework governing road freight transport in Ukraine 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.

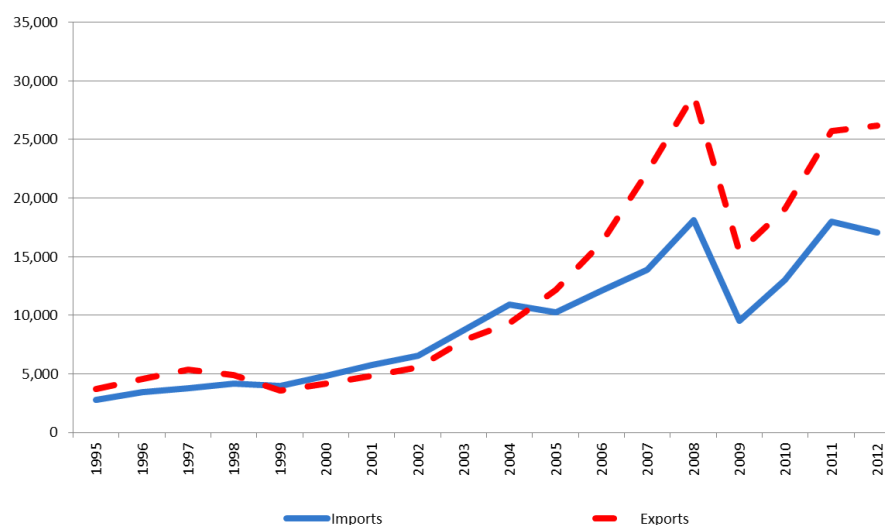
The report starts, in the sub-section below with an introductory discussion of the context – the importance and structure of EU-Ukraine trade, the role of road freight and how the operation of EU-Ukraine road freight market is currently influenced by regulation and regulatory practices.

1.3 Market and regulatory context

Trade between the EU and the Ukraine grew rapidly after 2000 but contracted sharply in 2009 in the wake of the economic downturn. Both exports and imports have since recovered. According to DG TRADE (2012), EU exports to Ukraine were worth €23.8 billion in 2012, an increase of 12% compared to 2011 (and up almost 37% compared to 2009). EU imports from the Ukraine were 27% higher in 2012 than in 2009, though 3.4% lower than in 2011. Figure 1.1 shows the long term trend over the last 20 years as recorded by UNCTAD.

Figure 1.1 By 2012 EU trade with Ukraine had recovered most of the ground lost in 2009

EU exports to, and imports from Ukraine (US\$ millions)



Source: UNCTADstat

In tonnage terms around 50% of the EU's exports to Ukraine are carried by road (Table 1.1). Road has less than 10% of the import trade in tonnage terms but these goods constitute, nearly 30% of the EU-Ukraine import trade when measured by value (Figure 1.2). Details of the structure of road freight trade are provided in section 4.

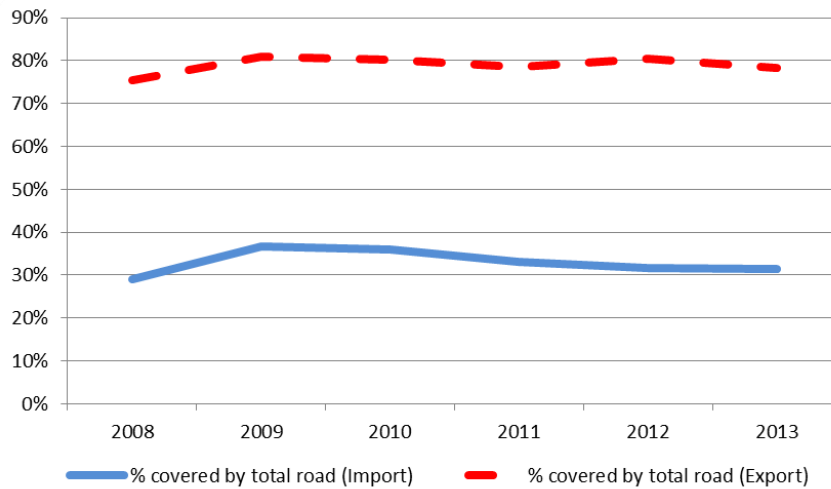
Table 1.1 EU-Ukraine trade by mode of transport ('000 tonnes)

	EU 27's IMPORTS from Ukraine						EU 27's EXPORTS to Ukraine					
	2008	2009	2010	2011	2012	2013	2008	2009	2010	2011	2012	2013
Road	2,485	2,710	3,255	3,705	3,696	3,512	5,333	4,036	4,569	4,801	5,369	5,384
Rail	20,449	14,585	21,650	25,490	22,980	24,014	3,311	1,746	2,247	2,529	2,813	3,098
Sea	19,746	14,057	15,648	20,288	21,272	20,861	1,937	857	1,016	1,362	1,396	1,929
Air	4	2	2	2	3	1	19	12	11	18	12	13
Unknown	121	187	102	201	281	306	0	0	0	0	0	0
Fixed Installations	191	0	0	0	0	120	0	0	0	0	0	433
Total	42,996	31,542	40,657	49,687	48,231	48,815	10,601	6,652	7,843	8,710	9,590	10,858
Road modal share (%)	6%	9%	8%	7%	8%	7%	50%	61%	58%	55%	56%	50%

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

Figure 1.2 **There has been little change in road’s share of EU exports to Ukraine while the fraction of imports carried by road has declined slightly since 2009**

Share of EU exports/imports with Ukraine, by value, carried by road transport



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

Road transport services operating between EU Member States and Ukraine 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 Ukraine. The permit system imposes operational constraints on operators and an administrative burden. 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 Ukraine to its most important trading partners in the EU (Germany, Poland, Italy and France, Spain) require road freight operators to pass through the territory of third countries (mostly other EU Member States). This transit traffic is largely concentrated in Poland and Hungary but extends into Slovenia, Austria, Czech Republic, and Slovakia. It is also subject to regulation and permits.

There are differences among the agreements signed by Member States with Ukraine. 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). Table 1.2 lists the principal issues identified during the research for this study.

Table 1.2 There are permit-related constraints to road transport between EU and Ukraine

<p>Administrative procedures</p>	<p>EU hauliers have access to a sufficient supply of Ukrainian permits. The main difficulties/hindrances they experience are linked to waiting times for customs procedures and other checks performed at borders. Though the average wait time is acceptable, in many cases long delays are reported.</p> <p>Extended delays are caused by varying and sometimes duplicated checks performed by different control authorities (e.g. checks on vehicle weight, on permits).</p> <p>Off record payments claimed by Ukrainian control agents are also reported as unfair treatment.</p>
<p>Number of permits</p>	<p>The principal issue for Ukrainian hauliers is that demand for bilateral permits exceeds the supply provided by several Member States (Hungary, Slovakia, Czech Republic, Romania, Austria, Italy, Greece, Poland, Scandinavian and Baltic countries).</p> <p>There could be also be a deficit of transit permits for certain Member States (e.g. France, Spain).</p> <p>The supply number of permits is kept nearly stable, rather than growing in line with trade flows.</p>

2 Bilateral agreements and the ITF multilateral quota system

Transport operations within the EU are fully liberalised. There are harmonised common rules that provide open market access in and between EU Member States. By contrast, road transport services operating between EU Member States and third countries are still 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 international agreements with third countries (Box 2.1) but to date international road transport has been, almost exclusively, the responsibility of Member States. The EU has been only mandated to conclude an international agreement with Switzerland which, since 2002, has liberalised its commercial road transport market (both passenger and freight) (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 cannot act alone; it 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*³ 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 rules⁴.

Box 2.2: Examples of agreements concluded between the EU and third countries pertaining to road transport

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.

³ Case 22/70 Commission v. Council (AETR) [1971] ECR 263, 275. Cited in Weibel, 2014, pp. 4-5.

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

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 protocol⁵ 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.

2.2 Bilateral agreements between EU Member States and Ukraine

Bilateral agreements vary in scope and depth⁶. The regulatory regime they set up is an indicator of the degree of openness and the economic ties between the signatory countries. 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 Malta and Ireland, evidence collected confirms that EU Member States have concluded bilateral road transport agreements with Ukraine (see Appendix C for details). 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.

⁵ 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).

⁶ World Bank (2013). *Quantitative Analysis of Road Transport Agreements (QuARTA)*. Washington.

2.2.1 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 Contracting 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. In the case of agreements between EU Member States and Ukraine no payable permits are provided for.

As a general consideration there is a surplus of permits available to EU hauliers, as in the case of Poland which uses only 40 to 50% of the permits granted. Considering that Poland is the EU Member with the most intensive exchange of goods with Ukraine this gives a measure of the availability of permits for EU hauliers.

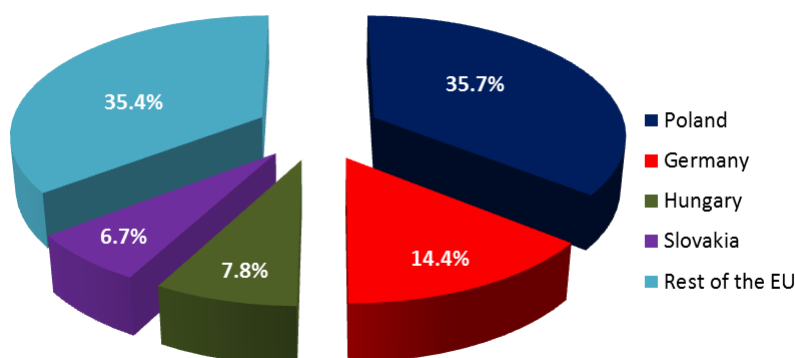
On the other side, though detailed figures on the market shares held by operators of the various Member States in their relations with Ukraine are not available, spot data such as the data from the Polish customs, demonstrate that Ukrainian truck operators carry on majority of road freight between the EU and Ukraine. A contributory factor is the hindrances faced on a day to day basis by EU hauliers when entering the Ukrainian market, including the scarcity of border crossing lanes (as acknowledged by the minutes of the Polish-Ukrainian joint commission for International road haulage), the length of border controls as well as off record payments that are reported to be requested by some officials in Ukraine. As confirmed by spot interviews conducted with Italy and Germany based freight forwarders, these conditions, together with the far lower cost of Ukrainian drivers, mean that most of the shippers and freight forwarders in the EU prefer to rely on Ukrainian haulage.

In 2014 a total of 560,680 permits were granted on a bilateral basis to Ukraine by the 25 Member States with which Ukraine has bilateral road transport agreements. Combined bilateral and transit permits account for 82% of all permits provided to Ukraine transport companies.

The largest number of permits was granted by Poland, Germany, Hungary and Slovakia (Figure 2.1). The permits granted by these four countries account for 64.6% of all permits issued. Details of the types of permit they granted are provided in Table 2.1.

Figure 2.1 **Poland and Germany grant the largest number of permits to Ukrainian hauliers**

Distribution of permits granted by Member States to Ukraine



Source: Compiled by the authors based on AsMAP. Data not available for Cyprus, Ireland and Malta. System liberalised for Luxembourg

Table 2.1 **Comparison of the number of permits (bilateral, transit and third country) issued by selected EU Member States granted to, and used by Ukrainian hauliers (quota for 2013)**

Year		Granted	Used
Poland	Bilateral and transit permits EURO1	60,000	60%
	Bilateral and transit permits EURO2	45,000	100%
	Bilateral and transit permits EURO3	85,000	100%
	Bilateral and transit permits EURO4	10,000	100%
Germany	Bilateral and transit permits	200	21%
	Bilateral and transit permits EURO1	9,000	53%
	Bilateral and transit permits EURO3	32,800	100%
	Bilateral and transit permits EURO4	8,000	87%
	Bilateral and transit permits EURO5	8,000	100%
	Bilateral and transit permits safe	23,000	78%
Hungary	Bilateral and transit permits safe	4.000	63%
	Bilateral and transit permits EURO3	15.500	100%
	Bilateral and transit permits EURO4	2.000	86%
	Transit safe	3.000	60%
	Transit EURO3	12.000	78%
	Transit EURO4	4.000	100%
	Third-country EURO3	3.000	100%
Slovakia	Bilateral	12.000	83%
	Transit	18.000	98%
	Third-country	1.500	15%

Source: Compiled by the authors based on AsMAP

Table 2.2 Allocation of permits granted to Ukrainian hauliers as set by the bilateral road transport agreements concluded by Ukraine with the EU Member States (quota for the year 2014)

Bilateral agreement between Ukraine and 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	1,300	-	9,400	-	-	-	2,100	12,800	2,3%	"Other types of permits" include bilateral/transit restricted EURO2 and EURO3 permits.
Belgium	-	-	14,000	-	-	-	-	14,000	2,5%	
Bulgaria	-	-	18,500	1,500	-	300	300	20,300	3,6%	
Croatia	-	-	1,200	100	-	-	-	1,300	0,2%	
Cyprus	-	-	-	-	-	-	-	0	0%	
Czech Republic	4,000	-	10,000	1,800	-	-	-	15,800	2,8%	
Denmark	-	-	2,500	1,000	-	-	-	3,500	0,6%	
Estonia	-	-	7,600	300	-	-	-	7,900	1,4%	
Finland	-	-	9,000	200	-	-	-	9,200	1,6%	
France	-	-	6,500	-	-	-	-	6,500	1,2%	
Germany	-	-	81,000	-	-	-	-	81,000	14,5%	
Greece	-	-	3,500	65	-	-	-	3,565	0,6%	
Hungary	-	19,400	21,000	2,850	-	-	500	43,750	7,8%	"Other types of permits" include bilateral/transit restricted EURO4 permits.
Italy	-	-	15,000	-	-	-	800	15,800	2,8%	"Other types of permits" include permits granted for intermodal operations and for restricted bilateral/transit permits. Some kind of minor transport are liberalised; third country transports forbidden.
Latvia	-	-	6,500	2,000	-	-	-	8,500	1,5%	
Lithuania	-	-	14,500	2,700	-	-	-	17,200	3,1%	

Bilateral agreement between Ukraine and 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
Netherlands	-	-	21,500	-	-	-	-	21,500	3.8%	
Poland	-	-	200,000	-	-	-	-	200,000	35.7%	
Portugal	-	-	840	360	-	-	-	1,200	0.2%	
Romania	-	-	12,800	2,000	-	-	-	14,800	2.6%	
Slovakia	12,000	24,000	-	1,500	-	-	-	37,500	6.7%	
Slovenia	-	18,600	-	1,000	-	-	-	19,600	3.5%	
Spain	-	-	2,200	-	-	-	-	2,200	0.4%	
Sweden	-	-	925	40	-	-	-	965	0.2%	
United Kingdom	-	-	1,800	-	-	-	-	1,800	0.3	No cabotage is allowed.
TOTAL	17,300	62,000	460,265		0	300	3,700	560,680	100%	

Source: Compilation by the authors based on web search

According to the stakeholders, the allocation of bilateral (including transit) permits has remained broadly unchanged over recent years.

Data on utilisation of permits can signal where the permit system is imposing a constraint on trade. Analysis of the information collected for this study⁷ shows that:

- In few cases there has been a sizeable surplus of permits granted to Ukrainian hauliers (e.g. France, Spain, Bulgaria, Portugal where over 25% of permits were unused).
- Among other Member States the picture is more difficult, with around 90% of permits granted to Ukrainian hauliers regularly being used for a number of countries, including important trade partners such as Germany, Italy, Poland, Romania, Austria and Czech Republic. This gives a measure of the constraints for transit in neighbouring countries.

2.2.2 The ITF multilateral quota system

Alongside the permits that are based on bilateral agreements, the International Transport Forum (ITF⁸) 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 criteria⁹. The quota system incorporates promotion of better environmental performance through a bonus scheme¹⁰. Annual quotas for Euro V Safe lorries account for 75% of all quotas issued¹¹. As of 1 January 2014 3,300 annual licenses were issued to Ukrainian operators, of which 2,940 (89%) are valid for EURO V Safe lorries.

⁷ Data are provided in Appendix E, Table E.5.

⁸ 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.

⁹ 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.

¹⁰ EURO3 safe lorry: Coefficient x2; EURO4 safe lorry: Coefficient x6; EURO5 safe lorry: Coefficient x10; EURO6 safe lorry: Coefficient x12.

¹¹ See Appendix D, Table D.1.

3 The trade between EU and Ukraine: commodities and trends

This section describes the scale and structure of the trade between the EU and Ukraine.

Ukraine is an important trading partner for the EU. The commodities traded and Ukraine's proximity to the EU's eastern borders have given it increased significance.

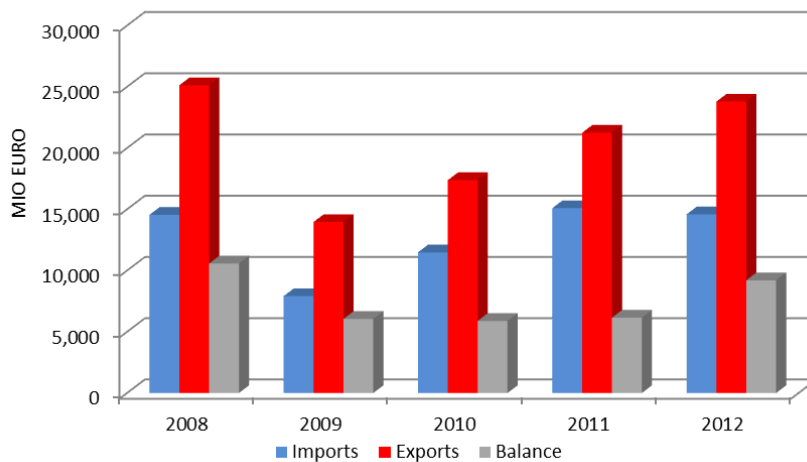
The EU has a positive trade balance with Ukraine. EU exports to Ukraine were worth €23.8 billion in 2012, up 12% compared to 2011 and 70% since 2009, but still below the peak reached in 2008 (25.1 bn €). Imports from Ukraine were worth €14.6 billion in 2012, down 3.4% from 2011 but up 84% compared to 2009. Figure 3.1 shows the trend for 2008-2012, and illustrates the recovery in trade after the 2007-2008 economic crisis.

Member States having more significant trade with Ukraine (by trade volume) are:

- Poland, Italy, Germany, Spain and Hungary for imports; and
- Germany, Poland, Italy and France for exports.

Most individual Member States run a trade surplus with Ukraine; Italy and Spain are the principal exceptions (Figure 3.2).

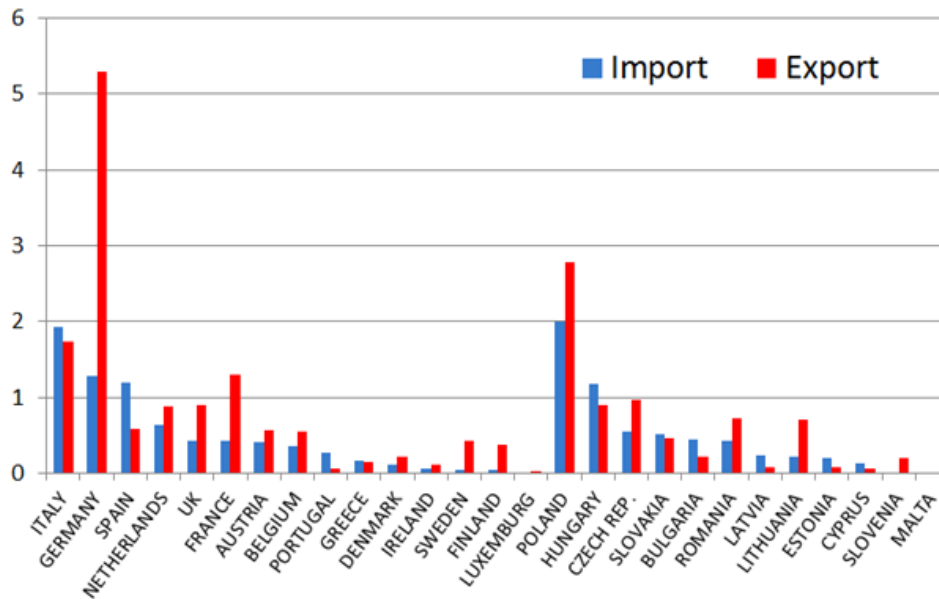
Figure 3.1 The EU's trade balance with Ukraine is positive and increasing



Source: European Commission, DG TRADE

Figure 3.2 Germany, Poland and France had the largest positive trade balance with Ukraine in 2012

EU Member States' trade balance with Ukraine in 2012 (Billion Euro)

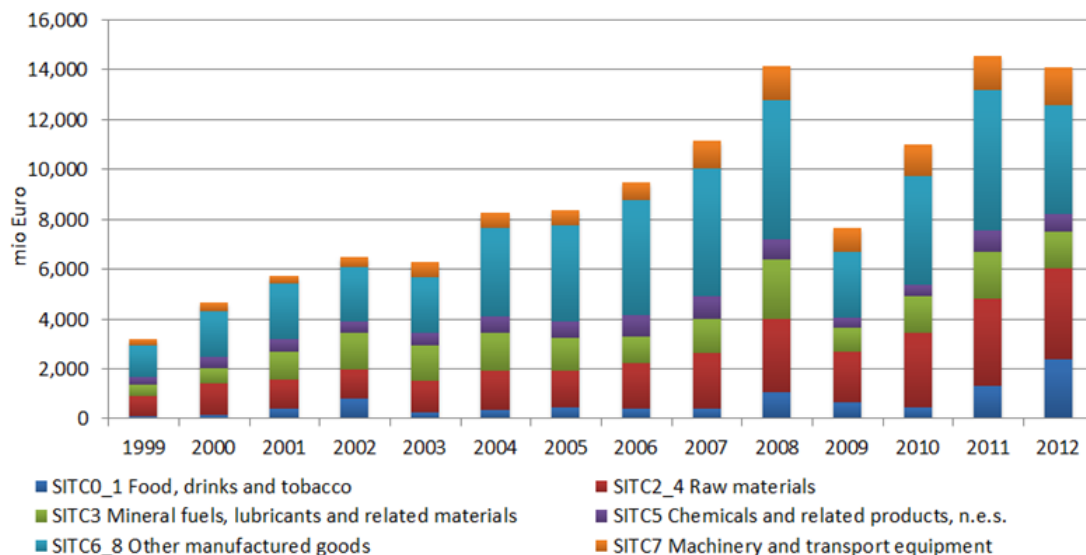


Source: Adapted from UkrStat data¹²

Ukraine is primarily a source of low value products such as raw materials, heavy industry products (iron and metals, semi-finished products), cereals and other foodstuffs. All these are generally carried by other modes than road. The EU's exports are mostly manufactured goods, chemicals and automotive products.

