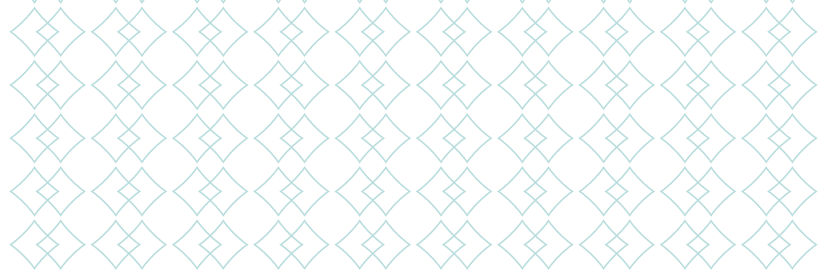


7 Transport





Small trucking companies in Java, Indonesia offer relatively cheap services but at the expense of service reliability and often with the resulting late delivery of goods. Strengthening the legal framework by establishing a road transport licensing system that imposes certain minimum quality standards, including professional certification for drivers and regular vehicle technical inspections, can reduce overall road transport costs by 7%, according to a recent empirical study. Indonesian road transport is responsible for more than 90% of all freight and is the largest contributor to high logistic costs in the country. Such high costs cause remote areas to experience more volatile food prices.¹

Reliable and affordable food transport logistics services are essential to enable agricultural producers to reach consumers in growing urban areas. As such, transport can be considered a critical factor for urban food availability. Good transportation systems are required to minimize the time lag between harvest, processing and retail,² and provide adequate temperature control to preserve the quality and shelf life of perishable products as they are transported to markets.³ Food losses during transport are frequently due to mechanical injury, spillage or leakage, which typically go unrecorded.⁴ In addition, transport inefficiencies may decrease the food supply to local markets and reduce farmer profits.⁵

Access to efficient transport logistics as part of modern supply chains has been found to increase farmer income by 10 to 100%.⁶ Transport costs can account for one-third of the price of agriculture inputs in some Sub-Saharan African countries,⁷ which can lead to higher food prices. High marketing costs discourage farmers from commercializing their production⁸ and can be traced back to poor road quality, isolation from markets, lack of vehicles and inefficient trucking logistics. Transportation services are also critical in mature economies like the United States, where the majority of domestic agricultural freight is still transported by road and agriculture is the largest user of freight transportation.⁹ For instance, trucks transport food supplies for more than 80% of US cities and communities.¹⁰





What do the transport indicators measure?

EBA transport indicators measure the legal and regulatory framework that affects the provision of commercial road transportation services for agricultural products, including licenses, quality of trucking operations and cross-border transportation (table 7.1).

The indicators are organized as follows:

Trucking licenses and operations: Competition among truck service providers is key to curbing transport prices, increasing service quality and mitigating road transport inefficiencies.¹¹ This indicator assesses the extent to which regulations provide for a clear, transparent and efficient system for accessing and operating in the domestic transport sector. Strong legal systems reconcile the ease of accessing the market with minimum quality criteria to ensure food safety and environmental protection. This indicator covers the following:

Licensing regimes for transport operators. Excessive or cumbersome regulation for market entry can lower firm productivity¹² and promote concentration.¹³ Thus, easing the process to obtain licenses for transport vehicles and operations is considered to be among the most important ways to improve trade and transport. The data cover the different licensing regimes, their time and cost requirements, and the existence of on-line platforms for submitting a license application.

Nontechnical requirements to obtain a truck license. Unjustified license requirements can artificially limit competition among transport providers and ultimately lead to higher transport prices and lower service quality. The data examine the existence of potentially discriminatory or unnecessary requirements relating to nationality, company size, operational capacity, professional affiliation or gender, among others.

Special regulations applicable to the transport of agri-food products. Given the potential impact of transport conditions on food safety and hygiene, transport regulations should include rules applicable to agriculture and food products. The data cover aspects such as vehicle refrigeration, insulation, co-mingling prohibitions and mandatory cleaning protocols, among others.

