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Tesis

**Analysis of internal logistic cost on exports of  
peruvian coffee in the period 2015 - 2019**

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**ANALYSIS OF INTERNAL LOGISTIC COST ON EXPORTS OF PERUVIAN COFFEE IN THE PERIOD 2015 – 2019**

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cgalarza@continental.edu.pe**Keywords:** logistics costs, transport, cluster, security, corridors**Abstract:** The objective of the research was to analyse the main components of internal logistics costs that are shown in the process of Peruvian coffee exports in the period 2015-2019. This study used various government sources, document review, and extraction of information systems. To do this we take into account 6 departments with greater coffee production, connected with three logistics corridors that have as a starting point the production areas and reach the export channels of Callao and Paita. Also, using the information gathered from the logistics performance index, a brief internal transport comparison was made between Peru and Colombia. As a result, the logistic cost of both countries is higher than 14.1% (Latin American average), taking into account that in both countries the only internal logistic component in which they coincide is transportation. It is concluded that national transportation hurts impact on logistics costs, since these are affected in the final price of coffee and the profitability of the Peruvian farmer.**1 Introduction**

Currently, transport logistics is one of the fundamental pillars within the exporting companies, it has a great impact on the world economy, and is one of the indicators that have the greatest influence on the price of goods and services offered in national and international markets. Another important aspect to be assessed is the efficient organization of distribution and transport of goods since it plays a key role in the integration and coordination of logistics factors [1].

Inside agro-industrial exports, coffee is the leading product in Peru and globally ranks ninth behind Brazil and Colombia [2]. Peru is the eighth largest coffee producer in the world and the quality of its product is increasingly recognized in the international market due to its great organoleptic properties [3]. Since 2008, coffee has been considered a flagship product because of its value in the agro-export basket and because it influenced the economy of rural families, considering that the total number of farmers engaged in the cultivation makes up 95% and are small producers. 91% of the cultivated hectares of coffee, are accentuated in 6 departments. The total production of

coffee within the country covers 19 regions, 63 provinces and 449 districts [2].

Because the coffee production plants are far from the city, a logistic transport system is created for the proper distribution of the merchandise. The main component of the total cost of Peruvian agro-industrial companies is logistics costs, ranging from 20% to 50% of the total cost, with coffee being the most efficient product in its logistics costs with 21.2% [4]. There are three coffee corridors: the Tocache-Zarumilla corridor, which connects the northern cluster formed by Amazonas, Cajamarca and San Martín (55.6% of total production) with the port of Paita; and the Satipo-Callao and Cusco-Callao corridors, which connect Junín (27.5% of total production) and Cusco (16.8% of total production) with the port of the capital, respectively. The production is transported to the collection centres in these same departments, or it is collected by intermediaries (collectors) who sell the product to processors, traders or exporters. Finally, the coffee is destined for the foreign market through the ports of Callao and Paita [5].

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## 2 Literature review

### 2.1 Internal transport

According to P. Dorta [6], road freight transport is a key part of the logistics chain, mainly in the supply and distribution processes, but transport is closely related in the production processes, that is why it depends on the logistics chain.

The transport system includes the management of means, modes, loading, unloading and terminal infrastructure [7]. Also, safety, speed and regularity are indicators that help measure the performance of the transport system. The means of transport must have the necessary infrastructure in the roads, ports and airports, and must be modernized according to the needs and changes of the country.

According to J. Rojas [8] in his research article, he stated that the purpose of the transport sector is to deliver the cargo at the agreed destination, in a timely manner and preserving the integrity of the merchandise and how this is carried out raises a supply chain management system of land transport companies that can reverse internal transport non-conformities. Where I come to the conclusion that the figures for loss of merchandise and untimely deliveries reflect that an investigation is necessary to investigate the relationship of these events with the management systems.

According to F. Huamán & X. Puente [9], the objective of their research is to identify the relationship that exists between the costs and export competitiveness of blueberry exporting companies in 2016. The descriptive-correlational methodology was used where the different elements that influence this variable and appropriate strategies were applied to obtain great benefits to exporters, where the result was that there is a relationship between local transport and export competitiveness.

### 2.2 Logistics costs

Within the logistics field, logistics costs are related to the functions of a company that allows managing and controlling the flow of materials and information.

In addition, logistics costs are a fundamental part of logistics operations, where these costs are reflected in the movement of the product, from the warehouse to the port of departure of a country, the costs in which the merchandise consumes time, and the costs that they generate the logistics operations within the distribution process, whether from one origin to one destination, from one destination to many and from many to many [10].