Figure 3.3 EU Imports from Ukraine by commodity type

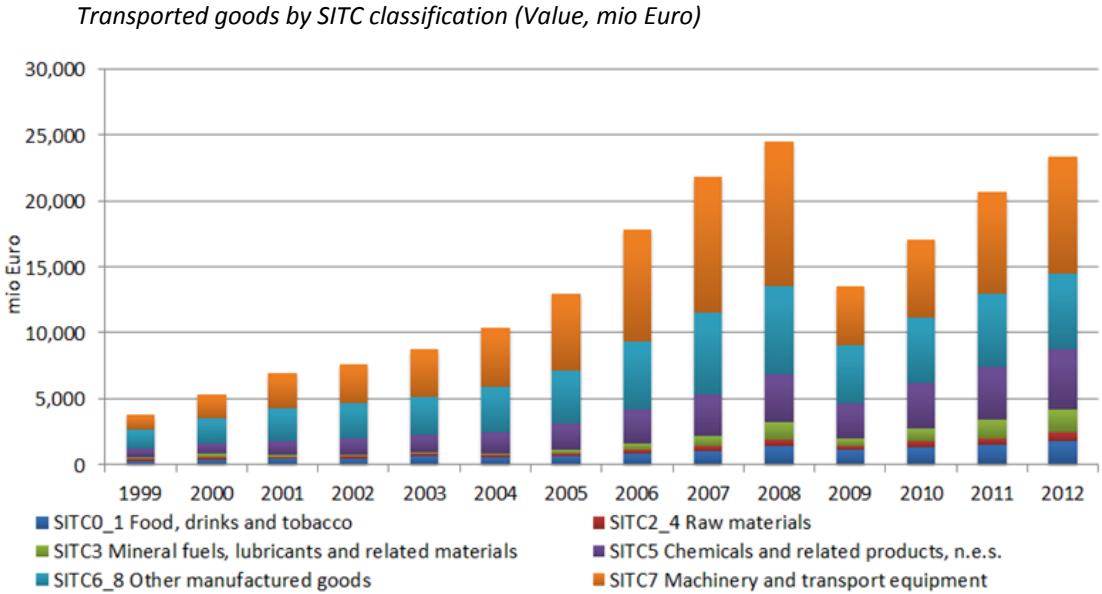
Transported goods by SITC classification (Value, mio Euro)



Source: EUROSTAT data

¹² The average annual EUR / USD exchange rate was used to convert UkrStat data expressed in USD. 1EUR = 1.2848 USD for 2012 as reported from Eurostat.

Figure 3.4 EU Exports to Ukraine by commodity type



Source: EUROSTAT data

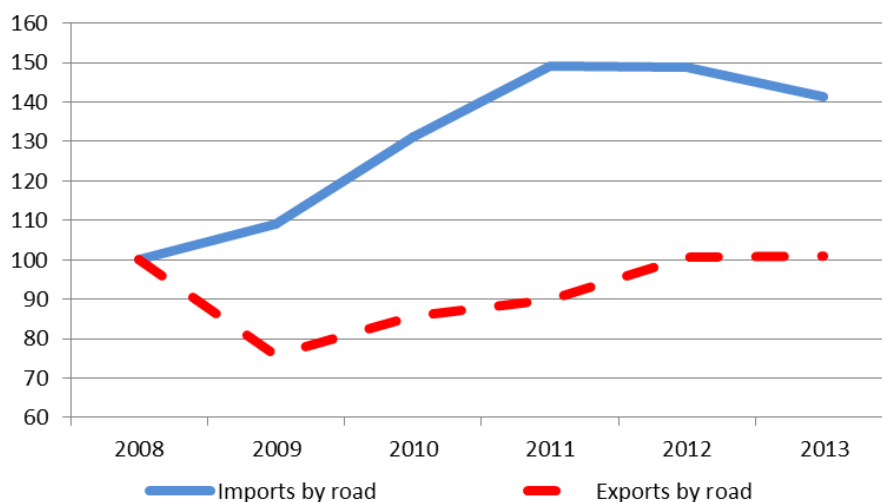
4 EU - Ukraine road-based trade

In 2013 sixty-three per cent (by value) of the EU's trade with Ukraine was carried by road. Most EU exports to the Ukraine travel by road; the majority of imports move by sea. Road's share of export trade increased between 2008 and 2013. Rail's share of EU imports from Ukraine rose slightly over the same period while its share of the export trade fell.

Eurostat data suggests that 5.3 million tonnes of EU exports and 3.5 million tonnes of EU imports are carried by road to/from Ukraine each year (Table 1.1, which also provides data for the other transport modes). EU road-freighted imports have grown 40% since 2008 whereas exports have only just recovered to their pre-crash level (Figure 4.1).

Figure 4.1 **Measured in tonnage terms, imports carried by road into the EU from Ukraine grew rapidly from 2008 while the road freight export market is only recovered to its 2008 level in 2012**

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



Source: EUROSTAT (calculated on a tonnage basis)

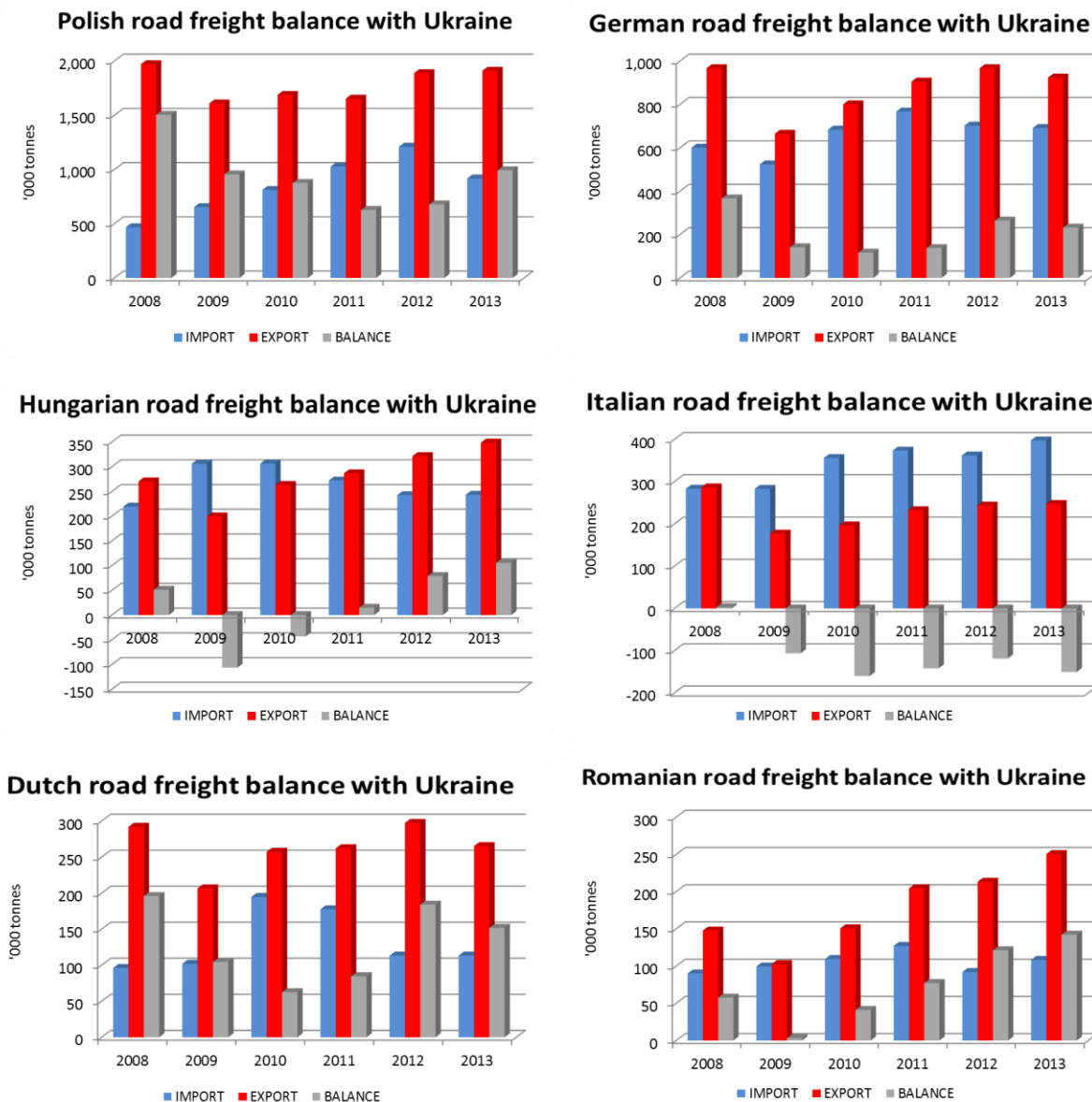
The balance of road freight trade varies across the Member States. Germany, Netherlands, Hungary and Poland export more goods (as measured in tonnes) by road to Ukraine than they import. France and Italy import more by road from Ukraine than they export¹³.

In value terms, manufactured goods are an important component of the road-freighted import trade. The most valuable EU road-freighted export category is machinery and transport equipment. The trade volume data show the importance of sectors such as wood, food products, beverages and chemicals in road freight from Ukraine to the EU and chemicals, food, beverages, wood products, agriculture products, metal products and machinery and equipment moving in the opposite direction. Detailed figures are presented in Appendix E¹⁴.

¹³ Charts and Tables illustrating the balance of bilateral road freight trade with Ukraine for these countries are provided in Appendix E

¹⁴ Figure E.1 and Figure E.2

Figure 4.2 International road freight transport balance between Ukraine and its main EU trading partners ('000 tonnes)



Source: EUROSTAT; EXTRA EU27 Trade by reporting country

Border crossings

Ukraine has eight land border crossings with EU countries that are used by goods vehicles (with Poland, Slovakia, Hungary and Romania). Border crossings points with Belarus and Moldova are also included here as they may be used by hauliers heading to Romania/Bulgaria and to the Baltic States countries respectively. The political situation in Ukraine prevented access to recent data on transport flows for this study. Detailed data on vehicle movements at its borders were not available to the study.

Estimates developed from quota data suggest that 62% of EU road-freighted exports crossed into Ukraine via crossings on its border with Poland, and 17% via crossings on its Hungarian border (Table 4.2). Figure 4.3 shows growth in traffic across Polish and Ukrainian boundary between 2000 and 2013.

Table 4.2 Estimation of tonnes carried by Ukrainian trucks based on quotas used with the EU Member States by border country with Ukraine (2012)

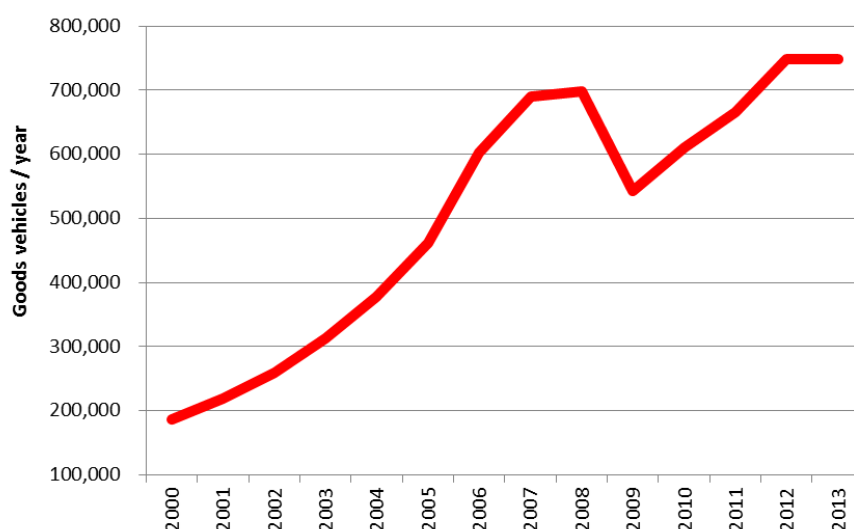
Border crossing with	Traffic originated in:	Estimation of tonnes transported based on quotas used ('000 tonnes)* 2012
Belarus	Estonia, Finland, Latvia, Lithuania	445
Hungary	Austria, Croatia, Hungary, Italy, Portugal, Romania, Slovenia, Spain, France	1,307
Poland	France, Czech Republic, Belgium, Denmark, Germany, Netherlands, Poland, Sweden, United Kingdom	4,657
Romania	Bulgaria, Greece, Romania	472
Slovakia	Slovakia, Austria, Czech Republic	656
Total		7,537

* 16 tonnes/truck has been assumed

Source: TRT analysis of quota data

Figure 4.3 There has been a near four-fold increase in HGV movements across the Polish-Ukrainian border since 2000

Traffic of heavy goods vehicles across the Polish-Ukrainian border, 2000-2013



Source: TRT analysis of IGSO PAS (Stanisław Leszczycki Institute of Geography and Spatial Organization - Polish Academy of Sciences) data based on the Border Guards statistics

According to the border crossing waiting times observatory managed by the IRU, hauliers (EU and Ukrainian) typically have to wait a maximum of 3 hours when entering in Ukraine and 7 hours when leaving Ukraine (Table 4.3). However, anecdotal data collected through the consultation of stakeholder suggest that it often takes significantly longer to leave Ukraine.

Table 4.3 Estimated waiting times at the borders crossings with Ukraine (hours)

Border crossing			Ukraine-EU (hours)			EU- Ukraine- (hours)		
			2007	2012	2013	2007	2012	2013
Poland-Ukraine	Dorohusk (PL)	Yagodin (UA)	12.0	7.7	7.8	7.0	4.0	3.4
	Hrebenne (PL)	Rava-Ruska (UA)	5.0	0.8	1.0	4.0	0.5	0.6
	Korczowa (PL)	Krakowiec (UA)	6.0	1.0	1.1	5.0	0.4	0.6
	Medyka (PL)	Szeginie (UA)	8.0	0.8	2.0	2.8	0.2	0.5
Slovakia-Ukraine	Vysne Nemecke (SK)	Uzhorod (UA)	3.0	1.6	0.2	1.0	1.7	0.2
Hungary-Ukraine	Zahony (HU)	Chop (UA)	3.5	2.8	1.9	1.0	2.6	0.7
Romania-Ukraine	Siret (RO)	Porubne (UA)	0.0	0.2	0.2	0.0	0.4	0.2
	Halmeu (RO)	Diakove (UA)	NA	NA	NA	NA	NA	NA
	Halmeu (RO)	Diakove (UA)	NA	NA	NA	NA	NA	NA

Source: BWTO of IRU

5 The road freight sector in the EU and Ukraine

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% of firms have fewer than 50 employees¹⁵. The size distribution of firms varies by Member State (Figure 5.1). The distribution of employment across these firms 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).

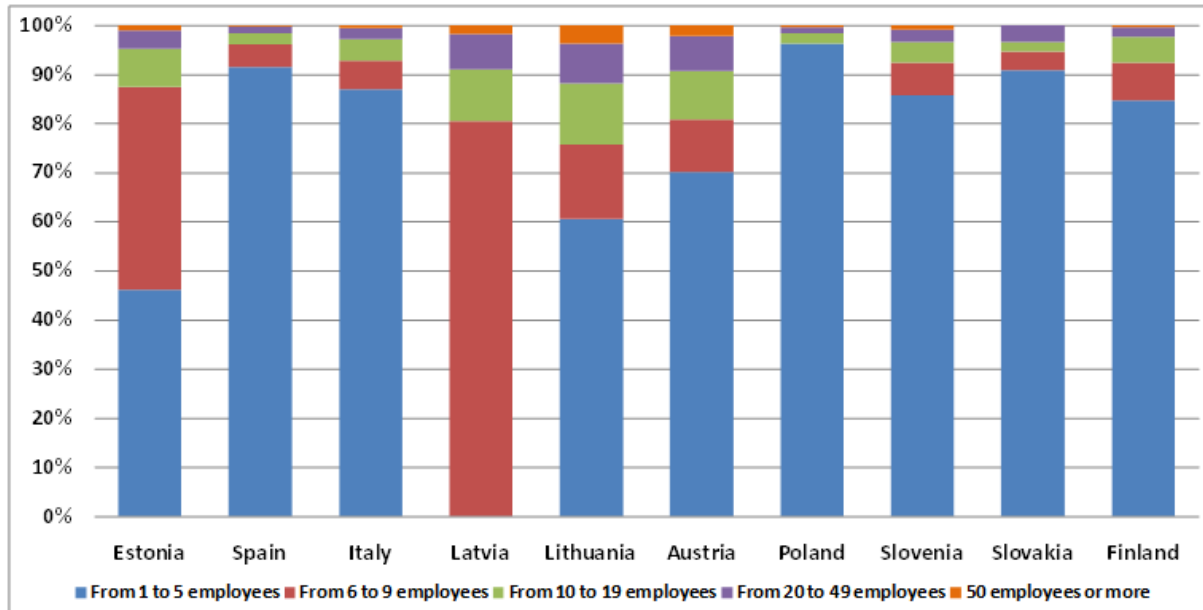
In 2012 road transport in the EU 27 generated close to 1,700 billion tonne-km, about 13% less than in the peak year of 2007. Of this, international operations account for around one third (the rest being national transport)¹⁶.

¹⁵ EC 2014, COM (2014) 222 final

¹⁶ idem

Figure 5.1 **Eight 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

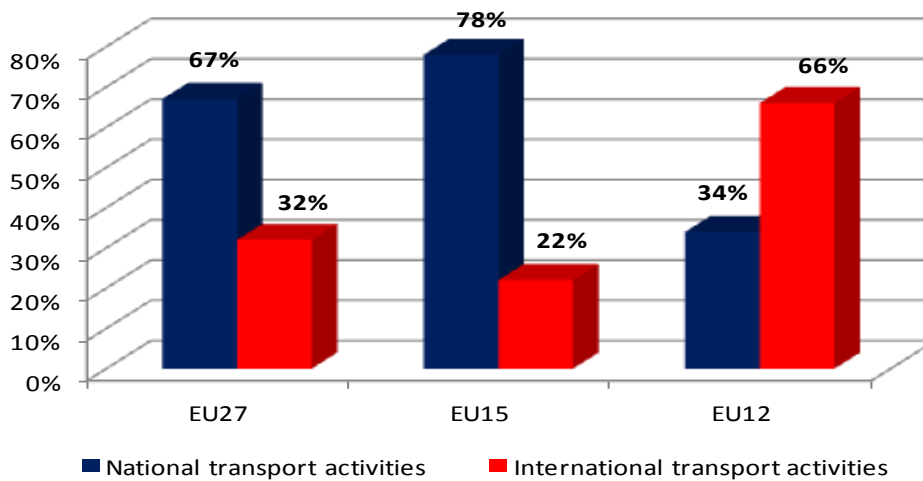


Source: TRT analysis on Eurostat data

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 EU12 hauliers than those from 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 %)

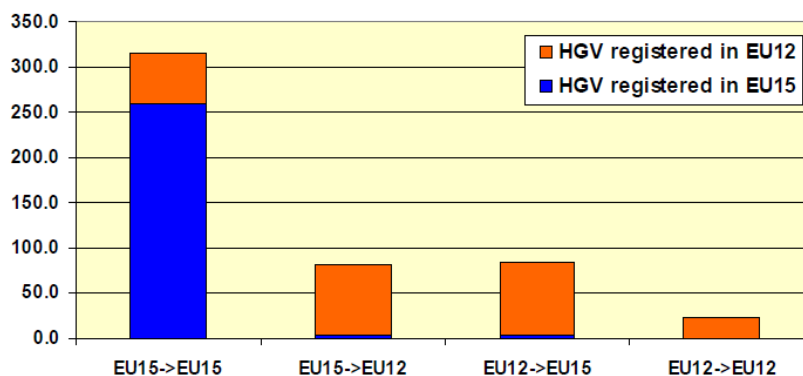


Source: European Parliament, 2013

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 in 2010 between and within 15 "old" and 12 "new" EU Member States; by origin of HGV (in billion tkm)



Source: European Commission, 2011

Firms from the eastern Member States dominate international transport both in bilateral exports/import activities¹⁷ and in crosstrades¹⁸ (74% of which are carried out by hauliers from EU12 countries).¹⁹ 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 5.5).