Transport documents. Road transport documents facilitate and standardize transactions, and have the capacity to increase trade and reduce risks and informality. A strong legal framework will institute written documents defining the conditions of carriage and a description of goods transported.

Pricing and freight allocation mechanisms. Price-setting or quantitative mandatory guidelines distort the market and restrain competition. The data focus on the presence of legally-binding queueing systems or mandatory road transport prices.

Cross-border transportation: Allowing foreign trucks to transport third-country cargo is one means of improving trade and transport.¹⁴ Increasing the exposure of domestic truck operators to wider regional competition has also been cited as a determinant in lowering transport prices in Southern Africa.¹⁵ The cross-border transportation indicator measures the following:

Cross-border licensing. The data cover the legal and regulatory framework governing cross-border transport between each country and its largest trading partner, including transport rights granted to foreign companies and cross-border licenses applicable to foreign trucks.

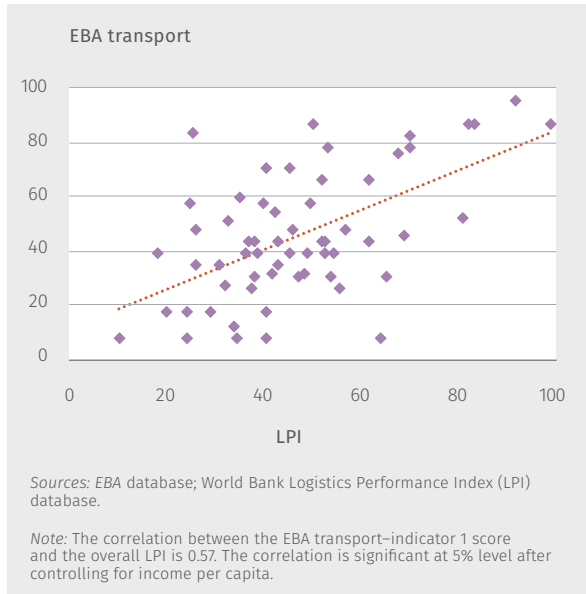
Limitations to foreign competitors. Despite regional and international efforts to liberalize trucking sectors, quantitative and operational restrictions to foreign competition still exist. These data identify potential

Table 7.1 | What do the transport indicators measure?

TRUCKING LICENSES AND OPERATIONS	<ul style="list-style-type: none"> • Type of license required to offer third-party trucking services domestically and ease of application process • Nontechnical requirements and total time (calendar days) and cost (in % of income per capita) to obtain a domestic license • Transport regulations specific to agriculture and food products
CROSS-BORDER TRANSPORTATION	<ul style="list-style-type: none"> • Foreign operator transport rights and operational limitations on foreign truck operations • Cross-border licensing and total time (calendar days) and cost (in % of income per capita) to obtain a cross-border license

Source: EBA database.

Figure 7.1 | Better performance on EBA transport's market access indicators is associated with higher logistic capacity



limitations such as quotas on the number of cross-border licenses that can be issued and mandatory corridors through which foreign trucks must operate.

Additional data on quality control for truck operations were collected but not scored, and are presented in appendix D.

How do countries perform on the transport indicators?

Countries that perform well on the trucking licenses and operations indicator also tend to have greater logistics capacity, according to the Logistics Performance Index (LPI)¹⁶ (figure 7.1). As the most common type of transportation in developing countries, road transport is an essential precursor for effective general transportation. Country performance for trucking licenses and operations follows a distribution pattern similar to the LPI, thus implying an underlying relationship between the quality of road transport market access regulations and the overall quality of trade logistics infrastructure. Both indicators exhibit similar trends by income levels.

High-income OECD countries perform better on the transport indicators due to an efficient regulatory framework for truck licenses and domestic operations, a comprehensive system for ensuring the quality of truck operations and a high degree of openness to foreign competition. Particularly, Spain, Romania, Denmark and Italy display the strongest performance on the regulations measured, driven by a strong body

of harmonized regulations (table 7.2). Egypt, Ghana, Haiti, the Kyrgyz Republic and Liberia perform poorly on the transport indicators due to their domestic and cross-border trucking regulations; they do not require a license at the company level, they do not establish norms for the transport of perishable products and they do not have any rules on cross-border transport.