The logistics costs include traffic and means of transport, storage, transfer of materials, supply, packaging and distribution [11].

According to M. Bossio; E. Cotillo & M. Delgado [12] carried out an investigation in which he described and analysed the different costs that encompass the international logistics activities that may arise at the time of developing an export, the topics discussed are based on the research of supplier's logistics service and

specifications that must be met in each of the related entities to develop the export. It was concluded that the costs of the activities involved in the international logistics of an export product influence business management.

According to J. Luyo & V. Quispe [13] in his research work, he aimed to demonstrate the economic impact caused by the logistical costs on supply chain management in companies in the cosmetics sector. Where the mixed research method was used in which processes were identified tasks involved in supply chain management. It was concluded that logistics costs will have a positive impact on supply chain management in companies.

### 2.3 External transport

International transport is an important element in international trade logistics and should be used to get merchandise to the country of destination [14].

External transport implies the use of different means to carry out the mobility of the merchandise, where there are two modes of transport such as multimodal and intermodal. External transport in its entirety has always been intermodal, since goods have moved from their origin to their destination by changing the mode of transport, depending on the technology available at the time [15].

According to D. Ballesteros [16] the external transport is made up of appropriate means of transport according to the type of load (liquids, gas, bulk materials, and unit loads), likewise, they include activities such as unitization of the loads, palletization, unloading, and arrival at the destination port where there is a formalized system for planning and controlling the operation of the external transport system that guarantees the maximum use of the resources and a high level of service in the distribution and delivery of the products to the consumer. The physical and environmental conditions of the handling tasks, as well as those of load transport, guarantee adequate conservation of these and safe work with high protection for workers and operators.

According to F. Colque [17], the objective of the research was to determine the effect of international freight transport by road on economic competitiveness based on optimal cost-efficiency criteria. The inductive-descriptive methodology was used, wherefrom the particular diagnosis of two central variables: economic competitiveness and international transport, it was possible to identify those adverse factors so that in this way the problem environment can be defined with greater precision. In summary, international road freight transport had positive effects on economic competitiveness based on cost-efficiency criteria.

## 3 Methodology

The method used in this research is analytic-descriptive, where we designed a field study based on the documentary review of the 6 departments with the highest

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participation in the coffee production in Peru, corresponding to the period 2015-2019.

According to [2], in Peru there are 19 regions that grow coffee, however, only 6 of these covers 91% of the total production, consisting of: San Martin (22.2%), Junín (27.5%), Cajamarca (20.9%), Cusco and Puno (16.8%), and Amazonas (12.5%). There are three coffee corridors in Peru:

- The corridor Tocache-Zarumilla, which is connected by the cluster North, formed by San Martin, Amazonas, and Cajamarca, and count for 55.5% of the national production of Coffee.

- The Satipo-Callao corridor, which connects to the Junín cluster, where the largest source of production is located in the provinces of Satipo and Chanchamayo, with 17.1% and 10.4% of coffee production, respectively.
- The Cusco-Callao corridor, connected to the Cusco cluster, where production is mainly centred in La Convención, which is the second most relevant coffee province in Peru with approximately 14% of national production [5].

Table 1 Participation of the top 5 coffee exporting companies

Cluster	Departments	Corporate name	% Part.
North	Amazonas	Café Monteverde	24.825%
		Cooperativa agraria Rodriguez de Mendoza	20.34%
		Cooperativa agraria ecológica cafetalera de Lonya Grande	19.36%
		Café El Bosque S.R. L	9.53%
		Cooperativa agraria Juan Marco el Palto	7.26%
	San Martin	Cooperativa agraria cafetalera Alto Mayo	46.00%
		Comercio Amazonia SA	18.85%
		Comercio & CIA S. A	11.30%
		Asociación agroexportadora de la región San Martín	8.06%
		Cooperativa de servicios múltiples bosque del Alto Mayo LTDA	4.00%
	Cajamarca	Olam Agro Peru S.A.C.	22.67%
		Cooperativa de servicios múltiples Cenfrocafe S.A.C.	18.43%
		Compañía Internacional de café S.A.C.	11.69%
		Louis Dreyfus Company Peru S.R.L.	10%
		Comercio Amazonia S.A.	9.13%
Centre	Junín	Rainforest Trading S.A.C	16.95%
		Cooperativa Agroecológica Industrial Juan Santos Atahualpa	13.51%
		Cooperativa Agraria Cafetalera ACPC Pichanaki	12.28%
		Kaffee Peru G1 S.A.C.	11.99%
		Cooperativa Agraria Cafetalera Sostenible Valle Ubiriki	10.39%
		Cooperativa Agraria Cafetalera la Florida	9.02%
South	Cusco	Agroindustrial y Comercial Arriola e Hija	20.32%
		Central de Cooperativa Agrarias Cafetaleras Cocla Ltda. N° 281	19.35%
		Cooperativa Agraria Cafetalera Huadquiña Ltda. 109	17.35%
		Cooperativa Agraria Cafetalera San Fernando Ltda.	12.82%
		Coop Agraria Cafetalera José Olaya Ltda	11.09%
	Puno	Cooperativa Agraria Cafetalera San Juan del oro	58.97%
		Cent. de Coop. Agr. Caf. Valles Sandia LTDA	41.03%