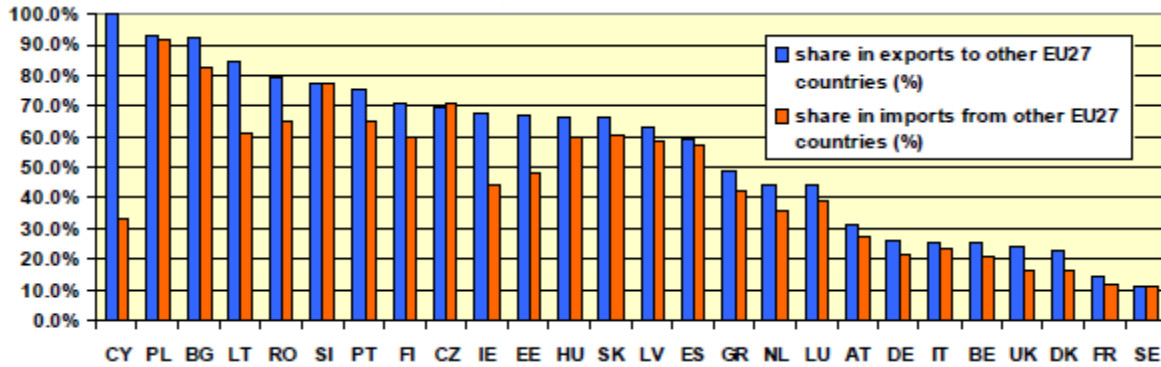
¹⁷ Bilateral international transport regards the activities where either the loading or unloading activity takes place in the country where the vehicle is registered

¹⁸ 'Crosstrade' refers to the trading activities where loading and unloading take place in two different countries, neither of which is the country where the vehicle is registered

¹⁹ 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**

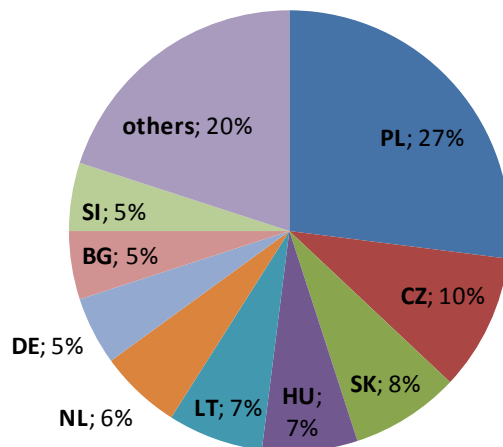
Share of home based vehicles in tonne-km generated in exports to and imports from other EU27 countries in 2010(%)



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)



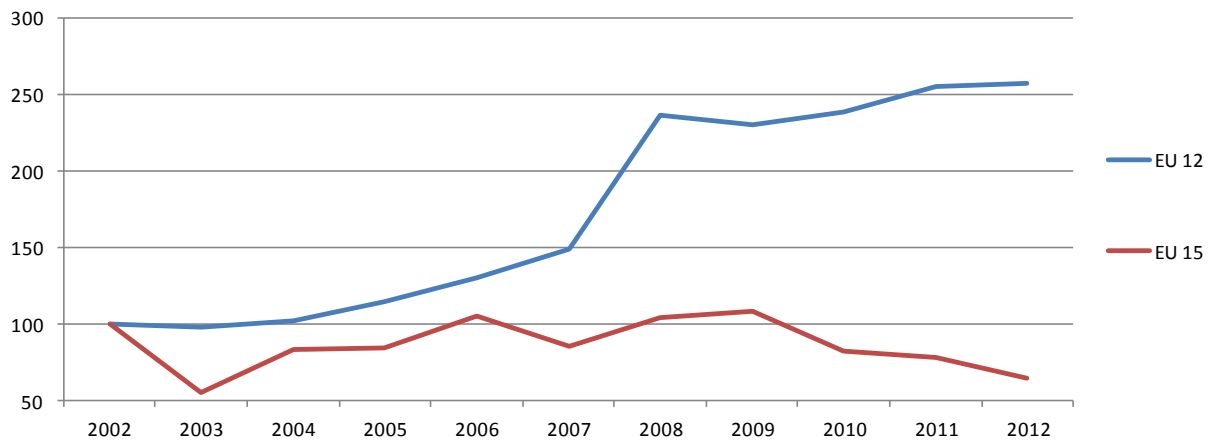
Note: data on small transport firms (1-5 employees) are not available for Latvia

Source: European Commission, 2011

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)

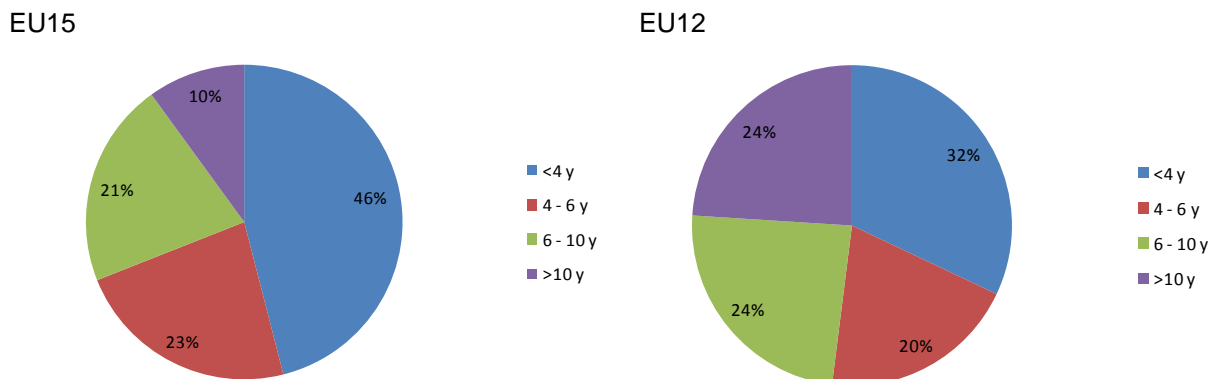


Source: TRT analysis of Eurostat data

The EU road freight fleet is relatively new. Across the EU as a whole, 43% of all vehicle-km are registered by vehicles that are less than 4 years old, 22 % of vehicle-km by vehicles that are 4 to 6 years old 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. 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 Ukrainian international road freight sector

In Ukraine there are 3,500 companies authorised to carry out international road haulage though only 2,400 have an effective market presence. The authorized firms have a fleet of 23,000 trucks and about 60,000 employees.

According to Ukraine's State Road Transport Research Institute, 80 - 90 cent of road haulage firms in the country have fewer than ten trucks. The single tax law adopted in 1995-96 provide an incentive to keep firms size small and to split larger legal entities into smaller ones; firms with a turnover of less

than UAH²⁰ 1 million pay significantly lower taxes than firms over that threshold. On the other side as elsewhere firms in international market tend to be larger than average. Half the firms in international haulage operate with truck fleets of more than 10 vehicles (Table 5.1).

Table 5.1 Characteristics of the truck fleet for international road haulage in Ukraine

Number of vehicles	% companies
1-10 vehicles*	70
11-30 vehicles	24
31-50 vehicles	4
More than 50 vehicles	2
Total	100

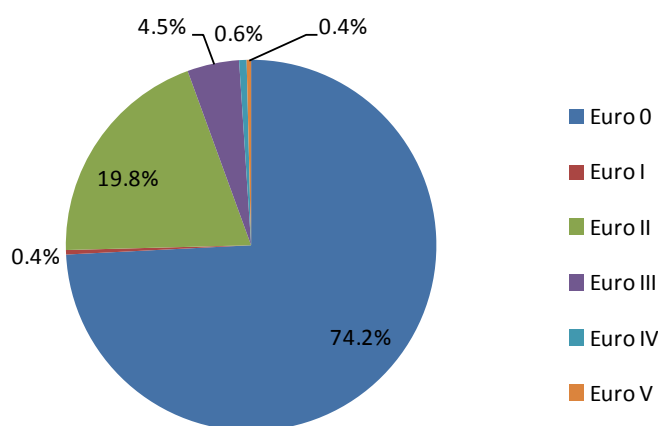
*A precondition to be able to get TIR carnets issued by AIRCU and necessary for international road transport is a minimum size of 5 vehicles.

Source: Ministry of Transport of Ukraine (2014)

Ukraine has 1,159,000 commercial vehicles of which a large proportion are very old. Nearly the 74% of the fleet is Euro 0 vehicles, most of the rest (nearly 20%) is of Euro II stock. Euro IV (0.6%) and Euro V (0.4%) account for just the 1% of the total fleet (Figure 5.9).

Figure 5.9 Only 1% of Ukraine's commercial fleet meets Euro IV and V emissions standards

Commercial vehicles fleet in Ukraine by Euro standards (2010)



Source: AM Redzyuk, VS Ustylenko, OA Klimenko, AV Cooper Enters environmental standards Euro 3 - Euro 6 in Ukraine, analysis of car park signs // Research and Production magazine "Avtoshlyahovyk Ukraine» № 4 (222), July - August 2011

This age profile contrasted with that of the EU vehicle fleet which consists mainly of very modern vehicles. The Ukrainian fleet used for international shipments is more modern than the domestic fleet. It consists mainly of Euro III and over vehicles (64%) to comply with the conditions applied by bilateral agreements and for the use of ECMT licences. The Ukrainian fleet operating in the EU is thus much cleaner than the vehicles typical of the Ukrainian domestic market.

²⁰ 1 euro = 16.6 Ukrainian Hryvnia (UAH) so 1 million UAH is approximately €60,000 [conversion rate sourced on 8 September 2014].

Cost comparison of EU and Ukrainian road transport operators

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

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

Cost data for the EU countries have been analysed at a higher level of disaggregation than for Ukraine. Diesel costs refer to 2014. All figures for Europe, with the exceptions of fuel costs, refer to 2010 while all figures for Ukraine refer to 2008. All costs strictly related to vehicle operation and maintenance have been reported in €/km. Wage data refer to yearly compensation

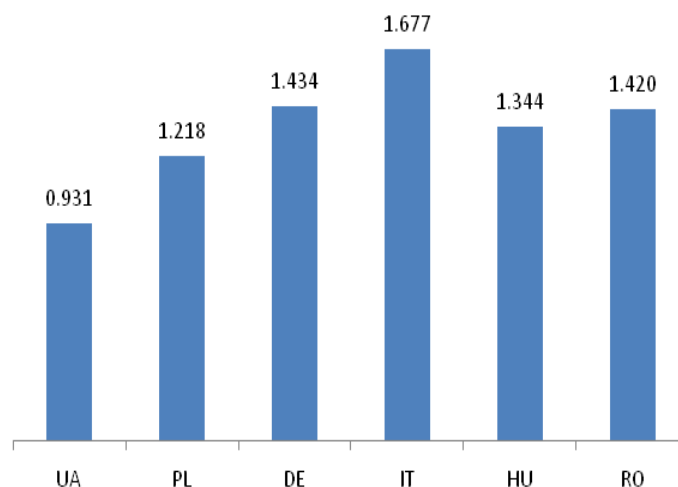
According to the information provided by the Ukrainian Ministry of Transport, in 2012 the market for handling of EU-Ukraine road freight was almost equally divided between EU (49%) and Ukrainian hauliers (51%). Discussions with international freight forwarders indicate that Ukrainian hauliers have a competitive advantage, in part because of their lower costs compared to (for example) Polish or Lithuanian firms.

Fuel and wages represent a large share of overall costs for Ukrainian hauliers. Fuel cost accounts for over 40% of total operating costs, wages 20-25%, and other costs 35-40% (World Bank, 2010). Diesel costs are low (0.931 €/l) compared to the comparator EU Member States (Figure 5.10). Despite lower fuel prices, the fuel fraction is the highest of all the countries compared and nearly double that of Italian hauliers.

The wage fraction of total cost for Ukraine is close to that seen in Poland, Hungary and Romania. The low cost of drivers as in some EU eastern countries is a factor of competitiveness of Ukrainian sector. Considering that labour cost in Ukraine is far lower than in Germany or in Italy and fairly lower than in the other representative countries, it is discernible that the overall transport cost for Ukrainian hauliers is lower. Estimates of the relative scale of operating costs are shown in Figure 5.11 (the category ‘others’ includes vehicle costs (purchase, maintenance, insurance, taxes)).

Figure 5.10 Diesel costs in Ukraine are lower than in the comparator EU Member States

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

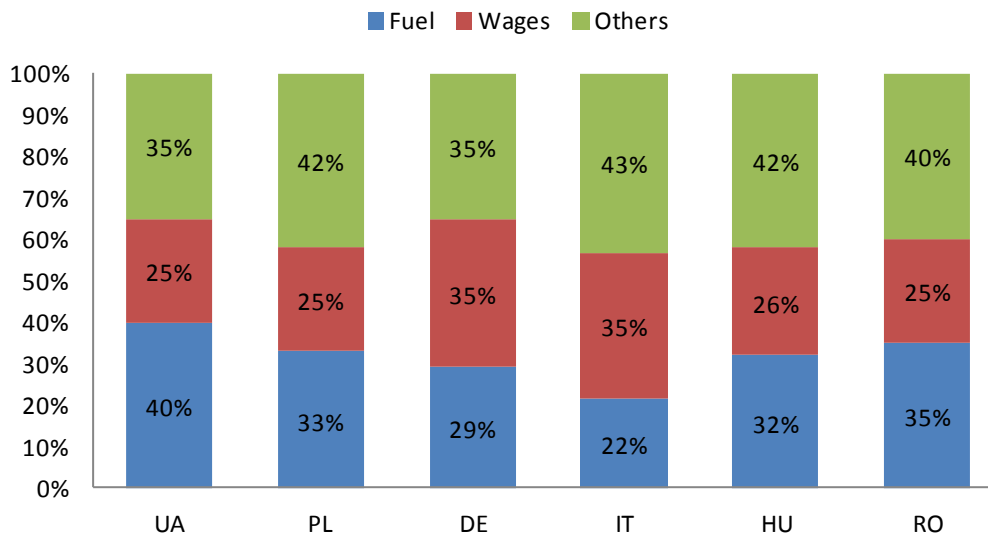


Source: <http://www.fuel-prices-europe.info/index.php?sort=4>.

Note: Source does not indicate whether VAT is included.

Figure 5.11 The available data suggests that fuel contributes a larger share of operating costs for Ukrainian hauliers than for their EU counterparts

Incidence of fuel and wages costs on the total operating costs (2010)



Source: Authors' analysis based on Ernst and Young (2011) and World Bank (2010).

Another relevant factor affecting the market share is the imbalance of trade flows (which translated into freight rates that are higher for EU exports than for imports), and the seasonality (prices fluctuate widely during year). The high risk of empty back runs and price volatility makes the EU-Ukraine trade less attractive for EU based operators.

6 The regulatory framework of road freight transport in Ukraine and alignment to the EU road transport *acquis*

This section briefly presents the EU legislation relating to the road freight transport sector and then moves on to discuss the steps taken by Ukraine to align its domestic laws regulations EU standards. It also provides an overview of bilateral road transport agreements that Ukraine has concluded with the EU Member States.

Ukraine is a partner country of the EU within the framework of the European Neighbourhood Policy (ENP) and the Eastern Partnership. The framework that provides the legal discipline of the bilateral relations is structured around the Partnership and Cooperation Agreement (PCA, which was first signed on 14 June 1994 by the European Community and, at the time, the twelve Member States with Ukraine. Following the three enlargements of the EU, additional protocols were used to confirm Austria, Finland, Sweden and the twelve 'new' Member States as members of the agreement. The overall purpose of the agreement is to strengthen the bilateral relations by providing an opportunity for cooperation, gradual economic integration and political association.

Negotiations on a new EU-Ukraine Association Agreement were launched in March 2007 and concluded in December 2011, while in November 2009 the EU-Ukraine Association Agenda was adopted (later updated in 2011). This Agenda, which replaces the former Action Plan, has prepared for and facilitated the entry into force of the Association Agreement which has been recently signed on 27 June 2014. The EU-Ukraine Cooperation Council also endorsed the updated version of the EU-Ukraine Association Agenda on 24 June 2013.

The Action Plan was endorsed by Ukraine through adoption of a new law²¹ which provides the legal basis for the alignment of the Ukrainian legislation to the EU *acquis*. A number of decrees (Appendix E, Table E.6) have been subsequently adopted in order to enact the provisions laid down in this law.

Ukraine's commitments to align its own laws with EU legislation in the area of road transport are embedded in that legal framework. According to the Action Plan, reforms and measures need to be adopted by Ukraine to:

- ensure that the international and national transport sector is regulated in terms of access to the profession;
- introduce and enforce mandatory driving times and rest periods in the international transport sector in compliance with international standards; and
- adopt and start implementation of an action plan for improving road safety.

A new "Automobile Transport" law is under preparation. Its requirements will be developed on the basis of the EU standards and, therefore, will secure a full alignment to the EU *acquis* in the area of commercial road transport (Ukrainian Ministry of Infrastructure, 2014). The new law will embed the standards currently laid down in the Regulations and Directives that are included into the Association agreement concluded between Ukraine and the EU.

Table 6.1 compares Ukraine's road transport legislation to the corresponding EU *acquis*. It shows that:

- There is full alignment on **driving times and rest periods**, and on implementation of the **tachograph**. Ukraine is (since 2005) a signatory party to the AETR Agreement; this provided an opportunity and an incentive to review domestic legislation in accordance with a set of rules that, in their turn, are in line with the requirements laid down in Regulation (EC) No 561/2006 and Regulation (EEC) 3821/85.
- Alignment to the relevant EU pieces of legislation is also good in the areas of **transport of dangerous goods, road worthiness** and **environmental standards of commercial vehicles**. In the area of road worthiness it may be expected that the approximation process will continue and consider the latest EU legislative developments following the adoption of the new Directives 2014/45/EU, 2014/47/EU and 2014/46/EU.
- There is partial alignment in **access to the market and to the occupation** and **technical standards of vehicles**. Ukrainian law is aligned to the EU *acquis* in as far as the basic criteria of stable organisation, good repute, financial standing and professional competence have been fully transposed into Ukrainian national law. A new draft framework law updating the existing norms regulating type approval of motor vehicles and their trailers and systems (including components and separate technical units) was due in September 2013 but was not adopted. For both areas, further alignment is expected with the adoption of the draft Law of Ukraine on "Automobile Transport".
- The situation is more problematic in relation to the **training and qualification of professional drivers**. At present, Ukraine does not have a legally defined system for training of professional drivers engaged in either passenger or freight transport.

A more detailed discussion of the Ukrainian legislation and its fit to the EU *acquis* is provided in Appendix E.2.