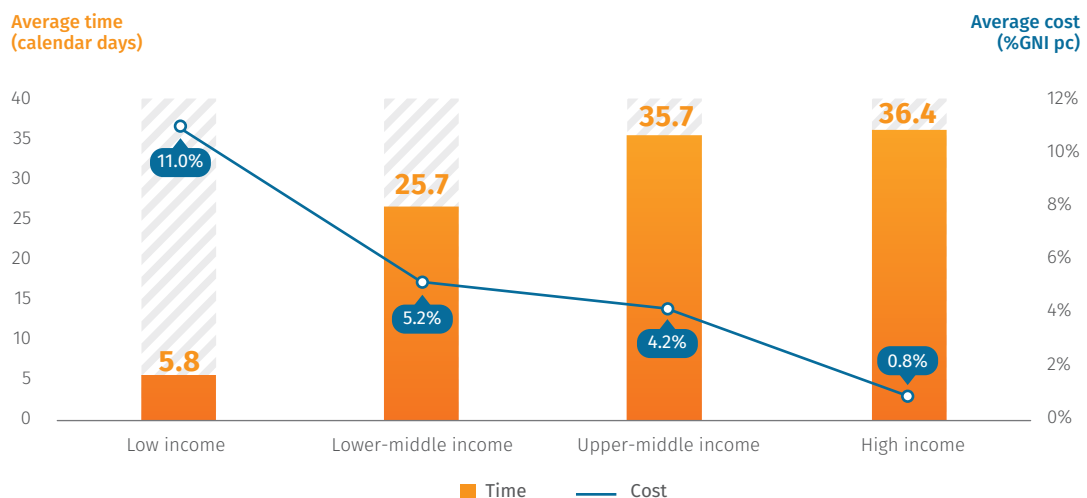
Regarding the time to obtain licenses, it generally takes longer to obtain a license in high-income OECD countries where company-level licenses are used, as compared with low-income countries where individual truck-level licensing is predominant (figure 7.2). Truck-level licenses can generally be issued faster because fewer quality standards apply. However, the average cost in countries with company-level licenses is almost five times lower than that of low-income countries. In Poland, for example, domestic company-level licenses take 90 days and cost 1.8% of income per capita on average to be processed, while in Uganda it takes only one day but almost 6% of income per capita to obtain a domestic truck-level license. In addition, even though shorter times are recorded for truck-level licenses, countries with company-level licenses tend to compensate operators with longer license validities; for example, five years is the average validity across the 21 countries operating a company-level system, as compared with one year for truck-level licenses. In certain cases, company-level licenses may also be unlimited (Colombia, Mexico, Serbia or Spain).

Table 7.2 | Where are transport regulations strongest and least burdensome, and where are they not?

STRONGEST AND MOST EFFICIENT		WEAKEST AND LEAST EFFICIENT	
1	SPAIN	58	GUATEMALA
2	ROMANIA	59	GHANA
3	DENMARK	59	LIBERIA
4	ITALY	61	EGYPT, ARAB REP.
5	PERU	62	HAITI

Source: EBA database.

Figure 7.2 | Stricter licensing requirements in high-income countries drive up the time required to obtain a license, but licenses are less costly



Source: EBA database.

Note: 49 of the 62 countries require a company-level license, a truck-level license, or both. The remaining 13 countries do not have any licensing requirements. Income-level grouping by country includes the following: low-income countries—Benin, Burkina Faso, Burundi, Ethiopia, Malawi, Mali, Mozambique, Nepal, Niger, Rwanda, Senegal, Tanzania, Uganda and Zimbabwe; lower-middle-income countries—Bangladesh, Bolivia, Cambodia, Cameroon, Côte d'Ivoire, India, Kenya, Lao PDR, Morocco, Myanmar, Nicaragua, Nigeria, Philippines, Sri Lanka, Tajikistan, Vietnam and Zambia; upper-middle-income countries—Bosnia and Herzegovina, Colombia, Jordan, Malaysia, Mexico, Peru, Romania, Serbia and Thailand; and high-income countries—Denmark, Greece, Italy, Korea, Rep., Netherlands, Poland, Spain and Uruguay. Turkey was excluded from its income grouping (upper-middle income) for graphing purposes given its extreme values for cost required.