Table 1 shows the participation of the main Peruvian coffee exporters, which are located within are located thin inside 6 regions with the highest coffee production. The purpose of this study is to analyze the impact of internal transport within the logistic costs for the export of Peruvian coffee. Besides, a comparative analysis was carried out between Peru and Colombia, on the internal transport costs of coffee exports.

## 4 Results

### 4.1 Analysis of internal transport

The only internal means of transport for coffee is by land (road), since not all coffee growers have direct access to the boarding exit. The truck is the most used means of

transport in the first phase of the growing area to the 100% collection centre, the truck, in the second phase of the collection centre to the processing plant 92.4% and the rented truck, in the third phase of the processing plant to the terminal. Besides, the mule is also an option used by coffee growers [5].

This means of transport is used in the three phases of the coffee journey, these being the first phase from the cultivation area to the collection centre, the second phase from the collection centre to the processing plant, and the third phase from the processing plant to the boarding terminal.

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**4.1.1 Phase 1 Production area (farm) to the collection centre**

In Table 2, it is detailed that the most used means of transport in each section is the rented van, the type of road

is unpaved, the state in which it is in greatest proportion is bad, also the average period is between 1.5 and 2.4 hours, and the distance it covers varies according to the stage in the growing area to the collection centre [5].

*Table 2 Characteristics of transport from the farm to the collection centre*

Phase 1	Tocache-Zarumilla	Satipo-Callao	Cusco-Callao
Means of transport	Rented van (100%)	Rented van (64.9%)	Rented van (100%)
Type of track	Not paved (100%)	Not paved (81.3%)	No paved (100%)
Track quality	Bad (100%)	Good (27.8%)	Bad (100%)
Duration [hours]	Average 1.5	Average 2.4	Average 2
Distance [km]	25.8	41.3	61.5

**4.1.2 Phases 2 Collection Centre to Processing Plant**

In table 3, it is detailed that the most used means of transport in each section the rented truck, the type of road is asphalted, the state in which it is found in the highest

proportion is good, the period on average is between 1.7 and 10.9 hours, and the distance it travels varies according to the section in the phase from the collection centre to the processing plant [5].

*Table 3 Characteristics of transport from the collection centre to the processing plant*

Phase 2	Tocache-Zarumilla	Satipo-Callao	Cusco-Callao
Means of transport	Rented truck (81.3%)	Rented truck (53.9%)	Rented truck (100%)
Type of track	Asphalt (87.5%)	Asphalt (100%)	Asphalt (85%)
Track quality	Good (87.5%)	Good (73.1%)	Good (80%)
Duration [hours]	Average 1.7	Average 10.9	Average 6.5
Distance [km]	109.5	350	207.2

**4.1.3 Phase 3 Processing plant to port of arrest**

In table 4, it is detailed that the most used means of transport in each section the rented truck, the type of road is asphalted, the state in which it is in the highest proportion

is good, he average period is between 2.1 and 28.5 hours, and the distance that it travels varies according to the section in the phase from the processing plant to the port of boarding [5].