²¹ Law of Ukraine No 1629 of 18 March 2004 entitled "On the State Program for Adaptation of Ukraine to the EU legislation"

Table 6.1 Overview of the alignment of Ukraine’s road transport legislation to the corresponding EU acquis

Topic	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	<p>Regulations (EC) No 1071/2009 on access to the profession Regulation (EC) No 1072/2009 on access to the market</p> <p><i>Main requirements:</i> Set the following basic criteria for engagement in the occupation of road transport operator</p> <ul style="list-style-type: none"> • Effective and stable establishment. • Good repute. • Appropriate financial standing. • Professional competence. 	<p>Order of the Ministry of Transport No 551 “<i>On approval of the training of managers and professionals whose work is related to the provision of services road transport</i>” (adopted on 26 July 2007).</p>	<p>Partially aligned</p> <p>Only the basic requirements set by the EU <i>acquis</i> for the access to the market and the profession have been transposed into the Ukrainian national law.</p>	<p>Not provided.</p>	<p>Further alignment should prospectively improve the current normative setting by:</p> <ul style="list-style-type: none"> • introducing application procedures for admission to the market for all categories of transport services ruled by Regulation (EC) No 1071/2009, in particular on freight transport operated by vehicles with a mass over 3.5 tonnes; • defining conditions for the access on market and especially sets out the basic criteria of stable organisation, good repute, financial standing and professional competence in accordance, therefore, with Article 3 of Regulation (EC) No 1071/2009; • reviewing and adapting to the requirements laid down in Regulation (EC) No 1071/2009 the procedures applying to authorisation and monitoring, suspension and withdrawal of authorisation and relative appeals; • creating a national electronic register of transport undertakings.
Social aspects of road transport	<p>Regulation (EC) No 561/2006 on driving hours and rest periods.</p> <p><i>Main requirements:</i> Sets common rules for maximum daily driving times, breaks and rest periods of professional drivers engaged in road freight</p>	<ul style="list-style-type: none"> • Law No. N 2819-IV “<i>On Ukraine's Accession to the European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR)</i>” (adopted on 7 September 2005). • Order No. 914 “<i>On the implementation of the European Agreement concerning</i> 	<p>Fully aligned</p> <p>All main provisions governing driving times and rest periods of professional drivers have been introduced in Ukraine, though not</p>	<p>Not relevant.</p>	<p>No need of further alignment identified.</p>

Topic	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
	and passenger transport.	<p><i>the Work of Crews of Vehicles engaged in International Road Transport (AETR)</i>" (adopted 11 July 2007)</p> <ul style="list-style-type: none"> • Order of the Ministry of Transport No 340 "On Approval of the Regulations on working time and rest periods of wheeled vehicles" (adopted on 7 June 2010 and as amended by Order No 659 of 29 December 2011). • Order No 51 "On the implementation of the Convention of the International of work in 1979 number 153 on the duration of working time and periods of rest on road transport" (adopted on 25 January 2012). • Order of the Ministry of Infrastructure No 226 "On Approval of the Procedure of conduct List business management, (Tachograph) in the motor transport vehicles" (adopted on 17 April 2013). • Order of the Ministry of Infrastructure No 329 "On Approval of the Procedure circulation of cards used in digital control devices (tachographs)" (adopted on 30 May 2013). 	automatically by joining AETR Agreement.		
	<p>Regulation (EEC) No 3821/85 on the digital tachograph.</p> <p><i>Main requirements:</i> Set requirements on construction, installation, use and testing of recording equipment (tachograph).</p>	<ul style="list-style-type: none"> • Order of the Ministry of Transport No 340 "On Approval of the Regulations on working time and rest periods of wheeled vehicles" (adopted on 7 June 2010 and as amended by Order No 659 of 29 December 2011). • Order of Ministry of Infrastructure No 385 "On approval of the Instruction on the use of monitoring devices (tachographs) in road transport" (adopted on 24 June 2010) • Order of the Ministry of Infrastructure No 226 "On Approval of the Procedure of conduct List business management, (Tachograph) in the motor transport vehicles" (adopted on 17 April 2013) • Order of the Ministry of Infrastructure No 329 "On Approval of the Procedure 	<p>Fully aligned.</p> <p>All main provisions governing the implementation of the tachograph have been introduced in Ukraine, though not automatically by joining AETR Agreement. Regulatory efforts addressed in particular the implementation of the tachograph for domestic road transport operations, so to secure a full harmonisation of the national laws with the EU requirements.</p>	Not relevant.	No need of further alignment identified.

Topic	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
		<i>circulation of cards used in digital control devices (tachographs)" (adopted on 30 May 2013)</i>			
Training and qualification of professional drivers	<p>Directive 2003/59/EC on training and qualifications of professional drivers.</p> <p>Main requirements: Sets minimal initial qualifications and minimum periodic training requirements.</p>	Absent	Not aligned.	To date, Ukraine has not a legally defined system for training of professional drivers engaged in either passenger or freight transport.	<p>Efforts should focus on:</p> <ul style="list-style-type: none"> • Approving a the new draft Law of Ukraine "On automobile Transport", and markedly its Article 27; • Approving Order of the Ministry of Infrastructure "On approval of training of qualified drivers to provide transportation of passengers and cargo", and in particular paragraph 41 that requires the approximation of the national legislation with Directive 2003/59/EC.
Technical standards	<p>Directive 96/53/EC on dimensions and weights of road vehicles.</p> <p><i>Main requirements:</i> Establishes maximum weight and dimensions of heavy commercial vehicles.</p>	<ul style="list-style-type: none"> • Not available. 	Partially aligned	<p>Building on the legislative efforts to give implementation to the Action Plan for the approximation of the Ukrainian legislation to the EU <i>acquis</i>, a new draft framework law updating the existing norms regulating type approval of motor vehicles and their trailers and systems (including components and separate technical units) was due in September 2013. However, this did not occur.</p>	<p>Further regulatory developments may be expected with the adoption of the new draft Law "On Automobile Transport".</p>
	<p>Directive 92/6/EEC on speed limitation devices as amended by Directive 2002/85/EC.</p> <p>Main requirements: Establishes the requirements for installing speed limitations devices on commercial vehicles engaged in freight and passenger transport operations.</p>	<ul style="list-style-type: none"> • Order of the Ministry of Infrastructure No 521 "On Approval of the Procedure for approval of design of vehicles and their parts and accessories and Procedure keeping a register of certificates such as vehicles and equipment and certificates of conformity issued by the manufacturer of vehicles and equipment" (adopted on 17 August 2012). 	Partially aligned		
Road worthiness	<p>Directives 2000/30/EC, 2009/40/EC and 1999/37/EC.</p> <p>This package of EU laws</p>	<ul style="list-style-type: none"> • Law of Ukraine No 3565-VI "On Amendments to Certain Legislative Acts of Ukraine on elimination of excessive state regulation in the field of road 	Partially aligned	The last legislative developments have significantly (though not yet fully) aligned the Ukrainian regulatory framework	Further prospective alignment is expected towards the new set of EU rules established by the "Road worthiness package" as

Topic	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
	establishes: (i) minimum standards for periodic roadworthiness testing, (ii) minimum standards of roadside inspections of commercial vehicles and (iii) requirements on national electronic registers.	<p><i>transport</i>" (adopted in 2011)</p> <ul style="list-style-type: none"> • Order No 146 of the Cabinet of Ministers of Ukraine "On the implementation of business software for mandatory technical control protocols forms of checking the technical condition of the vehicle and cost of the provision of such services" (adopted on 8 February 2012). • Order No 512 of the Cabinet of Ministers of Ukraine "On procedures for the establishment of a national database of the results of the mandatory technical control of vehicles means of access thereto and installation fees for providing such services" (adopted on 31 May 2012). • Resolution No 137 of the Cabinet of Ministers of Ukraine "On approval of the mandatory technical control volume and checking the technical condition of vehicles" (adopted on 30 October 2012). • Order of the Ministry of Infrastructure No 710 establishing "Requirements for the examination of the construction and technical state of a wheeled vehicle methods such verification" (adopted on 26 November 2006). 	pieces of legislation makes it possible to create an effective system of mandatory technical control that (i) ensures the need for maintenance of commercial vehicles in good condition, (ii) facilitates removal of technical barriers to transnational movement of goods transport services between Ukraine and the EU Member States.	to the requirements set by Directive 2009/40/EC, in particular relating the control of vehicles' technical conditions. Such technical conditions were previously inspected only in the place where the vehicles was registered without allowing the owner the possibility to chose workshop, quality levels and costs of the inspection. In addition, methods of control were not identified.	laid down in the provisions of Directives 2014/45/EU, 2014/47/EU and 2014/46/EU. Namely, further alignment is expected with respect to the monitoring system to ensure that commercial vehicles are maintained in good condition, thus facilitating the removal of technical barriers to transnational movement of goods and transport services
Transport dangerous goods	<p>Directive 2008/68/EC on dangerous goods.</p> <p><i>Main requirements:</i> Establishes a common regime for all aspects of the inland transport of dangerous goods, by road, rail, and inland waterway.</p>	<ul style="list-style-type: none"> • Law of Ukraine No 1511-III on "Ukraine's Accession to the European Agreement Concerning the International Carriage of Dangerous Goods" (adopted on 2 March 2000). • Law of Ukraine No 1644-III "Transportation of Dangerous Goods by Road (ADR)" (adopted on 6 April 2000). • Law of Ukraine No 2344-III on "Motor Vehicle Transport" amended with Law No 3492-IV of 23 February 2006. MIA Ukraine; Regulatory order, Rules, Forms, Terms of 26 July 2004 No 822 on "Approval of Rules for Dangerous 	Fully aligned.	Not relevant.	No need for further alignment was identified.

Topic	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
		<i>Goods transportation by Road”, adopted on 20 August 2004 and later amended on 27 June 2006” (adopted on 5 April 2005)..</i>			
Environmental standards of commercial vehicles	<p>Directive 715/2007/EC on type approval of motor vehicles with respect to emissions from light passenger and commercial vehicles (Euro 5 and Euro 6) and on access to vehicle repair and maintenance information.</p> <p><i>Main requirements:</i> Sets harmonised technical requirements and standards for reducing environmental impacts of fuel-powered commercial vehicles.</p>	<ul style="list-style-type: none"> • Order No 521 “<i>On Approval of the Procedure for approval of design of vehicles and their parts and equipment</i>” (adopted on 17 August 2012) • Law of Ukraine No 5177-17 amending Law of Ukraine “<i>On some issues of import to the customs territory of Ukraine and registration of vehicles</i>” entered (adopted in August 2011). 	Fully aligned	Not relevant.	Further regulatory developments are expected with the adoption of the new draft Law “ <i>On Automobile Transport</i> ”.

7 The liberalisation scenarios

This section explains the scenarios for liberalisation of the EU-Ukraine 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.

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.
- **Transit liberalisation.** This scenario sees a move to free transit for the external partner (Ukraine). 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. 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 Ukraine. 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.

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.

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 the partial 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 3-5 years after the regulatory changes.

8.1 Reference scenario

The reference, or 'business as usual', scenario represents the situation in which the quota system and the permits granted continue as they are today to 2016. 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.

The reference scenario for the year 2016 is based on the historical trends for GDP, trade volumes carried per road, the number of permits issued, etc. As a result, it is assumed that the overall number of freight road trips between Ukraine and the EU in 2016 will only slightly (by less than 6%) exceed the numbers for 2012 (Table 8.1). The key obstacle for active trade relations is the major economic slump in Ukraine accompanying the political situation prevailing in 2014. The signature of the Association Agreement between the EU and Ukraine is expected to boost bilateral trade.

The key source of traffic growth in the reference scenario is Ukraine's trade with neighbouring Member States (Poland, Romania, Hungary, and Slovakia) as well as with Baltic States. The reason is that these trading partners are expected to experience more rapid economic growth than the larger EU economies (Germany, Italy, and France).

8.2 Full liberalisation

The full liberalisation scenario involves the abolition of bilateral and transit permits. This results in cost reduction for the hauliers. There are two types of costs involved. The first component is the cost of the permits, which is small (usually a fixed price of 49 UAH (€2.95) per permit). The second component is linked to the time spent ordering the permits, getting them onto the vehicle and passing through the controls of the authorities (customs, police) on the way. In practice, this whole process may be quite time-consuming (for a trip requiring several permits it may take up to one working day of time (9 hours), which could otherwise be used for driving). According to the evidence gathered, Ukrainian hauliers often face a lack of permits at the preferred border crossing. A shortage of permits becomes a

growing problem as the end of the year approaches. Unexpected events might also intervene, when additional permits for a certain country may be needed. In case of EU-Ukraine road freight, no additional problems connected to transit have been identified. That is why the key effects described below are due to reduced time costs.

Table 8.1 **The model suggests a 5.5% growth in import road freight trips between 2012 and 2016 in the business-as-usual scenario**

Projected growth in import trips by road in the business-as-usual scenario

Import trips from Ukraine to:*	Reference dataset	Business as usual scenario
	Estimation for 2012	Estimation for 2016
EU15	103793	105500
EU13	187310	201662
Eastern EU	172883	185968
Northern EU	18694	20239
Southern EU	24034	24074
Western EU	75492	76882
Total EU	291104	307161
(% change)		(5.5%)

Source: AsMAP data and authors' 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

8.2.2 Impacts on value of trade

The analysis suggests that **full liberalisation of road freight would increase the value of EU-Ukraine trade by an estimated €0.6 billion per annum, of which approximately €0.2 billion are additional imports from Ukraine and €0.4 billion are exports to Ukraine.**

The total impact of full liberalisation in the EU is distributed across Ukraine's EU trading partners but the principal impact is seen in trade with Germany, Italy, the UK, and Poland. The boost to trade comes from the reduction in costs and the removal of the constraint imposed by the current deficit of bilateral permits for Ukrainian hauliers (mainly those issued by Italy, the UK, and some Scandinavian countries). The removal of this constraint accounts for at least 30% of the total increase of EU imports from Ukraine. The overall impact on Ukraine is however small, in the order of 0.3% of its total exports by all modes or 0.6% of exports per road.

The value of EU's additional exports to Ukraine exceeds the value of additional imports, whereas the volumes (the number of trips) are comparable. The key reason for this is the large difference in the value-to-weight ratio of the freight carried from Ukraine to the EU and the freight carried in the opposite direction. On average, the EU exports are more than three times more expensive per tonne (Eurostat data).

Table 8.2 **In value terms, full liberalisation boosts EU imports from Ukraine by 4.5% and exports by 2.1%, as compared to business-as-usual**

Increase of trade with Ukraine in the full liberalisation scenario, estimation for 2016.

	Additional EU road import value, million Euro	Additional EU road export value, million Euro
EU15	147	309
EU13	29	80
Eastern EU	27	74
Northern EU	70	94
Southern EU	47	133
Western EU	34	87
Total EU	177	389
Change rel. to BAU, %	4.5%	2.1%

Source: DIW Econ. For definition of EU quadrants see footnote to Table 8.1

8.2.3 Macroeconomic and sectoral effects

For the EU, trade growth with Ukraine has impacts mainly in the machinery manufacture, vehicles and equipment, metals production, and furniture sectors. The Member States most affected are those with the largest road-based trade in goods with Ukraine, namely Germany, France, Italy, and Poland. However, given the small share of Ukraine in the overall value of EU exports and imports, the macroeconomic effects for individual countries are very small.

The growth of EU exports to Ukraine requires more production activity and additional labour input. The total effect on EU employment is estimated to be in the order of 3,500 new jobs.

Lower trade barriers mean that Ukrainian products will be available at a lower price to European consumers. With the assumptions made (see Appendix F) the overall cost savings for final consumers in the EU may reach €25 million per year in the full liberalisation scenario.

One potential effect is the substitution of third-country imports or of EU internal imports with Ukrainian products. The analysis of such processes requires the information on price differentials and consumer preferences for a range of commodities stemming from different destinations and is beyond the scope of this study. However, as mentioned above, the additional imports from Ukraine are expected to be small.

For Ukraine, the input-output modelling suggests that road transport liberalisation with the EU will boost output by approximately €0.3 billion. This effect would be concentrated in certain sectors, particularly machinery and equipment, basic metals, timber/wood products/paper and pulp (Table 8.3).

The employment effect in the economy is estimated to be in the order of 7,400 additional jobs. This corresponds to an increase by around 0.04% of total employment. The relative effects on total output and GDP are in the same order of magnitude.

Table 8.3 **Modelling suggests that effects of full liberalisation will be greatest (in value terms) in the machinery sector**

Sectoral economic impacts of full liberalisation scenario in Ukraine

Sector	Difference to BAU scenario	
	Output, mln €	Employment, thousand persons
Agriculture	21	1.7
Forestry	1	0.4
Fishing	0	0.0
Extraction of coal, crude oil and natural gas	21	0.2
Extraction of metal ores, minerals	10	0.1
Manufacture of food and beverages	13	0.2
Textiles	28	0.5
Timber, wood products, paper and pulp	32	0.4
Coke oven products; refined petroleum products	9	0.0
Chemical products	26	0.2
Other non-ferrous minerals production	5	0.1
Iron and steel, Non-ferrous metals, aluminium	48	0.4
Machinery and equipment	69	1.0
Other industry	10	0.1
Utilities	10	0.3
Construction	0	0.0
Transport services	8	0.2
Other services	22	1.4
Total	333	7.4
Total change compared to BAU scenario, %	0.13%	0.04%

Source: DIW Econ

8.2.4 Impact on traffic flows

With the modelling approach taken, full liberalisation results in 5% more import trips from Ukraine than seen under the business-as-usual (BAU) scenario. The reason is that without the barriers imposed by the quota restrictions, the potential of Ukrainian exports (induced by EU demand) can be realised to a greater extent. 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.

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

Predicted import trips to the EU in the full liberalisation scenario

Import trips from Ukraine to:	Estimation for 2016		
	Business-as-usual scenario	Full liberalisation scenario	Change, %
EU15	105500	113537	8%
EU13	201662	208741	4%
Eastern EU	185968	192715	4%
Northern EU	20239	23163	14%
Southern EU	24074	26762	11%
Western EU	76882	79639	4%
Total EU	307161	322278	5%

Source: DIW Econ. For definition of EU quadrants see footnote to Table 8.1

8.2.5 Changes in distribution of traffic

It is inevitable, given the location of the routes between Ukraine and its largest EU markets that **the growth in road freight traffic will be unevenly distributed across the EU Member States**. The available data do not reveal any substantial constraints for transit of Ukrainian vehicles in the EU or vice versa. Therefore, it is predicted that no large reallocation of freight traffic to alternative routes will occur after transit liberalisation.

Table 8.5 shows the estimates of the transit traffic related to EU imports from Ukraine under the full liberalisation scenario. The largest additional traffic will cross Belgium (traffic to the UK), Germany, Hungary, Poland and Slovenia.

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

Distribution of transit trips in the 2016 scenarios

Country	Business-as-usual scenario	Full liberalisation	Difference to BAU	Change (in %)
Austria	4325	4671	346	8%
Belgium	2627	4343	1716	65%
Bulgaria	4550	4619	69	2%
Croatia	21	21	0	0%
Czech Republic	7514	7794	280	4%
Denmark	0	0	0	
Estonia	472	481	8	2%
Finland	0	0	0	
France	1438	1468	29	2%
Germany	23723	26709	2986	13%
Greece	0	0	0	
Hungary	22735	25220	2485	11%
Italy	1744	1798	53	3%
Latvia	4132	4226	95	2%
Lithuania	3990	4041	52	1%
Luxembourg	0	0	0	
Netherlands	0	0	0	
Poland	75911	81024	5113	7%
Portugal	0	0	0	
Romania	10261	10442	181	2%
Slovakia	17765	18579	814	5%
Slovenia	18129	20452	2323	13%
Spain	109	111	2	2%
Sweden	279	279	0	0%
United Kingdom	0	0	0	

Source: DIW Econ

8.3 Transit liberalisation

This scenario involves the removal of transit permits only. Most EU countries issue only one type of license for Ukraine, with no distinction between market access and transit. However, few countries (Slovakia, Hungary) issue permits specifically for transit. It is assumed that in the transit liberalisation scenario these permits are abolished, but that they are not converted into bilateral market access permits. The results described above identify cases in which the bilateral permits pose a binding constraint for Ukrainian hauliers (among the others Poland, Czech Republic, Italy, Denmark, Sweden). These constraints will not be removed by the transit liberalisation scenario. It is assumed that the number of export trips to each destination is constrained by the maximum available number of bilateral permits issued in 2012 plus the estimated number of ECMT permits used in 2012.

As mentioned above, in the case of EU-Ukraine road freight, no specific problems connected to transit have been identified. That is why the key effects arise with the abolition of bilateral permits. The impacts of transit liberalisation are very limited.

8.3.1 Impact on value of trade

With only transit permits liberalised, the increase in Ukrainian export trade is concentrated on Ukraine's main trading partners (e.g. Germany, France and Italy). The additional trade is the consequence of time cost savings but since these relate only to the removal of transit permits they are not large. The increase in the value of imports from Ukraine is estimated at approximately €22 million. The EU exports are predicted to increase by €57 million in this scenario.

Table 8.6 **In value terms, transit liberalisation boosts EU imports from Ukraine by 0.6% and exports by 0.3%, as compared to business-as-usual**

Increase of imports from Ukraine in the transit liberalisation scenarios

	Additional EU road import value, m Euro	Additional EU road export value, m Euro
EU15	20	51
EU13	2	6
Eastern EU	2	5
Northern EU	3	4
Southern EU	6	16
Western EU	12	32
Total EU	22	57
Change rel. to BAU, %	0.6%	0.3%

Source: DIW Econ. Numbers may not add up exactly due to rounding. For definition of EU quadrants see footnote to Table 8.1

8.3.2 Macroeconomic effects of liberalisation scenarios

Under this scenario there will still be a need to issue bilateral permits and a need for hauliers to obtain them. Therefore, the time savings seen with full liberalisation will not be fully realized. The estimated direct cost savings for consumers are limited to €6 million per year as compared to €27 million in the full liberalisation scenario.

The production of the additional exports requires an increase in the respective production activities, but also in all other activities supplying intermediate inputs to those sectors. It also requires additional capital and labour input. The results of the input-output model are presented in Table 8.7. The estimates suggest that transit liberalisation could increase Ukrainian output by a modest €42 million once adjustments are completed.

The employment effect in the economy is estimated to be in the order of one thousand new jobs. The relative effects on total output and GDP are in the order of 0.01-0.02%.

Table 8.7 **The machinery sector is the largest beneficiary of transit liberalisation**

Sectoral effects of the transit liberalisation scenario in Ukraine

Sector	Difference to BAU scenario	
	Output, mln €	Employment, thousand persons
Agriculture	3	0.2
Forestry	0	0.0
Fishing	0	0.0
Extraction of coal, crude oil and natural gas	3	0.0
Extraction of metal ores, minerals	1	0.0
Manufacture of food and beverages	2	0.0
Textiles	4	0.1
Timber, wood products, paper and pulp	4	0.1
Coke oven products; refined petroleum products	1	0.0
Chemical products	3	0.0
Other non-ferrous minerals production	1	0.0
Iron and steel, Non-ferrous metals, aluminium	6	0.1
Machinery and equipment	9	0.1
Other industry	1	0.0
Utilities	1	0.0
Construction	0	0.0
Transport services	1	0.0
Other services	3	0.2
Total	42	0.9
Total change compared to BAU scenario, %	0.02%	0.01%

Source: DIW Econ. Numbers may not add up exactly due to rounding.

