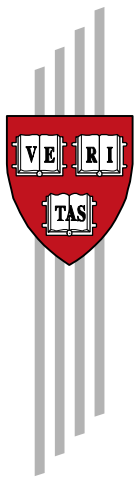# Air Transportation and Regional Economic Development: A Case Study for the New Airport in South Albania

Shreyas Gadgin Matha, Patricio Goldstein, and
Jessie Lu

Working Papers

Center for International Development
at Harvard University

Air Transportation and Regional Economic Development

A case study for the new airport in South Albania

Gadgin Matha, Shreyas*
Goldstein, Patricio*
Lu, Jessie

* - these authors contributed equally to this work

Executive Summary

Considering the case of the proposed airport in Vlora, South Albania, this report analyzes the channels through which a new greenfield airport can contribute to regional economic development. In December 2019, the Government of Albania opened a call for offers to build a new airport in the south of the country. While there is evidence indicating that the airport could be commercially viable, this does not provide a grounded perspective on the channels by which the airport could boost the regional economy. To evaluate how the new airport would interact with existing and potential economic activities, this report evaluates three of the most important channels of impact by which the airport could serve as a promoter: (1) economic activities directly related to or promoted by airports, (2) the airport's potential contribution to the region's booming tourism sector and (3) the potential for the country's development of air freight as a tool for export promotion. In each of these three cases, the report identifies complementary public goods or policies that could maximize the airport's impact in the region.

The operation of the airport itself could stimulate a series of economic activities directly related to air traffic services. Airports have the ability to mold the economic structure of the places immediately around them, acting both as a consumer and as a supplier of air transport services. Not only activities related to transportation and logistics thrive around airports, but also a variety of manufacturing, trade and construction industries. Nevertheless, the agglomeration benefits of a successful aerotropolis are not guaranteed by the construction of an airport. For South Albania's new airport to actualize its potential returns, integrated planning of the airport site will be required, with focus on real estate planification and provision of complementary infrastructure.

Establishing an airport in Vlora has the potential to spur regional development in South Albania through facilitating the growth of the tourism sector and its related activities. Albania's tourism industry has seen strong growth in the last two decades, but still lags behind its potential. Albania only has a strong penetration in the tourism market of its neighboring markets, and the high seasonality of the tourism season further limits the sector's growth. The establishment of an airport in South Albania would ease some of the tourism industry constraints tied to transportation into the country and region. Given the high reliance of the tourism industry on its many complementary inputs, more than one area of concern may have to be addressed for the impact of the new airport to be maximized. Facilitating transportation access around the South Albania region and specifically to tourist sites; preparing natural and cultural heritage sites for tourism use and expanding tourism infrastructure to accommodate potential growth are some of the interventions analyzed.

Airfreight infrastructure could in theory provide opportunities to improve the competitiveness of Albanian exports but developing a successful air cargo cluster is no simple task. An airport can facilitate an alternative mode of transport for specific types of goods and hence promote a country's exports. In Albania's case, not only existing textile and agriculture products could be competitively exported through air freight, but also air freight itself could improve Albania's position to diversify into "nearby" industries, identified by the theory of Economic Complexity. Nevertheless, an effective air freight strategy does not and cannot uniquely depend on the simple availability of a nearby airport. Air cargo operations require both traffic volume that Albania may not be able to provide, as well as complementary cargo-specific infrastructure. Although the potential for air freight in South Albania could be high, it is by no means a safe bet nor does it imply with certainty significant impact in the immediate future.

1. Introduction

Infrastructure has been at the center of the imagination, theoretical work and practice of policymakers since the emergence of the development paradigm in the mid-twentieth century. In the 1960s, the concept of "infrastructure" became ubiquitous in the aid community as a catch-all category for *large-scale physical capital* that contributed to some type of support for economic activity and was key in the development process. It did not take long for economists to realize the limits of physical capital accumulation as an engine for economic development. From the Solow growth model onwards, economists have overall agreed on the shortfalls of explaining long-term output levels and growth as a function of factor accumulation and have inquired further into the determinants of long-term productivity growth, a question in which physical infrastructure still plays a role but is not necessarily the leading actor. The consensus altogether holds that infrastructure development has a significant contribution on both output and long-term growth (Calderón and Servén 2014).