What are the regulatory good practices?

Box 7.1 highlights regulatory good practices and some countries that implement these practices.

Company-level licenses promote stronger quality standards

Company- and truck-level licensing regimes differ with respect to the number of vehicles allowed under each license, license validity, the obligation for operators to register and often the requirement that operators and managers are certified. Acknowledging that the best licensing systems may be tailored to local circumstances, company-level licenses are generally regarded as stronger systems to promote both market entry and quality-based standards in the transport sector.¹⁷ For example, while operators in Colombia benefit from the flexibility of a company-level license system that allows for whatever fleet size may be commercially desirable, truck operators in Tanzania must obtain individual truck licenses for each vehicle they want to operate.

Company-level licenses establish stricter quality standards on operators than truck-level or deregulated systems (see EU example in box 7.2). Across the 62 countries studied, company-level licenses require, on average, over six out of nine good practice quality criteria, a substantially higher number than the requirements that exist for truck-level licenses, which have four quality criteria in place, or countries with

no licensing schemes, which have none. While vehicle-specific requirements such as vehicle registration, technical inspections and third-party insurance are common to all licensing types, operator requirements such as minimum financial capacity, good repute, permanent establishment and professional competence for managers and drivers are predominant in company-level license regimes.

Only one-third of the countries that *EBA* surveyed require a company-level license for truck operators. Bosnia and Herzegovina, Korea, Morocco, Rwanda, Tajikistan, Turkey and Vietnam adopted company-level licensing regimes during the past 15 years. Burkina Faso,¹⁸ Côte d'Ivoire¹⁹ and Serbia²⁰ have recently reformed their laws to move to a company-level system.

Improving cross-border transport and foreign competition

High transport prices and low service quality have been attributed to the lack of competition in the domestic market in Africa.²¹ In landlocked countries in the Western, Southern and Central African region, transport costs can contribute as much as 26% to import costs,²² which is more than three times the amount in developed economies.²³ Increasing foreign participation in trucking and logistics services can help to increase competition, reduce prices and improve the quality of such services in the agriculture sector.²⁴ In Lao PDR, for example, eliminating the domestic trucking cartel and abolishing restrictions on backhauling



Box 7.1 | What are the regulatory good practices for transport?

	REGULATORY GOOD PRACTICES FOR TRANSPORT	SOME COUNTRIES WHICH IMPLEMENT THE PRACTICE
TRUCKING LICENSES AND OPERATIONS	Operating licenses are applied for at the company level and the process of obtaining a domestic license is efficient and affordable.	ETHIOPIA, TURKEY
	Licensing requirements do not discriminate on the basis of nationality, gender, professional affiliation or operational capacity.	ITALY, ROMANIA
	Truck operating requirements and necessary procedures are public and available online, and electronic platforms for submitting license applications and processing online payments are available.	COLOMBIA, SRI LANKA
	Written road transport documents are required in transport transactions.	CÔTE D'IVOIRE, KOREA, REP.
	Agriculture and food products are subject to special road transport regulations.	NICARAGUA
	Truck service prices and freight allocation are freely determined by the contracting parties.	NIGERIA, ZAMBIA
	Vehicles must complete periodic and mandatory technical and emissions inspections.	GEORGIA, INDIA
CROSS-BORDER TRANSPORTATION	Third-party liability insurance policy and vehicle registration certificates are mandatory and must accompany all trucks.	BOSNIA AND HERZEGOVINA, POLAND
	Foreign truck operators are granted transport rights similar to domestic operators and are not limited by quotas or mandatory routes when operating in the domestic market.	NETHERLANDS, SERBIA
	Truck operators are required to have a license when performing cross-border transport and the process of obtaining a cross-border license is efficient and affordable.	PERU, RUSSIAN FEDERATION

Source: EBA database.