8.3.3 Impact on scale of traffic flows

With the modelling approach taken, transit liberalisation results in 1% more import trips from Ukraine than seen under the business-as-usual (BAU) scenario. The resulting numbers of bilateral trips for 2016 are presented in Table 8.8.

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

Predicted import trips from Ukraine per road in the 2016 scenarios

Import trips from Ukraine to:	Estimation for 2016		
	Business-as-usual scenario	Transit liberalisation scenario	Change, %
EU15	105500	106962	1%
EU13	201662	201933	0%
Eastern EU	185968	186173	0%
Northern EU	20239	20382	1%
Southern EU	24074	24437	2%
Western EU	76882	77902	1%
Total EU	307161	308895	1%

Source: DIW Econ. Numbers may not add up exactly due to rounding. For definition of EU quadrants see footnote to Table 8.1

8.4 Transit liberalisation + additional EU permits

A scenario of transit liberalisation and adjustment of bilateral permit awards to meet demand is an intermediate scenario between transit liberalisation and full liberalisation. The change, as compared to the transit liberalisation scenario, is the removal of the deficit in the supply of bilateral permits for Ukrainian hauliers. Such a deficit was identified for several countries (Italy (2000 permits), the UK (1700 permits), Denmark (600 permits), Sweden (200 permits)). However, there will still be a need to issue the bilateral permits and a need for hauliers to obtain them. Therefore, the time savings associated in the full liberalisation scenario will not be fully replicated. This is the main factor responsible for the differences in outputs as compared to the full liberalisation scenario.

8.4.1 Impacts on value of trade

The analysis suggests that a scenario with additional EU permits would increase the value of EU-Ukraine trade by an estimated €0.36 billion of which €0.24 billion are exports to Ukraine (Table 8.9).

Table 8.9 The intermediate liberalisation scenario is projected to have a slightly greater impact on EU imports than exports

Increase of trade with Ukraine in the intermediate liberalisation scenario, estimation for 2016

	Additional EU import value, million Euro	Additional EU export value, million Euro
EU15	118	234
EU13	2	6
Eastern EU	2	5
Northern EU	65	87
Southern EU	41	116
Western EU	12	32
Total EU	120	240
Change rel. to BAU, %	3.1%	1.3%

Source: DIW Econ. Numbers may not add up exactly due to rounding. For definition of EU quadrants see footnote to Table 8.1

8.4.2 Macroeconomic and sectoral effects

The growth of EU exports to Ukraine requires more production activity and additional labour input. The total effect on EU employment is estimated to be approximately 2200 new jobs.

For Ukraine, the input-output modelling suggests that road transport liberalisation with the EU will boost output by around €0.2 billion. This effect would be concentrated in certain sectors: machinery and equipment, basic metals, timber/wood products/paper and pulp (see Table 8.10).

Table 8.10 **Ukraine’s machinery, wood/paper, and basic metals sectors are projected to gain most from intermediate liberalisation**

Projected change in output and employment under intermediate scenario

Sector	Difference to BAU scenario	
	Output, mln €	Employment, thousand persons
Agriculture	14	1.2
Forestry	1	0.3
Fishing	0	0.0
Extraction of coal, crude oil and natural gas	14	0.2
Extraction of metal ores, minerals	7	0.1
Manufacture of food and beverages	9	0.1
Textiles	19	0.4
Timber, wood products, paper and pulp	22	0.3
Coke oven products; refined petroleum products	6	0.0
Chemical products	18	0.1
Other non-ferrous minerals production	3	0.1
Iron and steel, Non-ferrous metals, aluminium	32	0.3
Machinery and equipment	47	0.7
Other industry	7	0.1
Utilities	7	0.2
Construction	0	0.0
Transport services	5	0.2
Other services	15	0.9
Total	226	5.0
Total change compared to BAU scenario, %	0.09%	0.02%

Source: DIW Econ

The employment effect in the economy is estimated to be in the order of 5000 additional jobs – equivalent to around 0.02% of total employment. The relative effects on total output and GDP are in the same order of magnitude.

8.4.3 Impact on scale of traffic flows

It is estimated that transit liberalisation with the provision of additional bilateral permits results in 2% more import trips from Ukraine than seen under the business-as-usual (BAU) scenario.

Table 8.11 Transit liberalisation is projected to lead to a two per cent increase in road haulage trips as compared to business-as-usual

Predicted import trips to the EU in the intermediate liberalisation scenario

Import trips from Ukraine to:	Estimation for 2016		
	Business-as-usual scenario	Transit liberalisation + additional EU permits	Change, %
EU15	105500	111351	6%
EU13	201662	201933	0%
Eastern EU	185968	186173	0%
Northern EU	20239	22833	13%
Southern EU	24074	26376	10%
Western EU	76882	77902	1%
Total EU	307161	313283	2%

Source: DIW Econ. Numbers may not add up exactly due to rounding. For definition of EU quadrants see footnote to Table 8.1.

8.5 EU management of quotas

An alternative setup to the removal of all permits is an option in which the EU takes over the negotiations over the bilateral quotas and can redistribute the whole amount of quotas currently issued. Table 8.12 reports the difference between the potential demand for EU permits (given by the number of import trips from Ukraine in the full liberalisation scenario) and the available number of bilateral permits in the BAU scenario (equal to the number of bilateral or monotype permits in 2012). Negative numbers indicate that the issued number of permits is not enough. The numbers suggest that the remaining surplus of quotas issued, e.g. by Poland and Germany (monotype quotas) will be enough to compensate any deficit in other countries. Thus, in terms of the effects on trade flows, this scenario would be equivalent to the scenario “transit liberalisation + additional EU permits” presented above.

Table 8.12 The modelling suggests some redistribution of EU-Ukraine road freight traffic among Member States under the EU management of quotas scenario

Predicted import trips from Ukraine per road in 2016

Country	Difference between import trips under EU management of quotas and BAU permits
Austria	3550
Belgium	9914
Bulgaria	6318
Croatia	174
Czech Republic	1920
Denmark	-596
Estonia	740
Finland	7056
France	685
Germany	30905
Greece	63
Hungary	22588
Italy	-1938
Latvia	2899
Lithuania	3159
Netherlands	12141
Poland	68497
Portugal	731
Romania	8656
Slovakia	19354
Slovenia	16333
Spain	871
Sweden	-215
United Kingdom	-1639

Source: DIW Econ

8.6 Summary

The analysis of the liberalisation scenarios suggests that the total economic effect of the full liberalisation can be divided into three parts:

- the last is due to the complete abolition of bilateral permits;
- the removal of the effect of the deficit in permits;
- transit liberalisation.

Of these the abolition of bilateral permits has the largest effect.

The economic effects of road transport liberalisation on the EU are minor, as the value of trade per road with Ukraine is only a very small share of the EU external trade. For Ukraine, the effects are

positive but not transformational. The comparatively small scale of the estimated change in exports and output of Ukraine is due to commodity structure of the EU's road freighted imports from Ukraine (i.e. they tend to have a low value).

With the modelling approach taken, full liberalisation would increase the value of EU-Ukraine trade by an estimated €0.6 billion per annum, out of which €0.2 billion are additional imports from Ukraine and €0.4 billion are exports to Ukraine. For European consumers, the liberalisation would bring certain cost savings (in the order of €25 million per annum) due to lower transport costs for Ukrainian imports.

The employment effect in the Ukrainian economy is estimated to be in the order of 7500 new jobs. This corresponds to an increase by around 0.04% of total employment. The relative effects on total output and GDP are in the same order of magnitude.

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 can compromise road safety, and can make it more difficult for drives 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 Ukraine into the EU rises by 5% in the full liberalisation scenario, by approximately 15,000 trips. The countries most affected are Poland, Italy, Germany, and the UK. The additional traffic produces roughly 50kt of CO₂ equivalent per year in the EU. In addition, further adverse effects such as noise and air pollution are generated.

An overview of key impacts of the alternative scenarios is given in the following table:

Table 8.13 Summary of liberalisation scenarios for Ukraine

Liberalisation of freight transport between EU and Ukraine	Transit liberalisation	Additional quotas	EU management	Full liberalisation
Effects on the EU, change with respect to BAU:				
EU road exports to Ukraine, mln €	57	240	240	389
change in %	0.3%	1.3%	1.3%	2.1%
EU road imports from Ukraine, mln €	22	120	120	177
change in %	0.6%	3.1%	3.1%	4.5%
Employment, thousand new jobs	0.5	2.2	2.2	3.5
Direct consumer cost savings, mln €	6	6	6	27
Selected effects in Ukraine:				
Output expansion, mln €	42	226	226	333
change in %	0.02%	0.09%	0.09%	0.13%
Employment effect, thousand new jobs	0.9	5.0	5.0	7.4
GDP effect, %	0.00%	0.02%	0.02%	0.04%
Additional GHG emissions, '000t CO ₂ eq. / year	8	33	33	53

Source: DIW Econ

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 Ukraine.

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 bilateral permits required by Ukrainian hauliers.

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

Imports from Ukraine into EU are expected to grow slightly faster than EU exports. This import growth will benefit the Ukraine economy, but also the EU consumers that will enjoy lower prices for Ukraine goods as regulatory costs are removed from the supply chain.

The projected effects on both the EU and Ukraine are modest in scale for both economies.

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.

Beside it, a further degree of alignment to the EU *acquis* in the area of commercial road transport should be requested although over the last five years Ukraine have shown considerable progresses on the path towards the approximation with the relevant EU norms.

Appendix A. References

Gomez-Acebo & Pombo (2009). Study of Bilateral Agreements on Road Freight Transport entered into by the EU Member States and Third Countries.

European Commission, TRACECA IDEA (2011). "Transport dialogue and interoperability between the EU and its neighbouring countries and Central Asian countries", Working Paper 7.2; Transport Model Development, Base Year and Forecast Models, EuropeAid 2008/155-683.

European Commission (2011). DG Mobility and transport, UNIT D.3-Land transport, Road Freight Transport Vademecum, 2010 Report, Market trends and structure of the road haulage sector in the EU in 2010, September 2010.

European Commission (2014). Report from the Commission to the European Parliament and the Council on the State of the Union Road Transport Market, COM (2014) 222 final, April 2014.

European Parliament (2013). Social and Working conditions in the international road freight sector.

IZI Metodi, analisi e valutazioni economiche, Ernst & Young (2011). Servizio di monitoraggio sulle attività delle aziende di autotrasporto, June 2011.

PAS (Polish Academy Of Sciences) (2010). Stanisław Leszczycki Institute Of Geography And Spatial Organization, EUROPA XXI 20, European Union; External and Internal Borders – Interactions And Networks, Warszawa RTI.

Ukrainian Ministry of Infrastructure (2014). Explanatory note on the proposed new law for the automobile transport.

UND (2009). Quota-free Europe Action Plan, in pursuit of acquired rights.

World Bank (2013). Quantitative Analysis of Road Transport Agreements (QuARTA). Washington.

World Bank (2010). Ukraine: Trade and Transit Facilitation Study, Kjiv, 2010

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 881/92²² and, one year later, of Regulation (EEC) 3118/93²³ 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 1998²⁴, 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 1072/2009²⁵ 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 disturbances²⁶. In addition, the Regulation promotes harmonisation across Member States, providing,

²² 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).

²³ 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.

²⁴ 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.

²⁵ Regulation (EC) No 1072/2009 of 21 October 2009 on common rules for access to the international road haulage market.

²⁶ 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 1071/2009²⁷, 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 sector²⁷ has been consolidated in Directive 2002/15/EC²⁸ (known as the “Working Time Directive”) and Regulation (EC) No 561/2006²⁹, the latter being enforced through the mechanisms established by Directive 2006/22/EC³⁰. 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 3821/85³¹, road hauliers must install a recording equipment (a “tachograph”). Member States are required to establish adequate enforcement mechanisms in accordance with Directive 2006/22/EC³² (known as the “Enforcement Directive”).

Finally, Directive 2003/59/EC³³ 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.

²⁷ 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),

²⁸ Directive 2002/15/EC of 11 March 2002 on the organisation of the working time of persons performing mobile road transport activities.

²⁹ 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

³⁰ 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.

³¹ Council Regulation (EEC) No 3821/85 of 20 December 1985 on recording equipment in road transport

³² 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.

³³ 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/EC³⁴ 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/EC³⁵, which repealed and widened the scope of Directive 92/6/EEC³⁶, 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/EC³⁷ 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 the rules and requirements for transport of **dangerous goods**. These rules are set in Directive 2008/68/EC³⁸, 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).

³⁴ 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.

³⁵ 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.

³⁶ 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.

³⁷ Directive 2009/40/EC of 6 May 2009 on roadworthiness tests for motor vehicles and their trailers, as amended by Directive 2010/48/EU.

³⁸ Directive 2008/68/EC of 24 September 2008 on the inland transport of dangerous goods.

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

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

EU Member State	Agreement concluded	Date of conclusion	Entry into force	Post-accession modifications
Austria	✓	19 May 1995		-
Belgium	✓	28 July 1997	2 July 1999	-
Bulgaria	✓	3 December 1994	15 September 1995	-
Croatia	✓	3 December 2001	17 February 2005	-
Cyprus	✓	22 October 1996	12 April 2013	4 July 2011
Czech Republic	✓	1 July 1997	7 January 1999	-
Denmark	✓	9 September 1998	3 December 2000	12 October 2006
Estonia	✓	6 July 1993	16 September 1993	-
Finland	✓	5 June 1995	10 June 2000	-
France	✓	11 November 1992	11 April 1994	-
Germany	✓	7 June 1993	5 December 1993	-
Greece	✓	11 November 1996		-
Hungary	✓	19 May 1995	23 July 1995	-
Ireland	No agreement concluded	-		-
Italy	✓	3 February 1998		-
Latvia	✓	23 May 1995	17 June 1996	-
Lithuania	✓	7 July 1993	7 July 1993	-
Luxembourg	✓	3 July 1998		-
Malta	No agreement concluded	-		-
Netherlands	✓	7 September 1993	1 January 1995	-
Poland	✓	18 May 1992	7 May 1993	-
Portugal	✓	7 October 2004		-
Romania	✓	23 March 1996	7 April 2000	-
Slovakia	✓	15 June 1995	24 February 2005	-
Slovenia	✓	29 October 2001	5 July 2007	-
Spain	✓	16 June 1995	7 March 2000	-
Sweden	✓	23 March 1999	16 July 1999	-
United Kingdom	✓	13 December 1995	10 June 2000	-

Source: Compiled by the authors based on information from Ministry of Transport of Ukraine (2014), Acebo-Gomez & Pombo (2009)

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.

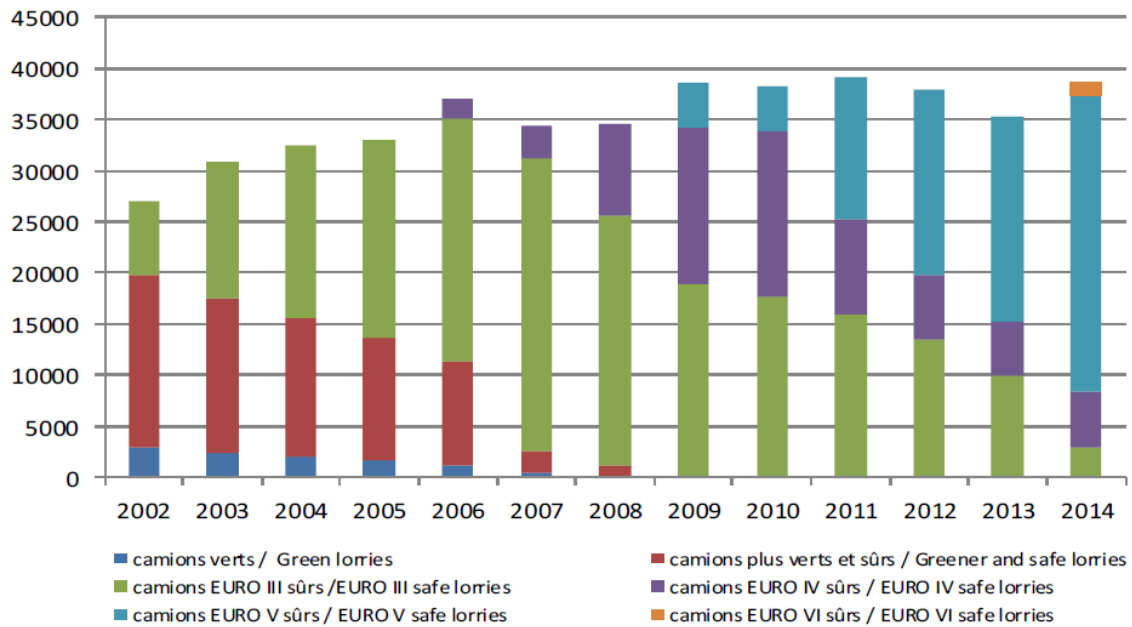
Table D.1 Distribution of ECMT Multilateral annual licenses among all ECMT Member States as at 1st January 2014

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 Ukraine market and EU-Ukraine trade

E.1 Trade and transport data

Table E.1 Main EU trade partners of Ukraine (imports and exports, million USD); all transport modes

Country name	EU's Imports from Ukraine								EU's Exports to Ukraine							
	2005	2006	2007	2008	2009	2010	2011	2012	2005	2006	2007	2008	2009	2010	2011	2012
EU 15 Countries																
AUSTRIA	317	329	429	594	329	508	589	521	458	547	800	1,031	612	698	713	733
BELGIUM	198	215	190	365	280	357	401	468	314	373	562	725	464	588	665	709
DENMARK	107	163	198	195	122	125	164	153	176	247	287	339	219	241	297	282
FINLAND	29	45	46	59	38	34	53	48	351	392	545	686	422	430	523	485
FRANCE	200	351	486	514	442	477	571	549	799	990	1,330	1,683	972	1,107	1,501	1,664
GERMANY	1,285	1,284	1,645	1,837	1,248	1,500	1,764	1,645	3,384	4,268	5,830	7,165	3,852	4,605	6,866	6,807
GREECE	137	120	221	339	100	164	291	209	68	78	117	172	83	104	129	192
IRELAND	7	9	14	29	4	5	15	76	45	51	88	126	102	112	168	153
ITALY	1,893	2,503	2,675	2,912	1,228	2,412	3,040	2,480	1,030	1,467	1,789	2,432	1,140	1,390	2,006	2,235
LUXEMBURG	27	43	2	8	3	5	7	4	22	28	21	23	19	29	47	31
NETHERLANDS	515	708	766	1,118	595	563	833	830	464	641	881	1,284	678	838	1,187	1,122
PORTUGAL	20	37	81	63	64	122	192	344	28	30	37	62	42	52	66	72
SPAIN	574	445	557	870	570	412	971	1,539	234	355	429	660	372	469	685	747
SWEDEN	42	56	65	105	81	78	74	57	547	565	610	696	451	359	639	544
UK	358	388	325	641	346	507	486	551	503	621	886	1,376	651	821	1,129	1,149
Sub-total EU 15	5,707	6,696	7,698	9,648	5,450	7,266	9,449	9,474	8,423	10,653	14,214	18,461	10,078	11,842	16,620	16,925
EU 13 Countries																
BULGARIA	543	596	554	1,106	396	451	755	569	109	130	170	239	152	218	270	281
CROATIA	No data available															
CZECH REP.	377	342	429	671	341	626	842	707	594	825	1,155	1,376	622	748	1,181	1,247
CYPRUS	217	252	175	451	131	175	174	168	5	12	19	67	49	91	144	80
ESTONIA	125	123	218	174	78	106	150	254	103	135	153	178	135	123	105	96
HUNGARY	689	946	1,235	1,367	730	860	1,341	1,510	648	802	1,241	1,283	678	1,215	1,327	1,160
LATVIA	311	286	259	281	178	180	221	300	65	91	119	113	110	88	98	101
LITHUANIA	209	278	363	432	194	264	317	279	200	297	380	724	410	638	823	912
MALTA	15	24	32	53	31	50	120	10	0	20	1	2	8	13	17	20
POLAND	1,010	1,345	1,637	2,338	1,208	1,787	2,794	2,576	1,406	2,109	2,921	4,280	2,170	2,789	3,183	3,567
ROMANIA	489	626	629	671	320	706	951	552	212	446	779	1,171	488	682	1,126	930
SLOVAKIA	508	550	645	910	434	568	843	673	304	383	524	743	306	443	604	588
SLOVENIA	33	25	43	28	11	12	11	10	125	292	545	232	185	213	255	251
Sub-total EU 13	4,526	5,392	6,218	8,482	4,050	5,786	8,521	7,607	3,769	5,542	8,005	10,408	5,315	7,260	9,132	9,231
TOTAL EU 28	10,233	12,088	13,916	18,130	9,499	13,052	17,970	17,081	12,192	16,195	22,219	28,868	15,393	19,101	25,752	26,156