Although the contribution of infrastructure development to economic growth is understood as positive *on average*, the effect of *individual* pieces of infrastructure must be disaggregated. Traditional cost-benefit analyses used to evaluate the impact of infrastructure have shown not only internal methodological problems (particularly with issues such as shadow prices and uncertainty) but also difficulties with incorporating infrastructure's general equilibrium effects (Little and Mirrlees 1990; Canning and Bennathan 1999). In the case of transportation works, understanding their effect of market integration and on the diffusion of knowledge and technology has proved to be a challenge for traditional evaluation methodologies. For specific cases, empirical studies on economic geography have in the last two decades provided sound causal estimates on the effects of road, railways and other pieces of infrastructure on a variety of output variables (Redding and Turner 2015). These estimates have run inevitably into the challenge of avoiding endogeneity or simultaneity and have relied mostly on instrumental variables based on historical or planned transportation networks (but also on natural experiments) to ensure internal validity.

The effects of airports on regional economic development have been comparatively less analyzed than roads or railways. As is the case with other transportation infrastructure, the fact that investment decisions consider the economic conditions of the region in which the infrastructure is to be placed creates a problem of endogeneity. A variety of instruments and controls have been used in the recent literature to correctly capture the effects of airport size on employment growth, which consider the geographical centrality of airports, physical airport size and historical airport plans (Blonigen and Cristea 2015; Brueckner 2003; Green 2007; McGraw 2017; Sheard 2014; 2019). Overall, positive effects - of relative importance - have been found in many of these studies for local employment surrounding airports, particularly with regards to the services sector.
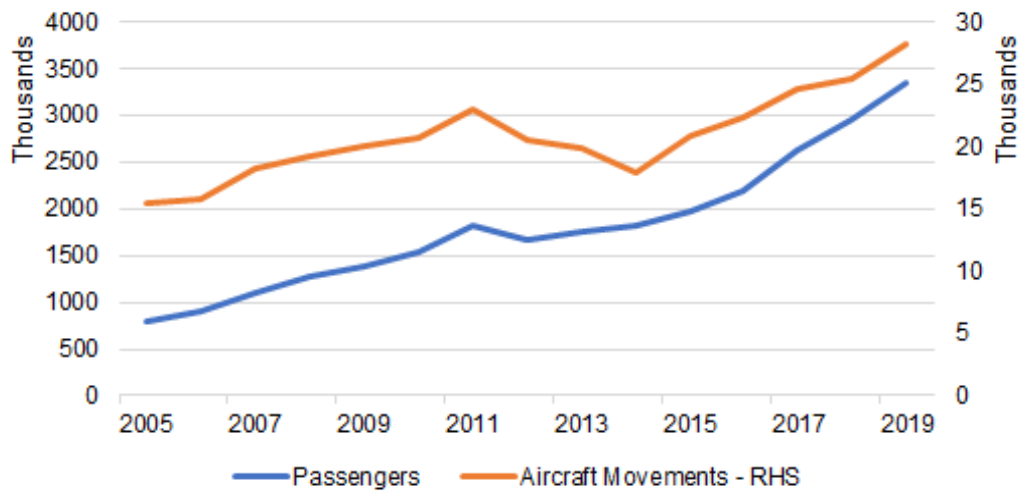
From a policymaker perspective, the recent literature offers some insights into the magnitude and limits of the potential impact a greenfield airport on regional development. Nonetheless, existing studies do not necessarily provide a clear guide to action in relation to regional development, as they generally do not focus on the precise channels by which airports can promote economic

activity. An increase in activities related to aircraft maintenance or employment in airport-related businesses is different from an increase in tourism or business travel related to the easing of transportation costs. Moreover, social cost-benefit analysis is not reliable for this goal, as - beyond its methodological limitations - its end is always to assess the impact of an infrastructure project *ceteris paribus* and not to evaluate the joint impact that the project could have if implemented with a complementary set of policies. On that account, there is room for improvement in our understanding of how to "make an airport work" for regional development; that is, what are the necessary complementary policies that are required to maximize an airport's impact.