*Table 4 Characteristics of transport from the processing plant to the port of embarkation*

Phase 3	Tocache-Zarumilla	Satipo-Callao	Cusco-Callao
Means of transport	Rented truck (100%)	Rented truck (72.7%)	Rented truck (100%)
Type of track	Asphalt (75%)	Asphalt (81.8%)	Asphalt (75%)
Track quality	Good (50%)	Good (100%)	Good (50%)
Duration [hours]	Average 15	Average 2.1	Average 28.5
Distance [km]	401	30	818.3

**4.2 Analysis of logistics cost**

Calculations were made for the period 2015-2019, using the FOB price in the main seaport of Peru and breaking down the logistics costs in the process of exporting coffee up to the cost of production, a price was obtained based on the theoretical cost collected from Peruvian Agricultural Exports, also government information was obtained from the Ministry of Foreign Trade and Tourism, where we collected the percentages of the logistics costs of coffee, and the cost of production, this

information was used as a reference for comparison between different routes of the exports of coffee where we can see the different logistics costs for each corridor.

Figure 1 shows the percentages that make up the process of the logistical costs of exporting roasted coffee from Peru. Being these, treatment, transport, loading and unloading, transport node, permits and certifications, financial, losses and security, giving a total of 17.23%, 24.23%, 21.56% of the sections Tocache-Zarumilla, Satipo-Callao and Cusco-Callao respectively [5].

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Figure 1 Coffee logistics costs by corridors  
Source: Developed by the author based on [5]

In table 5, the fluctuations in exports of roasted coffee beans in the 2015-2019 period, in which, it was analysed that in 2016 USD 754,133,650 was exported in FOB value (placed in the port of shipment) with an average price of

Table 5 Evolution of coffee bean exports

Year	FOB USD Value	Net Weight [kg]	Average price USD/kg
2015	572.137.351	172909745	3.31
2016	754.133.650	238729933	3.16
2017	693.876.959	240058389	2.89
2018	677.191.484	259694556	2.61
2019	623.317.925	228992408	2.72

**4.2.1 Cost assumptions**

The cost report was made from the study of the Ministry of Transport and Communications (MTC), of the

USD 3,16, thus becoming the most representative year of the 5 years studied. Likewise, it is observed that in the last three years compared to 2016 exports were decreasing, with a lower price of USD 3 per kilogram [18].

routes identified for the export of roasted coffee, where the following corridors are shown: San Martín-Zarumilla, Satipo-Callao, and Puno-Callao. The steps involved in exporting the coffee to the shipping destination, start from the production areas, collection centre, processing plant, transport and export terminals.

Table 6 shows the estimated production costs (82.77%) and logistics costs (17.23%) of the Tocache-Zarumilla section, in which we identify the procedures that make up the logistical costs in the export of roasted coffee beans is analysed that 20% is for losses, 19% is the financial costs, followed by 18% is treatment and finally, 14% belongs to transport [5].

Table 6 Assumption of logistics costs for the Tocache-Zarumilla section

		Tocache-Zarumilla					
		Year	2015	2016	2017	2018	2019
Costs of production (82.77%)			2.739687	2.615532	2.392053	2.160297	2.251344
Logistic costs (17.23%)	Treatment	3.10%	0.10261	0.09796	0.08959	0.08091	0.08432
	Transportation	2.36%	0.078116	0.074576	0.068204	0.061596	0.064192
	Loading and unloading	1.98%	0.065538	0.062568	0.057222	0.051678	0.053856
	Port node	0.60%	0.01986	0.01896	0.01734	0.01566	0.01632
	Permits and certifications	0.95%	0.031445	0.03002	0.027455	0.024795	0.02584
	Financial	3.23%	0.106913	0.10206	0.09334	0.08430	0.087856
	Shrinkage	3.41%	0.11287	0.107756	0.098549	0.089001	0.092752
	Security	1.60%	0.05296	0.05056	0.04624	0.04176	0.04352
FOB Average USD/kg			3.31	3.16	2.89	2.61	2.72

Table 7 shows the estimated production costs (75.77%) and logistics costs (24.23%) of the Satipo-Callao section, in which we identify the procedures that make up the

logistics costs in the export of roasted coffee beans is analysed that 34% is safety, 24% is the cost of

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transportation, followed by 15% is of the losses and finally, 8% belongs to loading and unloading [5].