Source: UkrStat data

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

REPORTING COUNTRY	2008	2009	2010	2011	2012	2013
EU 15 Countries						
AUSTRIA	81	99	114	114	132	147
BELGIUM	50	63	68	84	59	57
DENMARK	34	33	47	49	47	43
FINLAND	11	12	14	18	17	18
FRANCE	80	96	39	111	114	147
GERMANY	600	523	683	767	702	691
GREECE	52	27	23	18	13	11
IRELAND	0	0	0	0	0	0
ITALY	283	283	356	374	362	398
LUXEMBURG	0	1	1	4	8	11
NETHERLANDS	96	102	195	178	113	113
PORTUGAL	1	1	1	1	2	2
SPAIN	17	19	20	20	27	24
SWEDEN	7	14	15	15	14	14
UK	0	0	0	0	12	16
Sub-total EU 15	1,313	1,274	1,576	1,751	1,623	1,693
EU 13 Countries						
BULGARIA	64	51	51	59	77	64
CROATIA	No data available					
CYPRUS	0	0	0	0	0	0
CZECH REP.	92	90	145	179	157	178
ESTONIA	33	34	36	37	44	42
HUNGARY	219	306	306	272	242	243
LATVIA	27	35	37	36	37	36
LITHUANIA	64	66	79	94	96	106
MALTA	No data available					
POLAND	467	653	811	1,026	1,209	917
ROMANIA	90	99	110	127	92	108
SLOVAKIA	89	89	89	103	100	104
SLOVENIA	26	12	15	20	19	22
Sub-total EU 13	1,172	1,436	1,679	1,954	2,073	1,819
TOTAL EU 28	2,485	2,710	3,255	3,705	3,696	3,512

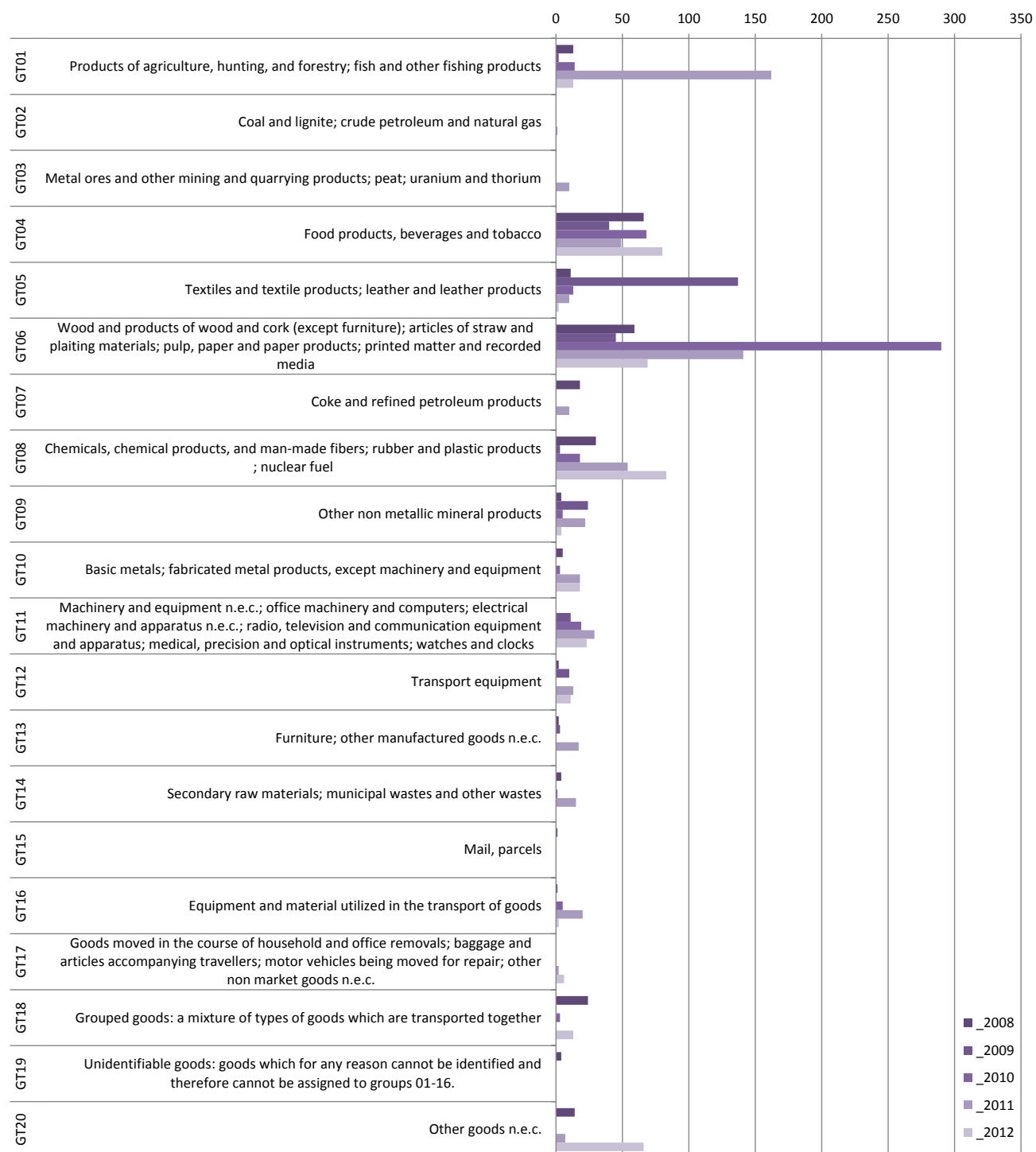
Source: EUROSTAT; EXTRA EU27 Trade by reporting country

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

REPORTING COUNTRY	2008	2009	2010	2011	2012	2013
EU 15 Countries						
AUSTRIA	128	86	97	96	105	109
BELGIUM	135	112	138	134	151	149
DENMARK	40	34	43	44	48	53
FINLAND	77	94	122	116	131	130
FRANCE	148	83	103	131	140	135
GERMANY	967	665	800	905	967	923
GREECE	33	31	44	42	63	40
IRELAND	0	0	0	0	0	1
ITALY	287	177	196	232	244	248
LUXEMBURG	2	1	3	3	2	1
NETHERLANDS	292	207	257	262	297	265
PORTUGAL	4	2	2	3	4	3
SPAIN	66	41	46	61	54	54
SWEDEN	80	55	51	51	55	52
UK	1	1	1	1	85	82
Sub-total EU 15	2,258	1,589	1,905	2,081	2,346	2,245
EU 13 Countries						
BULGARIA	40	27	42	42	45	52
CROATIA	No data available					
CYPRUS	0	0	0	0	0	0
CZECH REP.	193	178	190	204	217	206
ESTONIA	84	61	58	52	55	61
HUNGARY	270	200	263	287	321	349
LATVIA	44	39	33	25	31	35
LITHUANIA	53	35	43	45	57	72
MALTA	No data available					
POLAND	1,971	1,609	1,687	1,653	1,888	1,909
ROMANIA	148	103	151	204	213	250
SLOVAKIA	233	168	160	172	157	169
SLOVENIA	37	27	38	35	39	37
Sub-total EU 13	3,074	2,447	2,664	2,719	3,023	3,139
TOTAL EU 28	5,333	4,036	4,569	4,801	5,369	5,384

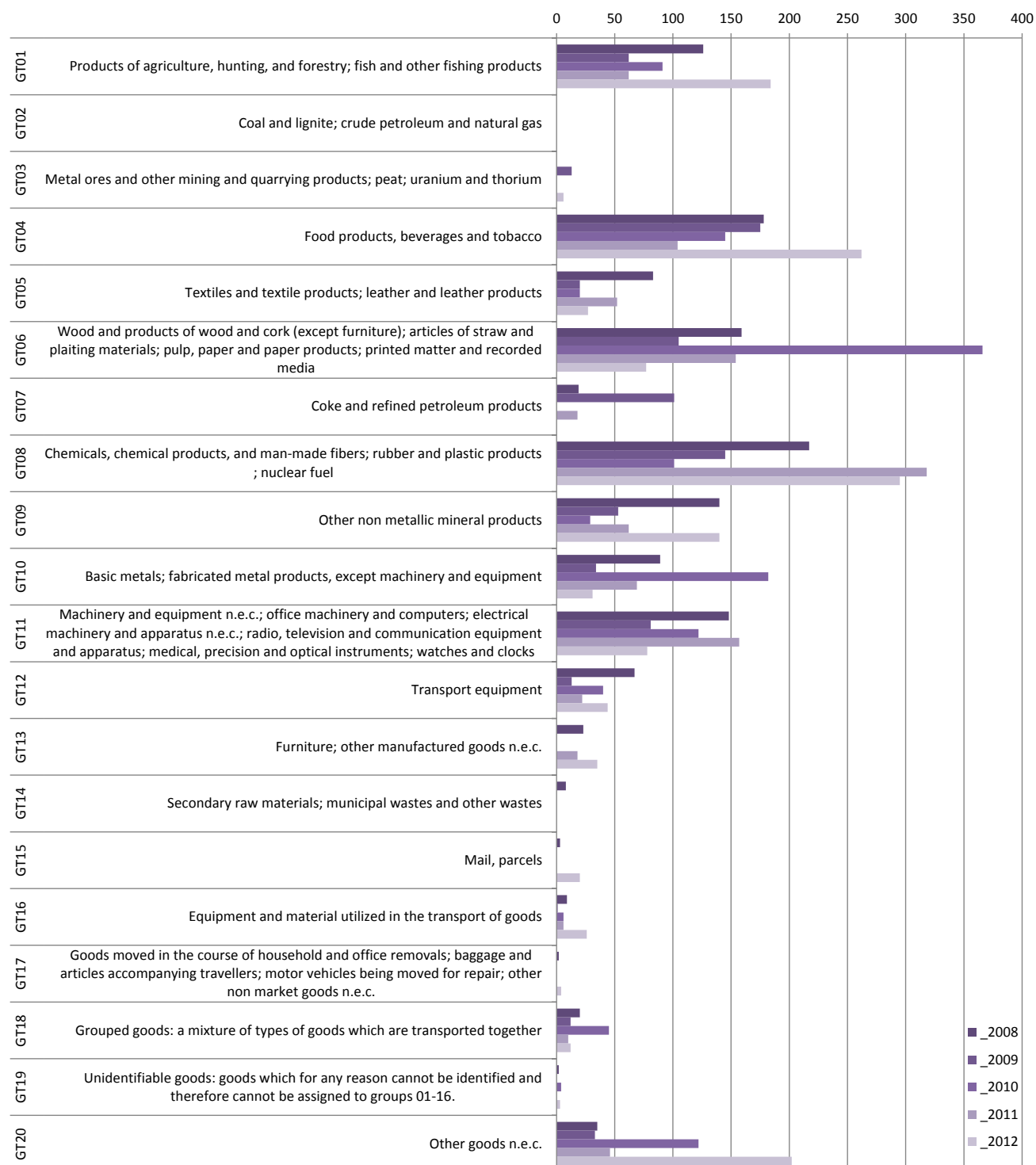
Source: EUROSTAT; EXTRA EU27 Trade by reporting country

Figure E.1 International annual road freight transport - goods loaded in Ukraine and unloaded in EU reporting country (by group of goods NST07; '000t)



Source: EUROSTAT data

Figure E.2 International annual road freight transport - goods loaded in EU reporting country and unloaded in Ukraine (by group of goods NST07; '000t)



Source: EUROSTAT data

Table E.4 Transit traffic at border crossings between Ukraine and Poland, 2000-2013

Year	Border Crossing	Dorohusk - Yagodin	Hrebenne - Rava Ruska	Korczoowa - Krakowiec	Medyka - Szeginie	Krościenko - Smolnica (for trucks <3,5t)	Zosin Ustilug (mostly passenger traffic)	Przemysł - Mościska	Total
2000	Total	122,993	35,759	5,695	21,622	0	0	0	186,069
	Trucks with foreign plate	109,677	28,357	4,405	19,208	0	0	0	161,647
	Trucks with Polish plate	13,316	7,402	1,290	2,414	0	0	0	24,422
2001	Total	141,501	35,460	20,285	22,254	0	0	0	219,500
	Trucks with foreign plate	122,969	24,077	15,460	20,044	0	0	0	182,550
	Trucks with Polish plate	18,532	11,383	4,825	2,210	0	0	0	36,950
2002	Total	156,429	45,212	32,437	24,879	0	0	0	258,957
	Trucks with foreign plate	136,061	31,737	20,068	21,506	0	0	0	209,372
	Trucks with Polish plate	20,368	13,475	12,369	3,373	0	0	0	49,585
2003	Total	158,828	70,265	52,204	30,845	0	0	0	312,142
	Trucks with foreign plate	131,868	39,524	25,630	24,782	0	0	0	221,804
	Trucks with Polish plate	26,960	30,741	26,574	6,063	0	0	0	90,338
2004	Total	145,627	66,993	115,629	49,826	0	0	0	378,075
	Trucks with foreign plate	113,311	46,122	79,243	34,187	0	0	0	272,863
	Trucks with Polish plate	32,316	20,871	36,386	15,639	0	0	0	105,212
2005	Total	178,036	72,951	149,249	61,304	0	1	0	461,541
	Trucks with foreign plate	120,806	44,270	101,119	43,199	0	1	0	309,395
	Trucks with Polish plate	57,230	28,681	48,130	18,105	0	0	0	152,146
2006	Total	237,204	80,517	188,814	94,293	1,654	8	0	602,490
	Trucks with foreign plate	159,651	46,835	125,541	65,806	1,451	8	0	399,292
	Trucks with Polish plate	77,553	33,682	63,273	28,487	203	0	0	203,198
2007	Total	280,105	110,447	200,666	95,762	2,806	10	0	689,796
	Trucks with foreign plate	201,411	72,161	130,350	61,740	2,169	10	0	467,841
	Trucks with Polish plate	78,694	38,286	70,316	34,022	637	0	0	221,955
2008	Total	282,308	120,963	200,730	87,951	5,910	0	0	697,862
	Trucks with foreign plate	190,984	71,072	117,715	59,077	3,078	0	0	441,926
	Trucks with Polish plate	91,324	49,891	83,015	28,874	2,832	0	0	255,936
2009	Total	235,789	85,481	156,509	60,296	4,729	0	0	542,804
	Trucks with foreign plate	169,643	57,630	110,573	48,483	3,221	0	0	389,550
	Trucks with Polish plate	66,146	27,851	45,936	11,813	1,508	0	0	153,254
2010	Total	265,527	98,047	159,208	67,153	1,890	2	18,261	610,088
	Trucks with foreign plate	205,337	66,647	114,908	66,439	1,890	0	0	455,221
	Trucks with Polish plate	60,190	31,400	44,300	714	0	2	18,261	154,867
2011	Total	300,706	102,375	175,181	86,444	975	1	0	665,682
	Trucks with foreign plate	234,335	68,187	131,028	69,932	831	0	0	504,313
	Trucks with Polish plate	66,371	34,188	44,153	16,512	144	1	0	161,369
2012	Total	347,417	116,441	182,985	100,398	524	3	0	747,768
	Trucks with foreign plate	268,640	78,630	136,280	82,954	453	1	0	566,958
	Trucks with Polish plate	78,777	37,811	46,705	17,444	71	2	0	180,810
2013	Total	343,449	125,296	177,135	102,015	594	2	0	748,491
	Trucks with foreign plate	269,261	86,157	131,925	82,381	395	0	0	570,119
	Trucks with Polish plate	74,188	39,139	45,210	19,634	199	2	0	178,372

Source: Stanisław Leszczycki Institute of Geography and Spatial Organization Polish Academy of Sciences (IGSO PAS), data based on the Border Guards statistics

Table E.5 Permits as set by the bilateral road transport agreements concluded by Ukraine with the EU Member States and estimation of tonnes carried by Ukrainian trucks in 2012

COUNTRY	Quotas granted			Quotas usage	Remaining	Estimation of tonnes transported based on quotas used ('000 tonnes)*
	2012	2013	2014	2012		2012
EU 15 Countries						
AUSTRIA	11,980	14,450	12,800	11,406	5%	182
BELGIUM	14,000	14,000	14,000	11,744	16%	188
DENMARK	3,000	3,500	3,500	2,745	9%	44
FINLAND	7,630	8,150	9,200	7,089	7%	113
FRANCE	6,500	6,500	6,500	4,704	28%	75
GERMANY	81,000	81,000	81,000	70,618	13%	1,130
GREECE	2,465	3,565	3,565	2,265	8%	36
IRELAND	No data available					
ITALY	16,800	16,800	15,800	15,530	8%	248
LUXEMBURG	No data available					
NETHERLANDS	20,000	20,000	21,500	18,035	10%	289
PORTUGAL	1,200	1,350	1,200	157	87%	3
SPAIN	2,200	2,200	2,200	1,250	43%	20
SWEDEN	964	1,000	965	902	6%	14
UK	1,801	1,800	1,800	1,534	15%	25
Sub-total EU 15	169,540	174,315	174,030	147,979	13%	2,368
EU 13 Countries						
BULGARIA	13,800	20,300	20,300	10,094	27%	162
CROATIA	1,100	900	1,300	229	79%	4
CYPRUS	No data available					
CZECH REP.	14,300	12,800	15,800	14,066	2%	225
ESTONIA	4,550	7,000	7,900	3,834	16%	61
HUNGARY	43,500	45,250	43,750	39,656	9%	634
LATVIA	7,500	8,500	8,500	5,958	21%	95
LITHUANIA	11,400	16,000	17,200	10,911	4%	175
MALTA	No data available					
POLAND	200,000	290,000	200,000	176,115	12%	2,818
ROMANIA	17,600	13,600	14,800	17,171	2%	275
SLOVAKIA	31,500	36,500	37,500	28,254	10%	452
SLOVENIA	18,100	19,600	19,600	16,795	7%	269
Sub-total EU 13	363,350	470,450	386,650	323,083	11%	5,169
TOTAL EU 28	532,890	644,765	560,680	471,062	12%	7,537

* 16 tonnes/truck has been assumed

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

Table E.6 Overview of legislative acts aligning the Ukrainian legislation to the EU acquis

Legislative acts	Year of adoption
Decree of the Cabinet of Ministers of Ukraine on June 16, 2005 № 201 "On approval of a plan to implement the 2005 National Programme of Ukraine's legislation to the European Union"	2005
Decree of the Cabinet of Ministers of Ukraine dated March 15, 2006 № 151 "On approval of a plan to implement the 2006 National Programme of Ukraine's legislation to the European Union"	2006
Decree of the Cabinet of Ministers of Ukraine dated March 7, 2007 № 90 "On approval of a plan to implement the 2007 National Programme of Ukraine's legislation to the European Union"	2007
Decree of the Cabinet of Ministers of Ukraine of 11 June 2008 № 821 "On approval of a plan for the implementation in 2008 of the National Adaptation Programme of Ukraine to European Union law"	2008
Decree of the Cabinet of Ministers of Ukraine of April 15, 2009 № 408 "On approval of a plan to implement the 2009 National Programme of Ukraine's legislation to the European Union";	2009

Legislative acts	Year of adoption
Decree of the Cabinet of Ministers of Ukraine on June 9, 2010 № 1196 "On approval of a plan to implement the 2010 National Programme of Ukraine's legislation to the European Union"	2010
Decree of the Cabinet of Ministers of Ukraine on August 17, 2011 № 790 "On approval of a plan to implement the 2011 National Programme of Ukraine's legislation to the European Union"	2011
Decree of the Cabinet of Ministers of Ukraine dated March 28, 2012 № 156 "On approval of a plan to implement the 2012 National Programme of Ukraine's legislation to the European Union"	2012
Decree of the Cabinet of Ministers of Ukraine dated March 25, 2013 № 157 "On approval of a plan to implement the 2013 National Programme of Ukraine's legislation to EU legislation"	2013

Source: Compiled by the authors based on the information collected through the stakeholder survey

Access to the market and the profession

With regard to access to the market and the profession there is, as noted above, **partial** approximation of the Ukrainian legislation to the corresponding EU norms (as established by Regulations (EC) No 1071/2009 and 1072/2009).

Access to the profession is regulated through an Order of the Ministry of Infrastructure³⁹, which amends the pre-existing national legislation and allows an initial approximation to Regulation (EC) No 1071/2009. This Order aligns training of managers and road transport operators to European practices. It also introduces the criterion of professional competence as a prerequisite for admission to the market of transport undertakings engaged in commercial transport of goods and passengers to and from the EU.

The new training system is intended to provide road transport managers with updated and comprehensive knowledge and skills in a wide range of fields that operationally and legally have a direct impact on transport operations. It covers areas such as: access to the market, legal services, commercial and financial business management, civil and tax laws, technical and operations standards, road safety, trade items, social and employment, civil and tax laws, traffic safety and, finally, labour protection and legislation and, lastly, fire safety.

Importantly, the new legislation also:

- introduces application procedures for admission to the market for all categories of transport services ruled by Regulation (EC) No 1071/2009, in particular on freight transport operated by vehicles with a mass over 3.5 tonnes;
- defines conditions for the access to the market and sets out the basic criteria of stable organisation, good repute, financial standing and professional competence in accordance, therefore, with Article 3 of Regulation (EC) No 1071/2009;
- adapts the procedures that apply to authorisation and monitoring, suspension and withdrawal of authorisation and relative appeals; to meet the requirements of Regulation (EC) No 1071/2009;
- creates a national electronic register of transport undertakings.