Understanding the channels by which a greenfield airport could promote regional development is of particular importance in the case of Albania's new southern airport. In December 2019, the Government of Albania opened a call for offers to build a new airport in the south of the country, specifically in the city of Vlora (*Reuters* 2019). Government officials have repeatedly mentioned this investment as a catalyst for growth in the country's southern region and as a pathway to improve the country's aviation competitiveness. There are indeed some intuitive grounds for the airport's rationale. Tirana International Airport's (TIA) performance has been exceptional since 2005 and may indicate additional unlocked demand (*Fig. 1.1*). From 2008 to 2018, passengers to TIA have grown at an annualized rate of 8.8%, versus 3.3% in EU countries, according to Eurostat data. In the same period, aircraft movements have shown lower growth at a yearly 2.9%, implying a doubling in the passenger by traffic movement ratio. According to OAG data, the highest capacity growth has come from Italian cities (which explain 62% of capacity) followed by few non-Italian markets (Istanbul, Frankfurt, London, Vienna, Athens). Still, Albania's passenger traffic remains low even when controlling for population and GDP per capita and would most likely be lower were it not for the country's large diaspora (*Fig. 1.2*). Moreover, gravity model for air passenger flows for the European Union shows that passenger flows from countries such as Germany, France and Spain are heavily underrepresented, when taking into consideration a variety of air traffic determinants such as income per capita and population in sending and recipient countries, and distance (*Fig. 1.3*)[1]. Furthermore, the country's southern regions remain at driving distances from TIA that are over two hours (Vlora, Berat) and can reach three and half hours or more (Saranda, Gjirokaster). An airport in the country's south could be ready to serve at least a fifth of the country under its catchment area, as well as reduce time and costs for tourists, which is significant given that tourism is one of the country's fastest growing industries. Tirana's connectivity is below many regional benchmarks in terms of number of countries that can be reached without multiple stops or layovers and shows prices significantly above many of its peers (O'Brien, Nedelkoska, and Frasheri 2017). While this evidence indicates that the airport could be commercially viable, it does not provide a grounded perspective on the channels by which the airport could boost the regional economy.
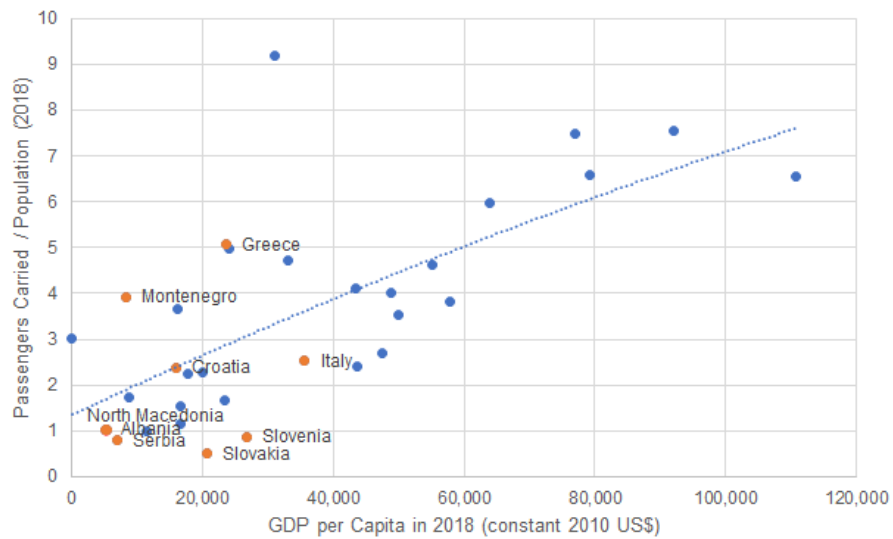
[1] *Appendix 1* contains details on databases utilized and methodology for the air traffic gravity model.

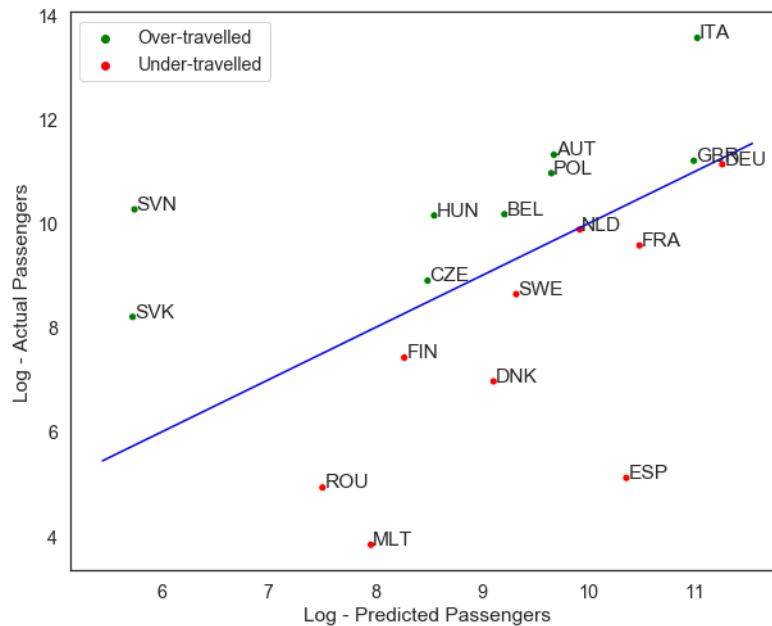## Figure 1.1. TIA Passengers and Aircraft Movements