Box 7.2 | The EU example

Through Regulation (EC) 1071/2009 and 1072/2009, the EU adopted a harmonized, company-level license system based on a common set of quality conditions with which all EU truck operators must comply permanently. The criteria include sound financial capacity, good reputation and professional competence for managers and permanent establishment. This approach, which grants unrestricted

market access to any EU Member State, constitutes a source of inspiration for other countries in the Europe and Central Asia (ECA), Middle East and North Africa (MENA) and Sub-Saharan Africa (SSA) regions, which still rely predominantly on truck-level or no license regimes. Some countries such as Burkina Faso or Côte d'Ivoire are in the process reforming their truck-level licensing schemes accordingly.

by foreign trucking companies led to a 20% reduction in road transport prices.²⁵ However, cross-border competition is typically hampered by restrictions on cabotage operations²⁶ or on services from third countries not covered by a bilateral agreement.

Openness to foreign competition can be measured by the number of rights granted to foreign truck operators. While more than 92% of countries allow certain basic transport rights (transport and backhaul), others, such as triangular²⁷ and cabotage rights, are allowed in only 68% and 13%—of the countries surveyed, respectively (figure 7.3). Across the EBA sample, only Korea, Malaysia, Myanmar, Sri Lanka and Thailand do not allow trucks registered in their largest trading partner to enter their territory at all. Cabotage rights, the most permissive regime for foreign operators, are observed in only eight countries, namely: Denmark, Greece, Italy, the Netherlands, Poland, Romania, Serbia and Spain.²⁸ Even in these countries, cabotage rights are subject to certain limitations such as the maximum number of cabotage operations and specific time limits.

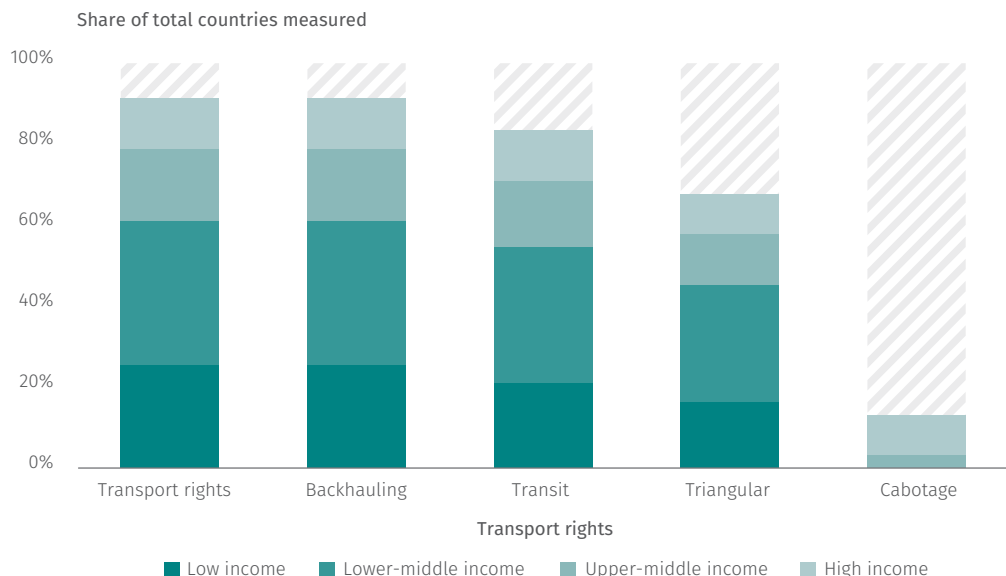
Regional trade integration dynamics can also stimulate cross-border transport by harmonizing market access criteria and establishing most-favored nation clauses. The data show that countries regulating cross-border transport through regional transport agreements record a higher number of good practices than countries doing so bilaterally. While 90% of countries with a regional agreement in place require a cross-border license, only 65% do so when regulated bilaterally. Similarly, the average number of transport rights