*Table 7 Assumption of logistics costs for the Satipo-Callao section*

Satipo-Callao							
Year		2015	2016	2017	2018	2019	
Costs of production (75.77%)		2.507987	2.394332	2.189753	1.977597	2.060944	
Logistic costs (24.23%)	Treatment	1.99%	0.065869	0.062884	0.057511	0.051939	0.054128
	Transportation	5.83%	0.192973	0.184228	0.168487	0.152163	0.158576
	Loading and unloading	2.05%	0.067855	0.06478	0.059245	0.053505	0.05576
	Port node	0.72%	0.023832	0.022752	0.020808	0.018792	0.019584
	Permits and certifications	0.84%	0.027804	0.026544	0.024276	0.021924	0.022848
	Financial	1.07%	0.035417	0.033812	0.030923	0.027927	0.029104
	Shrinkage	3.53%	0.116843	0.111548	0.102017	0.092133	0.096016
	Security	8.21%	0.271751	0.259436	0.237269	0.214281	0.223312
FOB Average USD/kg		3.31	3.16	2.89	2.61	2.72	

Table 8 shows the estimated production costs (78.44%) and logistics costs (24.23%) of the Cusco-Callao section, in which we identify the procedures that make up the logistical costs in the export of roasted coffee beans is

analysed that 24% is of losses, 23% is the cost of security, followed by 21% is of transport and finally 10% belongs to treatment [5].

*Table 8 Assumption of logistics costs for the Cusco-Callao section*

Cusco-Callao							
Year		2015	2016	2017	2018	2019	
Costs of production (78.44%)		2.596364	2.478704	2.266916	2.047284	2.133568	
Logistic costs (21.56%)	Treatment	2.11%	0.069841	0.066676	0.060979	0.055071	0.057392
	Transportation	4.55%	0.150605	0.14378	0.131495	0.118755	0.12376
	Loading and unloading	2.03%	0.067193	0.064148	0.058667	0.052983	0.055216
	Port node	0.83%	0.027473	0.026228	0.023987	0.021663	0.022576
	Permits and certifications	0.69%	0.022839	0.021804	0.019941	0.018009	0.018768
	Financial	1.11%	0.036741	0.035076	0.032079	0.028971	0.030192
	Shrinkage	5.27%	0.174437	0.166532	0.152303	0.137547	0.143344
	Security	4.97%	0.164507	0.157052	0.143633	0.129717	0.135184
FOB Average USD/kg		3.31	3.16	2.89	2.61	2.72	

**4.3 Analysis of internal transport between Peru and Colombia**

According to International Coffee Organization [19], in 2018 Colombia ranked third with 10.44% in the coffee export ranking, making a total of 12808 bags of 60 [kg] each. While Peru ranks in eighth place with 3.31%, making a total of 4064 bags of coffee.

In table 9, we observe that for 2016 Colombia was ranked 94th with a score of 2.6. Unlike 2018, in which it was ranked 58th, climbing 36 positions in the logistic performance ranking of 160 economic, where it also increased its score by 12.6%. The three best performing indicators were infrastructure, international shipping, and logistics competence. Occupying third place below Mexico and Brazil [20].

*Table 9 Logistical performance of coffee-exporting countries*

Country	2016		2018		Variation	
	Ranking	Score (1-5)	Ranking	Score (1-5)	Ranking	Score (1-5)
Brazil	55	3.09	56	2.99	↓ -1	↓ -3.31%
Colombia	94	2.61	58	2.94	↑ 36	↑ 12.60%
Honduras	112	2.46	93	2.60	↑ 19	↑ 5.73%
Peru	69	2.89	83	2.69	↓ -14	↓ -6.92%
Guatemala	111	2.48	125	2.41	↓ -14	↓ -2.49%
México	54	3.11	51	3.05	↑ 3	↓ -2.01%

Taking into account the information collected from The International Coffee Organization, the World Bank & Veritrade, we chose Colombia, since it is positioned as the

second coffee exporting country in South America and since there have been improvements in its score and position with compared to the 2016-2018 period in the



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logistic performance ranking, unlike Brazil which has experienced drops in previous years. Likewise, it is considered direct competition, because they have characteristics similar to Peruvian coffee, but with marked difference in the sustainability, the price and the consistency of the product. The latter means that in general terms Peruvian coffee continues to be seen as a complement to the offer [21].

Table 10 shows the Global Competitiveness Index (Transportation Infrastructure) for World Economic Forum [22], where Peru and Colombia 65th and 57th respectively in the global competitiveness ranking among 141 countries but rank 104<sup>th</sup> and 110<sup>th</sup>. While, for the export of coffee, Colombia has another alternative means of transport for the connectivity of land routes, in which it occupies a place in the rail density.