A closer alignment with the EU legislation is expected to be achieved with the adoption of the draft Law of Ukraine "On Automobile Transport" (as amended) which, in particular, will include requirements for the criterion of good reputation.

³⁹ Order No 551, "On approval of the training of managers and professionals whose work is related to the provision of services road transport" (adopted on 26 July 2007). This Order implements paragraph 38 of the "National Programme of Ukraine's legislation to the European Union" (al termed the Action Plan), as approved by Order No 157 of the Cabinet of Ministers of Ukraine and dated 25 March 2013.

Social aspects of road transport activities

All the main provisions of EU law governing driving times and rest periods of professional drivers (as established by Regulation (EC) No 561/2006) and the implementation of the tachograph (as established by Regulations (EEC) No 3821/85) have been introduced in Ukraine, though not automatically by it joining the AETR Agreement. In this area, the evidence collected and analysed suggest that the alignment of the Ukrainian legislation to the corresponding EU *acquis* has been **fully achieved**. Regulatory efforts addressed in particular the implementation of the tachograph for domestic road transport operations, so to secure a full harmonisation of the national laws with the EU requirements.

Ukraine is a contracting party of the AETR Agreement⁴⁰. In addition, on 11 July 2007 the Ukrainian Cabinet of Ministers adopted the Order No. 914 “*On the implementation of the European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR)*”.

The rules governing driving times and rest periods laid down in the regulations are complementary with the regulatory framework established by Order of the Ministry of Transport No 340⁴¹ (as amended by Ministry of Infrastructure Order No 659, adopted 29 December 2011).

The requirements set by this Order are consistent with the provisions established by the ILO Convention of 1979 on working hours and rest periods in the road transport sector (as transposed by Order No 51⁴², Order No 153⁴³ and the Ukrainian Labour Code) but are only applicable to drivers engaged in national carriage of passengers or goods.

Table E.7 provides a comparison of Ukrainian, AETR and EU rules on driving times and rest periods. The requirements on maximum permissible driving times, rest periods and breaks set by the Ukrainian legislation are consistent with those established by the AETR Agreement and, in turn, with the EU standards.

Table E.7 Comparison between domestic, AETR and EU rules governing driving times and rest periods

Item	Domestic provision	AETR provision	EU provision
Daily driving time	Maximum 7 hours, this may be extended to 12 hours provided that time management during the day (shift) does not exceed 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 10 consecutive hours.	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	45 consecutive 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

⁴⁰ Ratified in 2005 by means of Law No. N 2819-IV (adopted on 7 September 2005) “*On Ukraine's Accession to the European Agreement concerning the Work of Crews of Vehicles engaged in International Road Transport (AETR)*”

⁴¹ Ministry of Transport Order No 340, “*On Approval of the Regulations on working time and rest periods of wheeled vehicles*” adopted on 7 June 2010.

⁴² Ministry of Transport Order No 51 “*On the implementation of the Convention of the International of work, 1979.*”

⁴³ Ministry of Transport Order No 153. “*On the duration of working time and periods of rest on road transport*”, adopted 25 January 2012.

Item	Domestic provision	AETR provision	EU provision
			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 or immediately after this 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 Ukrainian legislation, AETR Agreement and Regulation (EC) No 561/2006

Ukrainian law appears to be aligned with EU law on use of tachographs. Order No 340, cited above, also prescribes the mandatory use of the recording equipment for the following categories of transport activities:

- freight transport services operated by vehicles with a full weight higher than 12 tonnes (as from 1 June 2013);
- freight transport services operated by vehicles with a weight between 3.5 tonnes and 12 tonnes (as from 1 June 2015).

In order to ensure a proper implementation of the tachograph system in Ukraine, Order of Ministry of Infrastructure No 385⁴⁴ was adopted. It defined procedures for the installation, maintenance and use of tachograph equipment.

More recent developments in this area include:

- Order of the Ministry of Infrastructure No 226⁴⁵ which establishes a list of approved workshops for fitting and maintenance of tachograph. It envisages the adoption of AETR-based performance requirements for approval of tachograph workshops as well as for the mutual recognition of the results related to the installation and maintenance of tachographs between the AETR Contracting Parties.
- Order of the Ministry of Infrastructure No 329⁴⁶ which authorises the circulation of cards used in digital control devices, while outlining uniform national requirements for the issuance, renewal, replacement, suspension and revocation of the cards used in digital tachographs and the timing of their actions.

The State Inspection on land transport security ("*Ukrtransinspektsiya*"), established by the Decree of the President of Ukraine No 370 of 6 June 2011, is the responsible authority that supervises the implementation of the national policies and laws in the domain of road transport.

Training of professional drivers

To date, Ukraine has not had a legally defined system for training of professional drivers engaged in either passenger or freight transport. Therefore, it is concluded that in this area Ukrainian law is not aligned to the corresponding EU rules (as established by Directive 2003/59/EC).

⁴⁴ Order of Ministry of Infrastructure No 385 "On approval of the Instruction on the use of monitoring devices (tachographs) in road transport". Came into effect on 24 June 2010.

⁴⁵ Order of the Ministry of Infrastructure No 226 "On Approval of the Procedure of conduct List business management, (Tachograph) in the motor transport vehicles". Adopted 17 April 2013.

⁴⁶ Order of the Ministry of Infrastructure No 329 "On Approval of the Procedure circulation of cards used in digital control devices (tachographs)". Adopted on 30 May 2013.

To progress the adaptation of national legislation to Directive 2003/59/EC, the priorities are:

- approval of the draft Law of Ukraine “On Automobile Transport”, and in particular its Article 27 laying down the professional competences of drivers engaged in good and passenger transport;
- approving Order of the Ministry of Infrastructure "On approval Procedure for professional advancement of drivers already qualified to provide transportation of passengers and cargo", which has been specifically drafted with the goal of implementing the Action Plan governing the approximation of the Ukrainian legislation to the EU, and in particular of its paragraph 41 that requires the approximation of the national legislation with Directive 2003/59/EC.

Technical standards

Ukrainian legislation is only partially aligned to EU technical standards for commercial vehicles (maximum permissible dimensions and weight as established by Directive 96/53/EC, and speed limitation devices as established by Directive 92/6/EEC, as amended by Directive 2002/85/EC).

Building on the legislative efforts to give implementation to the Action Plan for the approximation of the Ukrainian legislation to the EU *acquis*, a new draft framework law updating the existing norms regulating type approval of motor vehicles, their trailers, systems and components was due in September 2013. However, the new draft law was not adopted. Further regulatory developments are unlikely until the new draft Law “On Automobile Transport” is adopted.

Ukrainian standards concerning maximum permissible dimensions and weight of commercial vehicles are only partially aligned to the corresponding EU rules (Table E.8 and E.9). There are some differences between EU and Ukrainian rules on maximum permissible dimensions, specifically the length of vehicles. Ukrainian law allows use of longer vehicles than are legal in the EU. Maximum height and width are approximate to the EU standards.

Ukrainian rules on weights per bearing and drive axle are almost in line with the EU standards but there are discrepancies in the maximum permissible weight for 2-axled lorries (lower standard than the EU standards) and for road trains and articulated vehicles (higher standard than the EU standards).

Table E.8 Comparison between domestic and EU rules on permissible maximum dimension (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
Ukraine	4 m	2.60 m	22 m	22 m	22 m

Source: Compiled by the authors based on ITF information

Table E.9 Comparison between domestic and EU rules on permissible maximum weight of commercial vehicles (tonnes)

Country	Weight per bearing axle	Weight per drive axle	Lorry axles 2	Lorry axles 3	Road-Train axles 4	Road-Train axles 5 and +	Articulated vehicle axles 5 and +
EU-28	10	11.5	18	26	36	40	40
Ukraine	11	11	16	22	38	38	38

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

Under Ukrainian law vehicles with a maximum mass exceeding 3.5 tonnes must be equipped with a speed limitation device in accordance with the technical requirements laid down by Regulation No 89 as later amended. This device must be set with a maximum permissible driving speed not exceeding 90 km/h.

Implementation of speed limitation device is regulated by the Order of the Ministry of Infrastructure No 521⁴⁷. This required the statutory fitting of speed limiters on: goods vehicles with a full mass over 3.5 tonnes (new and registered trucks after 1 January 2008); and passenger vehicles (new and registered bus after 1 January 2008, as well as buses engaged in school transport services). For these two groups of vehicles, the maximum speed is set at 90 km/h for goods vehicles, 100 km/h for buses (70 km/h for buses transport students).

Roadworthiness

In 2011 new legislation⁴⁸ introduced requirements in the area of technical control of vehicles which, supplemented by a set of additional acts adopted in 2012, aligned Ukrainian legislation to EU requirements on roadworthiness (as established by Directives 2000/30/EC, 2009/40/EC and 1999/37/EC). Further alignment is expected to the new set of EU rules established by the “road worthiness package” as laid down in Directives 2014/45/EU, 2014/47/EU and 2014/46/EU).

This new piece of national legislation represents the initial step in building an effective system of mandatory technical control that:

- ensures the need for maintenance of commercial vehicles in good condition; and
- facilitates removal of technical barriers to transnational movement of goods transport services between Ukraine and the EU Member States.

Further technical improvements, also based on relevant European experience, were made in 2012 via a set of new Orders⁴⁹.

Transport of dangerous goods

Ukraine is (since 2000) a signatory party of the ADR Agreement and to date the Ukrainian legislation on transport of dangerous goods is **aligned** to EU law. There are several complementary pieces of legislation⁵⁰.

⁴⁷ Order of the Ministry of Infrastructure No 521. “On Approval of the Procedure for approval of design of vehicles and their parts and accessories and Procedure keeping a register of certificates such as vehicles and equipment and certificates of conformity issued by the manufacturer of vehicles and equipment”. Adopted on 17 August 2012.

⁴⁸ Law of Ukraine No 3565-VI “On Amendments to Certain Legislative Acts of Ukraine on elimination of excessive state regulation in the field of road transport”. 2011.

⁴⁹ Order No 146 of the Cabinet of Ministers of Ukraine of 8 February 2012 on the implementation of business software for mandatory technical control protocols forms of checking the technical condition of the vehicle and cost of the provision of such services; Order No 512 of the Cabinet of Ministers of Ukraine of 31 May 2012 on procedures for the establishment of a national database of the results of the mandatory technical control of vehicles means of access thereto and installation fees for providing such services; Resolution No 137 of the Cabinet of Ministers of Ukraine of 30 October 2012 on approval of the mandatory technical control volume and checking the technical condition of vehicles; Order of the Ministry of Infrastructure No 710 of 26 November 2012 establishing requirements for the examination of the construction and technical state of a wheeled vehicle methods such verification.

⁵⁰ Law of Ukraine No 1511-III of 2 March 2000 on “Ukraine’s Accession to the European Agreement Concerning the International Carriage of Dangerous Goods”. Law of Ukraine No 1644-III of 6 April 2000 on “Transportation of Dangerous Goods by Road (ADR)”. This law defines the legal, organizational, social and economic principles of activity related to transportation of dangerous goods, rights and obligations, responsibilities of subjects engaged in transport of dangerous goods. Consequently, all international and national carriage of dangerous goods in Ukraine is regulated by this Agreement’s provisions. Law of Ukraine No 2344-III of 5 April 2001 on “Motor Vehicle Transport” amended with Law No 3492-IV of 23 February 2006. Article 20 set requirements to be met, and documents to be produced to be entitled to the transport of dangerous goods. MIA Ukraine; Regulatory order, Rules, Forms, Terms of 26 July 2004 No 822 on

Environmental standards of commercial vehicles

Although further improvements in environmental standards of commercial vehicles are expected with the adoption of the draft Law “*On Automobile Transport*”, Ukrainian legislation in this domain is already substantially **aligned** to the EU standards (as established by Directive 715/2007 as last amended).

The environmental classification of motor vehicles on the basis of their maximum permissible levels of pollutant emissions is regulated by Order No 521⁵¹. Simultaneously, the new Law of Ukraine No 5177-17⁵² sets environmental requirements applicable to certain categories of motor vehicles that are registered for the first time in Ukraine. Newly registered commercial vehicles must at least comply with:

- EURO3 environmental standards (as from 1 January 2013);
- EURO4 environmental standards (as from 1 January 2014);
- EURO5 environmental standards (as from 1 January 2016);
- EURO6 environmental standards (as from 1 January 2018).

“Approval of Rules for Dangerous Goods transportation by Road”, adopted on 20 August 2004 and later amended on 27 June 2006.

⁵¹ Order No 521. “On Approval of the Procedure for approval of design of vehicles and their parts and equipment”. 17 August 2012

⁵² Law of Ukraine No 5177-17 amending Law of Ukraine “On some issues of import to the customs territory of Ukraine and registration of vehicles”.

Appendix F. Impact assessment methodology for Ukraine

Here 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

F.1.1 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 Ukraine 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 quotas allocated to the hauliers is substantially less than the demand for road transport accompanying trade between the countries.

For the purpose of determining the theoretical trade flows in the absence of 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.

Data for Ukraine cannot be used to estimate the parameters of the gravity model for the liberalisation scenarios since its trade has been subject to the constraints of the bilateral agreements. Instead, data for Poland are used to estimate the parameters of the gravity relationship under the conditions of quota-free transport. Poland is chosen since its location in Europe is similar to that of Ukraine and the structure of exports by road to the EU is relatively similar between both countries (e.g. large shares of agricultural and food products). The fact that Poland is an EU member, while Ukraine is not, is an important difference. However, no large neighbouring country with liberalised transport relations (Switzerland, Norway) can be used as a good approximation for Ukraine for the purposes of this analysis. In order to alleviate the comparison problem, we use the data for Poland in the period before EU accession (before 2004). Given the current political developments, there is a high probability of the signature of the economic part of the association agreement between Ukraine and the EU in the near future. Therefore, we consider the use of gravity parameters based on pre-accession Polish data as a sufficiently reasonable approach for the simulation of the possible EU-Ukraine road transport liberalisation in 2016.

For the projection of Ukraine’s trade under the liberalisation scenarios, the estimated gravity model is then used with the data corresponding to Ukraine (GDP, trade distances and bordering countries). An additional factor used for the estimation of Ukraine’s road exports in the liberalisation scenario is still the factor of former Soviet Union, which mostly corresponds to the possibility of communication in common language (Russian). The model suggests that this is an important factor for trade with Baltic States.

The regression model for Poland has the following form:

$$\log(\text{Road Exports}_{ij}) = \beta_1 \log(\text{GDP}_i) + \beta_2 \log(\text{GDP}_j) + \beta_3 \log(\text{Distance}_{ij}) + \beta_4 \text{Port}_j + \beta_5 \text{Border}_{ij} + \varepsilon_{ij},$$

where Poland (and later Ukraine) is denoted with letter i and the partner country with j (for $j = 1, 2, \dots, n$); 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 allows to consider whether the trading partner has a large international sea port (where some of the traffic may go to) 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 2000 onwards [road_go_ia_lgft]);
- (iii) port: 1 for Germany (Hamburg), Belgium (Antwerp), Netherlands (Rotterdam), France (Marseille).

We estimated the regression for Poland using data from the period 2000-2003. 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 Ukraine. We replace the GDP of Poland by the GDP of Ukraine and update all the distances to the trading partners. All GDP values are projected up to 2016 using the IMF forecast. The projected trade volume in tonnes is then converted into trips by applying the load factors reported below in Table F.5. In this way we produce the forecast of the number of trips under the scenario with the removal of transit and bilateral permits.

F.1.2 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)

Demand sector (buyer)		Intermediate demand			Final demand			Total demand	
		Primary sector	Secondary sector	Tertiary sector	Consumption	Investment	Exports		
Supply sector (seller)		Primary sector	Intermediate input matrix (1 st quadrant)			Final demand matrix (2 nd quadrant)			
		Secondary sector							
		Tertiary sector							
Total		Intermediate demand			Final demand				
Gross value added components	...	Primary input matrix (3 rd quadrant)			Total demand equals total supply				
	...								
	...								
Imports									
Total supply									

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:

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

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:

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

In matrix notation, this equation corresponds to system:

$$X - AX = Y.$$

The solution of this equation system is then:

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

Where I denotes the identity matrix.

The matrix $(I - A)^{-1}$ 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:

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

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 $i = 1, 2, \dots, n$, 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 State Statistics Service of Ukraine documents publishing (UkrStat). We use Ukraine's IOT from 2011. It provides information about the interrelationship between 39 economic sectors. For the purpose of reporting, we have aggregated some of the sectors and the aggregated IOT is presented in Table F.2.

Table F.2 The Ukrainian 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.	82,184	459	45,299	23	46	2,233	895	102	2	4,169	135,412	84,325	14,668	46,123	145,116	280,528	
Min.	2,863	9,267	194,748	52,359	8,104	1,465	113	17,847	54	4,217	291,037	14,664	-4,255	42,328	52,737	343,774	
Man.	42,137	27,557	400,256	13,707	50,830	36,273	6,425	35,355	3,676	47,008	663,224	228,205	108,385	470,991	807,581	1,470,805	
Util.	3,061	14,578	42,821	9,289	899	4,367	757	12,494	1,008	20,696	109,970	21,303	0	3,839	25,142	135,112	
Const.	148	714	816	478	2,643	368	63	783	43	8,006	14,062	1,823	108,181	2,032	112,036	126,098	
Whl.	1,251	1,639	4,373	217	681	9,150	194	2,253	150	2,214	22,122	3,967	0	453	4,420	26,542	
Hot.	83	113	1,653	382	747	3,625	218	1,053	124	3,337	11,335	13,637	0	11,400	25,037	36,372	
Trans.	3,490	4,693	15,604	2,723	6,038	18,708	371	10,479	249	4,546	66,901	34,868	0	74,707	109,575	176,476	
Post	394	363	1,966	493	482	7,509	189	1,033	8,335	7,185	27,949	15,103	0	7,540	22,643	50,592	
Oth.	2,871	3,313	24,678	3,859	4,096	63,990	2,513	11,172	6,668	143,905	267,065	325,674	11,997	25,725	363,396	630,461	
Imports	19,486	188,842	493,349	80	1,243	1,004	11,165	35,041	4,029	34,662							
Total	157,968	251,538	1,225,563	83,610	75,809	148,692	22,903	127,612	24,338	279,945							
Gross v.a.	122,560	92,236	245,242	51,502	50,289	214,429	13,469	119,709	26,254	350,516							
Total supply	280,528	343,774	1,470,805	135,112	126,098	363,121	36,372	247,321	50,592	630,461							

Source: compiled by authors based on the UkrStat

For the analysis of the employment effects data from UkrStat is also used. The most recent data are taken (2012). These contain information for the whole economy, disaggregated to 28 sectors. Thus, for the study of the consequences of the liberalisation of transport permits the IOT is aggregated to 28 sectors as well.

The data disaggregated to 28 sectors, IOT (2011) and employment data (2012), are used for the analysis. However, for the purpose of reporting, the data are aggregated to 10 sectors.

Table F.3 Ukrainian employment data for 2012 (No. of people in thousands)

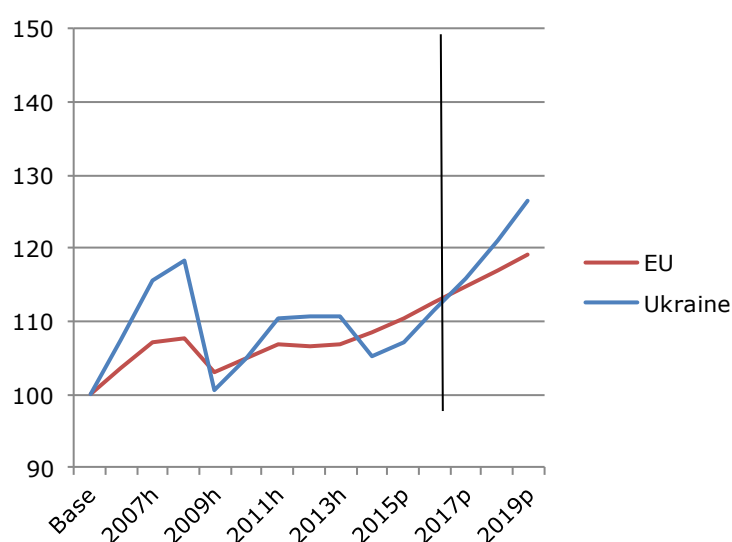
	Ukraine (2012)
Agriculture, forestry and fishing	3,507
Mining and quarrying	519
Manufacturing	2,189
Electricity, gas, steam, water supply, sewerage etc	595
Construction	902
Wholesale and retail trade	4,405
Accommodation and food service activities	489
Transportation and storage	1,072
Information and communication	289
Others	6,386
Total	20,354

Source: compiled by authors based on UkrStat data

F.1.3 Background of the baseline scenario

Ukraine experienced a deep political and economic crisis in 2014 coinciding with the period in which this study was carried out. The IMF, in its country report for Ukraine from April 2014, projects an annual change of -5% in 2014 and then a recovery to the 2013 levels by 2016. However, these projections are subject to significant uncertainty and for the analysis of the results presented in this impact assessment this should be kept in mind. The real GDP value for the EU as a whole was unchanged between 2011 and 2013 but there were differences at Member State level. Both positive and negative economic developments have an impact on the level of trade between Ukraine and the corresponding Member State and should be taken into account when projecting the road exports and permits. GDP projections up until 2019 for Ukraine and the EU as a whole are given in the table below. Projections beyond 2016 are subject to a high degree of uncertainty. They are included as an indication of expected future developments but the analysis here is restricted to the 2016 horizon.