granted to trading partners under regional agreements is 20% higher than its bilateral equivalent. Moreover, quotas to the number of cross-border licenses issued and the existence of specific transit corridors are all limitations that are less frequent under regional agreements than under bilateral ones (20% and 14% lower, respectively). The East African Community (EAC)²⁹ is a good example of a regional trade agreement that harmonizes truck licensing requirements; the agreement guarantees four of five transport rights and removes quantitative or qualitative limitations on the number of trucks licensed in any of the five EAC member countries that can operate in the domestic market of another member.

Strong transport regulations promote food safety and reduce food waste

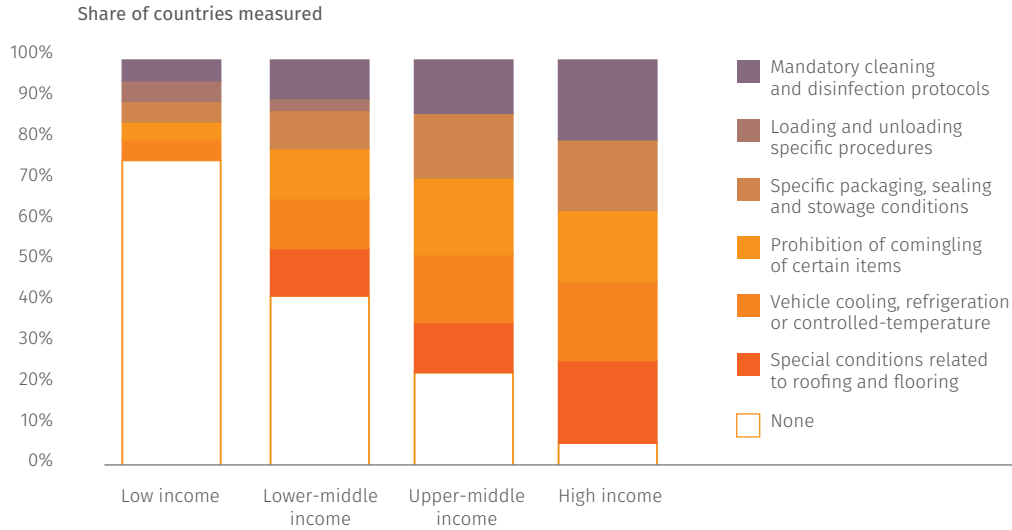
In developing countries, 40% of food losses occur at the post-harvest and handling stages of the value chain, including degradation and spillage from poor transportation conditions.³⁰ Strong legal frameworks for agricultural transport include specific provisions for the transport of agri-food products. These provisions include rules such as mandatory refrigeration standards, special insulation and roofing conditions, cleaning protocols, special labelling requirements and a prohibition on comingling of certain items, all of which seek to prevent foodborne diseases and contamination, avoid spillage and ensure the quality of the products being transported. Countries with stronger regulations pertaining to food products have a much lower incidence of food waste.³¹

Figure 7.3 | Higher income countries tend to be more open to foreign truck competition



Source: EBA database.

Figure 7.4 | A vast majority of low-income countries have not adopted any agri-food transport regulations while most high-income countries have done so



Source: EBA database.

Only 38% of the economies studied have implemented specific regulations that seek to ensure food safety during transportation. The prevalence of agri-food transport regulations is predominant in high- and upper-middle-income economies (figure 7.4). A very small number of countries in the low- and lower-middle-income tiers, including Cameroon, Guatemala, India, Kazakhstan, Nicaragua, Senegal and Tajikistan, have such rules in place. For example, since 2010 Nicaragua has imposed specific requirements for safe transport including vehicle refrigeration specifications, cleaning protocols, loading and unloading procedures and mandatory documentation requirements.³²

Other low- and middle-income countries limit such regulations to one or two particularly relevant commodities for that country, rather than the agri-food sector more broadly. For instance, Cameroon recently issued a regulation dealing with the safe transport of cocoa and the Russian Federation has specific regulations on wheat safety.