*Table 10 Global Infrastructure Competitiveness*

Ranking of 141 Countries						
	Global competitiveness	Infrastructure	Road quality	Road connectivity	Rail density	Efficiency of the services of trains
Colombia	57	81	104	97	88	99
Peru	65	97	110	102	-	-

According to K. Alfonso [23], it was stated that the logistic cost of the country is 14.9%, which is above the average for Latin America (14.7%). The survey also found that the highest costs of this field in the country are in

transportation and distribution (37%), storage (20%), procurement and management of suppliers (17%), order processing (10%), inventory planning and replenishment (9%) and reverse logistics (7%) (Table 11).

*Table 11 Indicators of internal logistics costs in Colombia*

Colombia-14.92%					
Transportation	Storage	Purchasing and supplier management	Processing customer orders	Inventories planning and replenishment	Reverse logistics
37%	20%	17%	10%	9%	7%

One of the differences that exist between Peru and Colombia within the export of roasted coffee beans is the logistics costs (Table 12). Where Colombia presents 14.97% of total sales [23], being smaller compared to Peru that has 21.2% of the total value of the product [4]. The

internal transport in Peru and Colombia is between 20.4% and 37% respectively [23,24]. Also, roads are the most widely used type of transport in Peru, while roads and railways are used in Colombia.

*Table 12 Logistical costs of Peru and Colombia*

	Peru	Colombia
<b>Logistics cost</b>	21%	14.97%
<b>% of internal transport</b>	20.4%	37%
<b>Type of transport</b>	Terrestrial (road)	Terrestrial (road-rail)
<b>Means of transport</b>	Truck - Van - Mule	Truck - Van - Jeeps- pack animals - Train (Tertiarization)

**5 Discussion**

The good climatic conditions and the fertility of its lands for the sowing and harvesting of coffee beans have made Peru one of the main coffees exporting countries in the world due to the great organoleptic properties it possesses. It also has 19 departments, of which only 6 have the largest production of coffee.

Within Peru, the production plants are far from the cities, therefore, a logistics transport system is created for the correct distribution of the goods.

Peru's logistics costs are above the Latin American average (14.7%). The highest costs of this field within the country the transportation (20.4%), decreases (19.2%), and security costs (24%) The best way to see how these costs affect the export of the product is through routes or

corridors that start from your production area and reach your export channels. Peru has only one type of land transportation (road) for the mobilization of coffee through its three logistics corridors: Tocache-Zarumilla (San Martín 22.2%, Cajamarca 20.9% and Amazonas 12.5%) connected to the port of Paita; Satipo-Callao (Junín 27.5%); Cusco-Callao (Puno and Cusco 16.8%, in the Quillabamba sub-section) with exit to the port of Callao.

A consequence related to the unstable infrastructure of Peruvian transport, is insecurity, this because vehicles are forced to move slowly along roads in poor condition, which leads to a very tragic situation as they are an easy target for crime [5].

In Peru, 92 per cent of freight forwarders invest in security costs, in the phase from the collection centre to the

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boarding terminal. Where 69% opt for the mode of insurance for claims and 23% for armed protection. Most of the thefts occur in the vulnerable areas of the capital of Peru, adjacent to the port of Callao, where trucks are usually boarded by criminals while waiting on the access roads to the port.

## 6 Conclusion

This study analysed the documentary information of the internal transport costs for the export of Peruvian coffee, making a brief comparison between the three logistic corridors of coffee production was found that the highest logistical costs are in the corridors of Satipo-Callao and Cusco-Callao, which amount to between 21.26-24.23% of the final value of the product. Compared to the Tocache-Paita corridor, which has a lower logistics cost of 17.23%.

Because not all coffee growers have direct access to the shipping exits, they find it necessary to use the roads as their only means of transportation. In phase 1 from the cultivation area to the collection centre, the state of the roads through which the trucks travel is not paved within the three logistics corridors, while in phase 2 from the collection centre to the processing plant and Phase 3 from the processing plant to the port of shipment have asphalt roads. Thanks to the unstable Peruvian transport infrastructure, freight agents find themselves in need of purchasing various insurance against theft and claims. And all this leads to losses in costs, time, and merchandise.

Making a comparison with Colombia, we can say that both countries present the same problems in the domestic transport in the export of coffee. Due to this problem Colombia added an alternative means of internal transport that is the rail exclusively for the transportation of coffee from the collection centre to the port of boarding. While Peru continues with the same transport system.

For this reason, it is necessary to say that the internal transport has a greater impact on the logistics cost since its excessive costs are due to the deplorable state of the roads where the different means of transport transit and the informality within this process, affecting the final price of Peruvian coffee and the profitability of farmers.

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