Figure 1.2. Benchmarking Air Passenger Traffic in Europe

Figure 1.3. Air Passenger Potential for European Countries

To evaluate how the new airport would interact with existing and potential economic activities, it is vital to first understand the channels of impact by which the airport could serve as a promoter. The "enabling" impact of air transportation can be described as the easing of a series of flows between a domestic economy and other regions or countries (Ishutkina and Hansman 2011). The flows can be summarized as either (1) business travelers, (2) leisure travelers, or (3) cargo shipments. Cargo shipments facilitate both imports and exports of goods, while travel infrastructure for leisure passengers is a necessary component for the tourism industry. Business travelers ultimately enable not only the flow of labor but also of services and knowhow. An airport that increases connectivity and price of flows should in theory be in a position to incrementally affect economic activity through all of these pathways.

For any given channel of impact by which the airport could facilitate an economic activity, it is methodologically paramount for a policymaker to identify the complementary inputs that are required to produce these goods and services in order to understand how to maximize the impact of the project. Most industries and products require many different inputs, in which are embedded more knowledge than can be amassed by a single individual. The capabilities that are required to produce a given good or a service tend to be incorporated in organizations that can bundle useful knowledge in the forms of embodied knowledge (tools), codified knowledge (blueprints) or tacit knowledge (knowhow) (Hausmann 2016). These capabilities are never perfectly substitutable for one another, and the absence or disappearance of one can entangle if not entirely disrupt a production process. An orchestra is ultimately as good as its worst player, or equivalently, the volume of a barrel with vertical slabs is ultimately determined by the length of the shortest slab (Hausmann, Klinger, and Wagner 2008). When there is input complementarity or imperfect

substitution, breakdowns or bottlenecks related to a specific task or input can result in substantially less efficient outcomes, as they can paralyze production. In the context of the new airport in southern Albania, understanding the interactions behind input complementarity in the tourism sector and in air freight is vital both to gauge how a project such as the airport in Vlora could impact regional development as well as to pinpoint the policies that would be necessary to deliver the complementary public goods needed to maximize the airport's impact.

This policy paper will focus on the three most important channels of impact by which the airport could promote regional development in South Albania:

1. **Airport Ecosystem.** The operation of the airport itself could stimulate a series of economic activities directly related to air traffic services.
2. **Tourism.** A new airport could contribute to the expansion of tourism activities in South Albania.
3. **Air Freight.** The airport could facilitate airfreight of Albanian exports and improve their competitiveness.

2. Developing an Airport Ecosystem

Airports have the ability to mold the economic structure of the places immediately around them, acting both as a consumer and as a supplier of air transport services. As a *consumer* of such services, airports require a variety of inputs, such as warehousing, maintenance, fuel provision, security, and others, which generate an ecosystem of activities around them. On the other hand, the existence of airports generates demand for activities such as restaurants and hotels, retail services, and businesses that rely on quick movement of people or goods. The central role played by airports on economic activity in their vicinity has been captured by the "aerotropolis" and "airport city" models (Kasarda 2019). Recent literature has analyzed the economic impact of airports on the areas surrounding them, with varying degrees of optimism regarding their impacts. Despite this, there are nuances that determine the ultimate economic impact of air infrastructure: for instance, air transportation appears to cause regional economic growth more unambiguously in peripheral regions, whereas the effects are harder to disentangle and might not exist at all in core regions, implying that there is a stronger case to build airports in remote regions (Mukkala and Tervo 2013).