Figure F.2 Real GDP index in Ukraine and the EU from 2005 to 2019 (level of 2005=100)

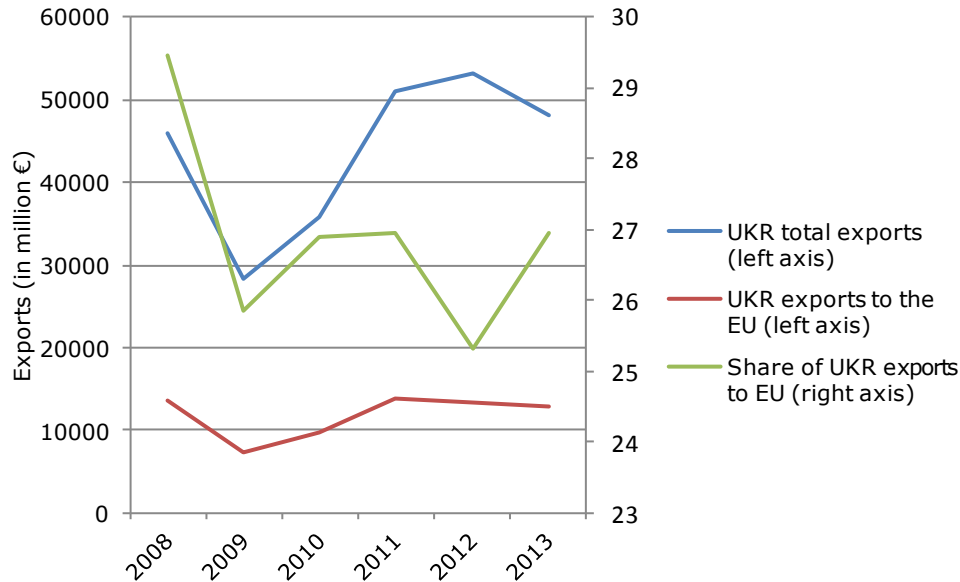


Note: 'h' in the time axis denotes historic and 'p' projection.

Source: compiled by authors based on IMF data, World Economic Outlook (WEO) 2014

The EU is an important trade partner of Ukraine, with a share of 25% to 30% of Ukraine’s total exports (calculated from data in million €). Figure F.3 shows the trend in Ukraine’s total exports and the share going to the EU from 2008 to 2013. The EU’s share dropped from 29% to 26% from 2008 to 2009 with the onset of the 2008 economic crisis and it has remained relatively constant around 26% since 2009. Total exports have recovered and exceed 2008 levels, resulting in the decrease of EU share in Ukraine’s exports.

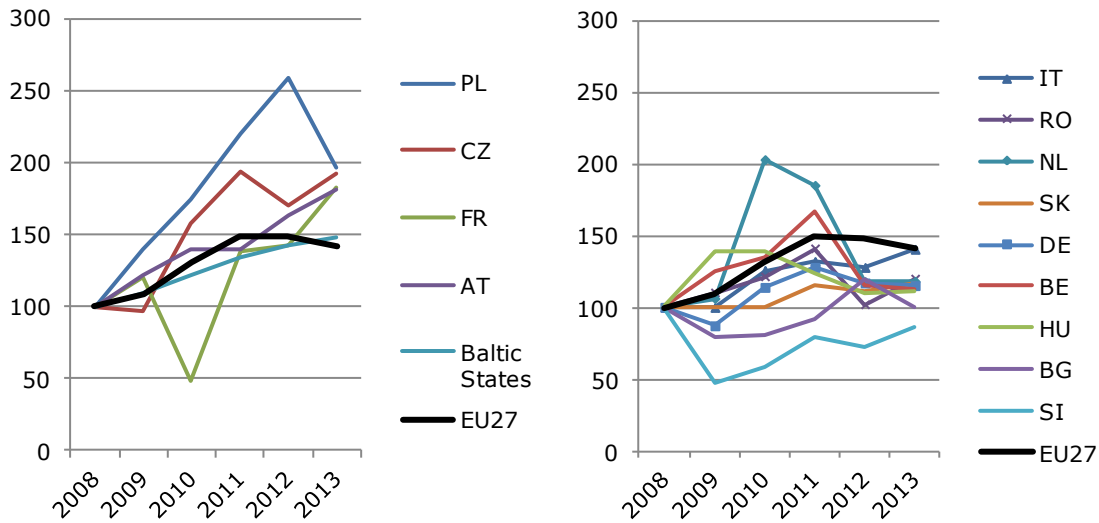
Figure F.3 Ukraine total exports, exports to the EU and EU share of exports



Source: compiled by authors based on UkrStat data, Ukraine’s foreign trade in goods

Even though the share of total Ukraine’s exports going to the EU has fallen since 2008, road exports have increased by 40%. Figure F.4 shows the development of road exports (calculated based on the weight in thousand tonnes) at the aggregate level and for selected Member States. Road freighted exports to Poland, Czech Republic, France, Austria, and the Baltic States grew at more than the average for the EU as a whole. For other important trade partners such as Germany, Italy, Hungary, Netherlands, and Romania, the change was below the EU average.

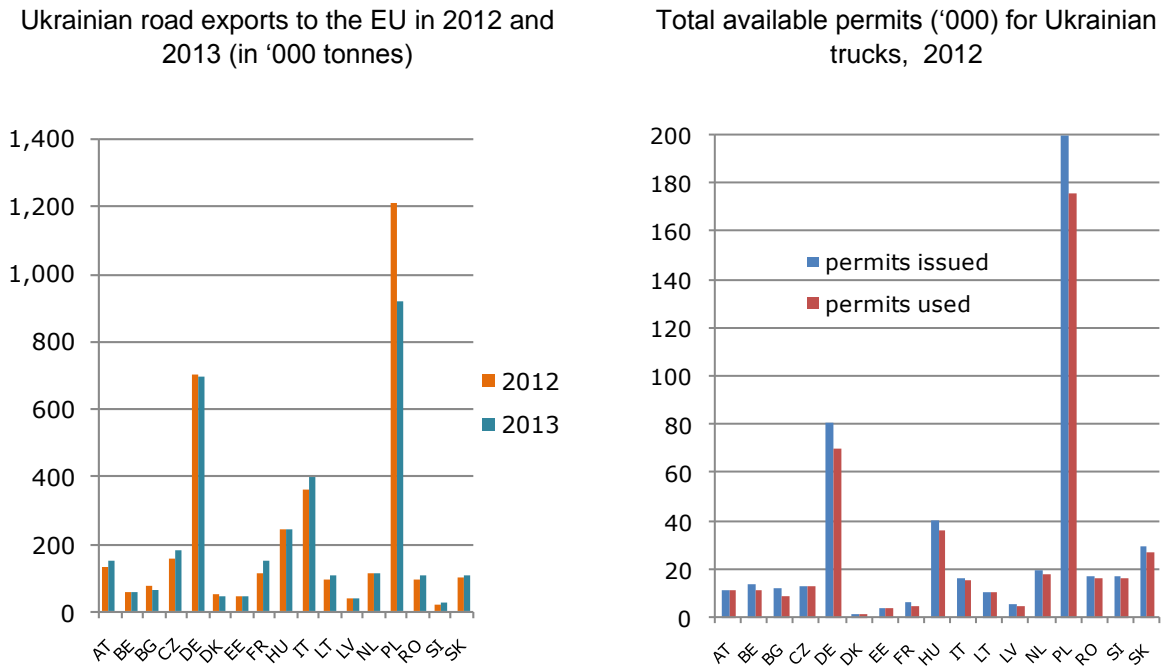
Figure F.4 Index of Ukraine’s road exports into the EU at the aggregate and Member State level (2008=100)



Source: compiled by authors based on data from the State Statistics Service of Ukraine documents publishing, Ukraine’s foreign trade in goods database (exports in ‘000 tonnes)

Figure F.5 shows Ukraine exports to the EU in 2012 and 2013 and the permits issued and used in 2012. The countries with the largest imports and numbers of permits are Poland and Germany. The next largest importer is Italy; however, it does not offer the next largest allocation of permits. This is because other countries are transit countries and in some cases also large importers. For example, Hungary is a large importer and at the same time a transit country for the products going to Italy and the southern regions of France. Thus, Hungary issues more permits than Italy. Austria, Czech Republic and France have similar amounts of imports but France has issued fewer permits. Again Austria and Czech Republic are transit countries for products going to destinations in Germany, Belgium, France and elsewhere; in consequence, they issue a higher number of permits than those required to cover the Ukrainian road imports. Another important transit country with low import levels is Slovenia. These transit countries play a key role for the Ukrainian road transport sector since the limitations on number of permits issued may cause the haulier to take alternative and longer routes (if the permits are not enough to cover all the transit needs).

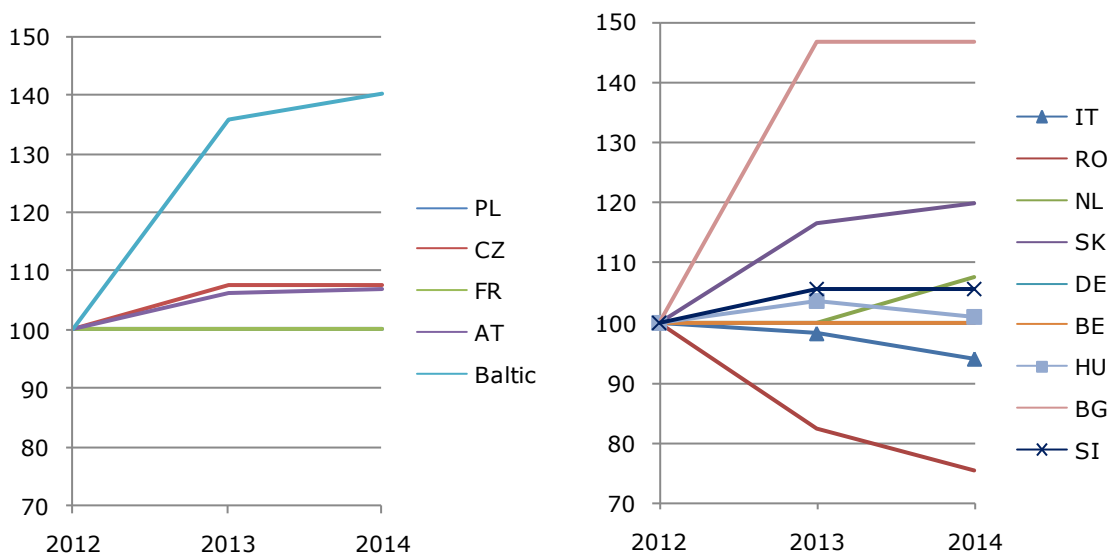
Figure F.5 Ukrainian road exports to the EU and permits issued and used



Source: compiled by authors based on Eurostat (extra EU 27 trade by mode of transport) and AsMAP data

The changes in the number of permits issued from 2012 to 2014 provide further insights into whether the transport quotas impose a restriction to road exports (see Figure F.6). The trends in the number of permits issued can be compared with the developments of the exports by road while considering at the same time (i) economic developments and (ii) that fraction of road-freighted exports that are carried by EU-registered vehicles.

Figure F.6 Index of permits issued (2012 = 100) by the main trade partners of Ukraine



Ukraine's GDP real growth rate between 2012 and 2013 was 0%. The GDP of Poland, its key trading and transit partner, increased by 1.6%. The number of permits issued also increased but Ukrainian road exports to Poland decreased significantly in 2013. Even in 2012 a large number of permits remained unused. All these factors together indicate that availability of Polish permits does not restrict

Ukrainian road exports. The case for Germany is similar: a considerable number of permits remained unused in 2012 and in 2013 the road exports to Germany slightly decreased, while the permits in the transit countries (Poland, Slovakia, Czech Republic and Austria) increased in 2013. The evidence indicates that the available permits do not pose a constraint for road exports to Germany.

Two large trading partners of Ukraine that reported an increase of imports in 2013 are Italy and France. The number of permits issued by France did not change and the number of permits issued by Italy decreased. This may indicate changes in the availability of permits issued by transit countries occurred. In fact, the permits issued in Hungary, Slovakia, Austria and Slovenia increased, suggesting that the transport quotas of those transit countries cause restrictions to Ukrainian road exports. The case of Czech Republic is also interesting. The road exports from Ukraine to Czech Republic increased in 2013 despite the economic difficulties in both countries. This might suggest that road exports responded to the increase of in quota issued by Czech Republic and that the quotas are indeed restrictive.

These findings correspond well to the findings from the permits usage statistics available for 2012. Table F.4 shows the share of used permits (with a split into bilateral and transit, where applicable) issued by all Member States for Ukraine. It indicates that the quotas of the following countries may be constraining Ukrainian road exports (i.e. usage is close to 100%): Hungary, Slovakia, Czech Republic, Romania, Austria, Italy, Greece, Scandinavian and Baltic countries. These figures give only an indirect indication of the barriers to trade, but the fact that the usage is very high for a wide range of destinations suggests that there may be an overall lack of bilateral permits. The modelling conducted for this study applies econometric gravity estimation to quantify the road traffic under liberalised conditions.

Table F.4 Ratios of used to issued permits for Ukrainian trucks, data for 2012

Trading partner	All permits	Bilateral permits	Transit permits
Austria	95%	95%	95%
Belgium	84%		
Bulgaria	73%		
Croatia	21%		
Czech Republic	99%		
Denmark	100%		
Estonia	86%		
Finland	93%		
France	72%		
Germany	87%		
Greece	92%		
Hungary	91%	92%	91%
Italy	92%		
Latvia	93%		
Lithuania	100%		
Netherlands	90%		
Poland	88%		
Portugal	16%		
Romania	97%		
Slovakia	92%	83%	98%
Slovenia	93%	*	93%
Spain	57%		
Sweden	96%		
United Kingdom	85%		

* No information on bilateral permits issued by Slovenia is available

Source: AsMAP

F.1.4 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? Above we have 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 Ukraine. We have gathered data on the number of permits issued by every Member State as well as data on their usage. The usage of permit data can be interpreted as giving the number of trucks that enter and cross each of the Member States on the way from Ukraine to the final destination. Unfortunately, no precise data exist on the distribution of these trips across different alternative routes.

From the perspective of any individual Ukrainian transport operator, trucks should take the cheapest available 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 previously noted, no data were located giving the current distribution of export trips from Ukraine into the EU across the various alternative routes. The analysis of the liberalisation scenario requires such a picture so the distribution has been estimated from trade volume data, travel cost data, and the data on the usage of bilateral and transit permits.

To determine the cheapest route we have assembled a database of the possible routes that can be taken by Ukrainian trucks, including the routes involving ferry usage (ferries to Bulgaria, Turkey; and ferries taken in the middle of a trip: from Poland to Sweden, from Estonia to Finland, from Latvia to Sweden, and from Poland to Finland). Using indicative unit costs based on the figures provided by the AsMAP, we have calculated total costs for a one-way trip of an average truck. These include distance-related costs (fuel, tyres, repairs), time-related costs (wages, insurance, other indirect costs), permit charges, tolls, and ferry charges.

The starting point for the estimation of trips distribution is the statistics of actual road exports (in tonnes) from Ukraine to different countries. We need to distribute these exports across different alternative routes. The general rule we use is that the trucks follow the cheapest routes whenever possible, and only deviate to the more expensive alternative if they face quantitative restrictions imposed by the number of permits actually used. These restrictions lead to the formulation of a set of *ad hoc* rules (Box F.2) as well as country-specific assumptions on truck load factors. Together these deliver a picture of trips that is consistent with 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 Ukrainian 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 Ukrainian hauliers). The assumptions on load factors are given in the second column of Table F.5. Overall, we estimate the average load factor for trucks carrying Ukrainian exports to the EU to be 14.5 tonnes. This number is lower than the average load of the cross-border transport inside the EU. One explanation could be the rather poor condition of the truck fleet used by the Ukrainian hauliers, many of which find it hard to find favourable financing conditions for fleet renewal.

Box F.2: *Ad hoc* assumptions used for trips distribution

Trips to Germany:

- 83% of traffic goes through Poland
- 17% of traffic goes through Slovakia and Czech Republic

Trips to Italy:

- 20% of traffic goes through Poland, Slovakia and Austria
- 80% of traffic goes through Hungary and Slovenia

Trips to France:

- 80% of traffic goes through Poland, Germany and Belgium (north and centre)
- 20% of traffic goes through Hungary, Slovenia and Italy (south)

Trips to Austria:

- 80% of traffic goes through Slovakia and Poland
- 20% of traffic goes through Hungary

Trips to Spain:

- 50% of traffic goes through Poland, Germany, Belgium and France
- 50% of traffic goes through Hungary, Slovenia, Italy and France

Trips to Finland:

- 50% of traffic goes through Belarus, Lithuania and Latvia
- 50% of traffic goes through Belarus and Russia

Trips to Sweden and Norway: by ferry via Poland

Table F.5 Estimation of the distribution of import trips from Ukraine to EU in 2012

Country of destination / transit	Assumed load factors, tonnes	Total number of used bilateral and transit permits, 2012	Estimate of bilateral export trips, 2012	Estimate of transit trips, 2012	Estimate of all trips, 2012
Austria	16	11406	8254	4265	12519
Belgium	15	11744	4044	2488	6531
Bulgaria	13	9404	6174	4505	10679
Croatia	15	209	845	21	866
Czech Republic	15	12845	10830	7364	18194
Denmark	20	1995	2369	0	2369
Estonia	13	3768	3416	478	3894
Finland	18	8000	956	0	956
France	20	4704	5721	1453	7174
Germany	14	70618	49095	23337	72432
Greece	14	2202	2356	0	2356
Hungary	14	36662	17314	22595	39908
Italy	20	15530	18100	1716	19816
Latvia	16	5123	2285	3894	6179
Lithuania	15	10468	6601	3824	10426
Luxembourg	15	n.a.	567	0	567
Netherlands	15	18035	7811	0	7811
Poland	10	176115	120935	74421	195356
Portugal	15	137	109	0	109
Romania	12	16550	7665	9990	17655
Slovakia	10	27573	9965	17428	27393
Slovenia	15	16320	1281	18006	19287
Spain	20	1250	1344	109	1453
Sweden	20	885	707	271	978
United Kingdom	20	1534	2361	18	2378

Source: DIW Econ based on data from Eurostat and AsMAP

The resulting distribution of all trips is displayed in Table F.5 (column 6). We are able to match the statistics for permits usage quite well, with a few important exceptions. First, there are some cases when our estimate of total trips exceeds the total number of used bilateral and transit quotas. The largest deviations are for Poland, Czech Republic, Italy, and Slovenia. The deviations are discussed in detail.

The total number of the monotype permits issued by the Czech Republic is enough to cover the bilateral export trips, but is not enough to cover also the transit to southern Germany. A similar situation is observed in Slovenia, where there are not enough transit permits to match the need for transit to Italy. In Italy itself, we observe a strong deficit of bilateral permits (5400 permits too few).

A certain deficit of bilateral quotas is estimated for few more countries. These are Denmark and Sweden, as well as the UK. Despite rather high assumed load factors, the estimated number of trips to these destinations is higher than the maximum available amount of permits.

For all these cases, we assume that the trips are carried out using ECMT permits, of which Ukraine is an active user. There are roughly 19000 ECMT licenses used by Ukraine in 2014. This number has

not varied much in recent years. The total number of trips into the EU with ECMT licenses, based on our estimation, is about 13000. Given that an ECMT license is valid for all border crossings of a given vehicle during one year, the true number of licenses required is probably much less.

In addition to the use of ECMT licenses by the Ukrainian carriers, there is one more factor that reduces the demand for bilateral permits – the EU carriers that bring a part of Ukrainian exports into the EU. However, we estimate that their impact is limited and mainly concerns neighbouring countries. Specifically, we estimate that there are 1000 export trips carried out by Bulgarian trucks, 1100 by Romanian, 1000 by Latvian, and 19000 by Polish.

For the Netherlands, Belgium, and Finland, our estimate of the number of trips is below the number of used permits. It means that the exports to Finland, Belgium and the Netherlands can be carried by a much smaller number of trucks than what is suggested by the permits usage statistics. For the Netherlands and Belgium, the explanation could be traffic to the ports of Rotterdam and Antwerp, which does not represent exports to the Netherlands or Belgium. For Finland, there is no obvious explanation.

The identified cases of permits deficit are consistent with the picture described to us by the representatives of AsMAP-Ukraine, the national association of international road hauliers in Ukraine. The numbers in columns 4 and 5 of Table F.5 were used as the basis for comparing the trips in the baseline scenario and the liberalisation scenarios.