Conclusion

Strong and efficient truck licensing frameworks that are nondiscriminatory, transparent and conditional on minimum quality standards, can play an important role in leveling the playing field for transport service providers and ultimately contribute to better access to such services in rural areas. As suggested by the EU example, opening up truck service markets to foreign competition is another important regulatory component that can reduce fragmentation, stimulate the adoption of improved standards and reduce overall transport costs.

NOTES

- 1 Meeuws 2014.
- 2 Bourne 1977.
- 3 Jedermann et al. 2014.
- 4 Tefera 2012.
- 5 Lundqvist et al. 2008.
- 6 World Bank 2008.
- 7 *Ibid.*
- 8 Gebremedhin et al. 2012.
- 9 Casavant et al. 2010.
- 10 *Ibid.*
- 11 Teravaninthorn et al. 2009.
- 12 Barseghyan 2008.
- 13 Fisman et al. 2004.
- 14 World Bank 2010.
- 15 Raballand et al. 2008.
- 16 LPI is a World Bank knowledge product measuring logistic “friendliness” perceptions as reported by freight forwarders and express carriers. The 2016 edition provides data on 160 countries, 60 of which are also part of EBA.
- 17 The transport topic categorizes licenses based on level: company, truck, both company and truck or the absence of a license.
- 18 Burkina Faso recently established a company-level licensing system, in force since October 2016. The new license will comprise quality criteria to access the market and have a validity of five years. With the new regulation, each truck operator will be able to have an unlimited number of trucks under the license.
- 19 In 2015, Côte d’Ivoire introduced a company-level-based operator licensing system with clear quality criteria to access the profession. The decree also establishes strategic plans containing an estimation of the demand for transport services, a registry of licensed operators and their fleets, and user satisfaction rates, among others. As a result of this reform, Côte d’Ivoire is now the best performer in the “trucking licenses and operations” sub-indicator of the ECOWAS region.
- 20 Serbia will fully harmonize its licensing system to EU requirements by February 2017. The new company-level license will establish quality criteria including good reputation, Certificate of Professional Competence (CPC) for drivers and managers, financial capacity standards and a more generous validity, and will remove the limitation to the number of trucks.
- 21 Teravaninthorn et al. 2009.
- 22 MacKellar et al. 2000.
- 23 Raballand et al. 2008.
- 24 *Ibid.*
- 25 Record et al. 2014.
- 26 By definition, cabotage rights are defined as follows: a truck registered in country A is able to pick up agricultural goods in country B and deliver them to a different point in country B.
- 27 By definition, triangular rights are defined as follows: a truck registered in country A is able to pick up agricultural goods in country B and transport them to be delivered into country C (assuming foreign country B is the final destination of the foreign truck).
- 28 Cabotage rights in EU countries are granted on the basis of Council Regulation (EC) No. 1072, 2009. In the case of Serbia, instead, cabotage rights are granted on the basis of a specific permit issued by the Ministry following the “Act on the Transport of Goods by Road.”
- 29 The East African Community is a regional inter-governmental organization with headquarters in Arusha, Tanzania and it currently comprises the following countries: Burundi, Kenya, Rwanda, Tanzania and Uganda.
- 30 FAO 2011.
- 31 Food losses in European countries where food safety transport regulations are extended are 9% for tubers, 0.5% for milk, 5% for fruits and vegetables and 1% for oilseeds and pulses; compared to 18%, 11%, 9% and 8% for Sub-Saharan Africa; 14%, 6%, 10% and 3% for Latin America; and 19%, 6%, 9% and 12% for South and South-East Asia, respectively (FAO 2011).
- 32 “Norma técnica obligatoria nicaragüense de requisitos para el transporte de productos alimenticios,” NTON 03 079-08, enacted in 2008 and in force since 2011.

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