This section seeks to identify the channels through which the proposed airport in South Albania could impact economic activity and highlight the complementary policies that would need to be adopted to maximize such impact. Governments play a critical role in facilitating the success of airports, through infrastructure development, regulation, and operational incentives. Although the Albanian government is currently involved primarily with infrastructure development for the airport, a holistic approach towards planning that includes bringing airlines on-board for feedback during the planning process for airport development as well as providing operational incentives to boost usage and supporting infrastructure could be critical for the success of the project. The section will document lessons from literature on the regional economic development impacts of airports, describe the industrial sectors typically associated with airports, and attempt to identify the pathways through which such impact can be facilitated.

2.1. Pathways to Economic Impact

Airports have both direct and indirect impacts on an economy. Direct impacts from the operations of an airport include the activities generated by the transportation of cargo and passengers themselves, as well as activities related to the operations of the airport - ground handling, ATC, MRO, security, customs - and other commercial activities linked to the airport's functioning such as retail and food and beverage provision. Indirect impacts are of two types, as there are industries that are immediately tied to air transport - such as accommodation and food services around airports - and there are those that result from downstream effects created in the economy due to demand generated by the sectors involved in direct and indirect effects. By increasing the connectivity of a region and the flows of passengers and goods, airports facilitate economic activities that are intensive on that connectivity. The concepts of "airport city" and "aerotropolis" are useful for analyzing industrial and services areas concentrated around airports, populated by both businesses that rely on airports and businesses that facilitate airports. The types of

commercial and industrial facilities that thrive around airport areas can indeed be differentiated by their distance from the airport area itself (*Fig. 2.1*).

Figure 2.1. Activities Related to Airport Cities

	Passenger Transportation	Goods Transportation
Passenger and Cargo Terminals	- Retail - Restaurants - Leisure - Culture	- Air Express and Couriers - Cold storage - Air Cargo Operations - Aircraft MRO
Airport City (within airport property)	- Hotels and entertainment - Office complexes	- Logistics and distribution - Wholesale merchandise
Aerotropolis (outside airport property)	- Convention and exhibition centers - Business and technology parks - Producer services (finance, consulting) - Corporate headquarters - ICT firms - Wellness and medical facilities - Mixed-use residential developments	- Special economic zones - Logistic parks - Precision and time-critical manufacturing - BioMed's and pharmaceutical - High-value agriculture - Medical instruments - Aviation-related industries

Source: Kasarda and Appold 2014

Moreover, diversified and accommodating airline services - that provide frequent flights to a variety of destinations - have been shown to attract new firms and stimulate employment at existing firms in the United States (Brueckner 2003). Businesses move to cities with high air service quality to reduce travel times for personnel and management. Surveys of businesses in the US demonstrate that access to airports is an important factor in location decisions (Karakaya and Canel 1998; Kimelberg and Williams 2013). Air travelers in the US come from highly concentrated regions of the cities in which they live and from which they travel - for major airports, around 20 to 50% of passengers come from small, concentrated areas of airport cities. Access time to the airport is a third lower for frequent travelers as compared to occasional travelers, indicating that access time to airports could be a factor in locational decisions for businesses.

Airports matter for regional connectivity. Increased connectivity enables complex supply chains for industries that are dependent on speed and reliability. Airports reduce travel time, increasing market reach and allowing for economies of scale. Further, although air transportation for cargo is expensive, it reduces the need for inventory and allows for the creation of international markets for goods such as perishables. Just-in-time logistics strategies rely on air transportation as a key element enabling their use. Stakeholders interviewed by the US GAO expressed that the air-based connectivity of a region was an important factor in locational choice for businesses and for attracting tourism and cargo (US Government Accountability Office 2013). The effect of airports on regional connectivity can be clearly observed through the analysis of the closure of small

airports, which can lead to immediate regional connectivity losses increasing travel time by up to 40% in some regions (Redondi, Malighetti, and Paleari 2013).

Recent empirical literature has sought to estimate and quantify the economic effects of air infrastructure. For the case of the US, descriptive and econometric approaches (panel, instrumental variables) have been used to understand the effects of airports on regional development and clustering of economic activities around airports. In 2009, 3.1 million jobs (2.8% of US employment) were clustered within a 4 km distance from an airport, and 19 million jobs (17.2% of US employment) were concentrated within 16 kilometers, contributing to a fifth of the total wage bill of the US (Appold and Kasarda 2013). While some of these large effects were due to the fact that the catchment areas of airports and cities they serve intersect, the total employment within 4 km of airports was about 50% of the total employment within the same distance of central business districts (CBD), and the ratio was 74% at a distance of 8 km. Other studies have suggested for the United States that a 10% increase in passenger enplanements can be associated with a 1% rise in employment in service-related industries, while no particular effect was captured for employment related to manufacturing (Brueckner 2003). Using lagged population growth, geographical covariates, and airport capacity as covariates, passenger enplanement per capita also appear as decent predictors of both employment and population growth (Green 2007). In the case of small airports both in the United States and Europe, similar or stronger effects have been estimated (Button, Doh, and Yuan 2010; Percoco 2010). For the case of Amsterdam Schiphol Airport, it was estimated that every direct job created within the airport led to twice the number of indirect jobs created as a result (Hakfoort, Poot, and Rietveld 2001). More recent literature has focused on providing estimates that avoid issues of simultaneity and spurious correlations that could arise in cross-sectional approaches. Both synthetic control and natural experiment methods have recently yielded significant estimates of economic activity growth in areas near airports (Blonigen and Cristea 2015; McGraw 2017).

The literature is not uniformly optimistic about the impact of air infrastructure. The analysis of "aerotropolis" job centers outside of city centers has found that for the case of the United States airports are only rarely the most important sub-regional job centers in their region (Cidell 2015). Moreover, new instrumental variable approaches have shown only modest growth in population and employment in airport areas, concentrated in services employment nearer to airports (Sheard 2014; 2019). On a different note, the sustainability of airport-led economic development has been questioned in the face of climate change and emissions reduction goals, as well as technological advancements in video-conferencing that constrain the need for passenger travel (Kasarda 2019). Additionally, when airports are constructed around existing communities, there tends to be a tradeoff between costs for local communities around the airport and economy-wide benefits obtained due to the airport. The US experience has been mixed, and the local economic costs have not always been offset by regional employment, especially in cases where the airport and surrounding land were not available for development simultaneously (J. Cidell 2015). These difficulties not only should serve as a caution against over-optimism around potential economic development effects of airports but should emphasize the need to understand the precise channels through which an airport can impact the economy and optimize these channels to maximize social benefit.

2.2. Economic Activities around European Airports

Several studies have analyzed the spatial distribution of employment around specific airports across industrial sectors. As of 2009, the largest sectors in terms of employment within 8 km of airports around the 25 largest airports in the US were accommodation and food services, professional and technical services, transport and warehousing, administrative and support services, and manufacturing. In terms of share of CBD-centered employment, the largest industrial sectors were transport and warehousing, manufacturing, wholesale trade, and administrative and support services (Appold and Kasarda 2013).

Previous analyses of the spatial distribution of industries in the European context suffer from a lack of granularity in industrial sector classification and use aggregated Statistical Classification of Economic Activities in the European Community (NACE) sections. We attempt to remedy the problem using data from Dun and Bradstreet (D&B), which has put together a proprietary database of establishments, collected through various sources[2]. To understand the industrial sectors that are most commonly represented at various distances around the airport, we consider those companies in the D&B dataset that are within 5 to 25 km from the airports.

The most prevalent industrial sectors around airports are professional, scientific and technical services, administration and waste management, wholesale and retail trade, manufacturing, and transport (*Fig 2.2*). When considering only small airports professional and technical services and retail trade acquire a larger importance with respect to transport (*Fig. 2.3*). This is broadly in line with previous work around airports in the US (Appold and Kasarda 2013). However, our analysis differs in that accommodation and food services does not seem prominent in European airports. We are unable to determine, however, whether this difference is a characteristic of European airports or an artifact of data quality issues in Dun and Bradstreet. It is important to note that this spatial distribution is sensitive to the characteristics of the airports selected for aggregation, such as airport size, distance from centers of economic activity, and country or region (*Fig. 2.4*). While some airports in tourist-oriented zones tend to be intensive in a variety of sector-related services, such as hotels and restaurants in Samos, in other cities we see strong manufacturing sectors in the surrounding of the airport, as in the case of Ljubljana.

---

[2] *Appendix 2* contains details on databases utilized and cleaning methodology.

Figure 2.2. Distribution of Employees in Airports, by Economic Activity and Distance

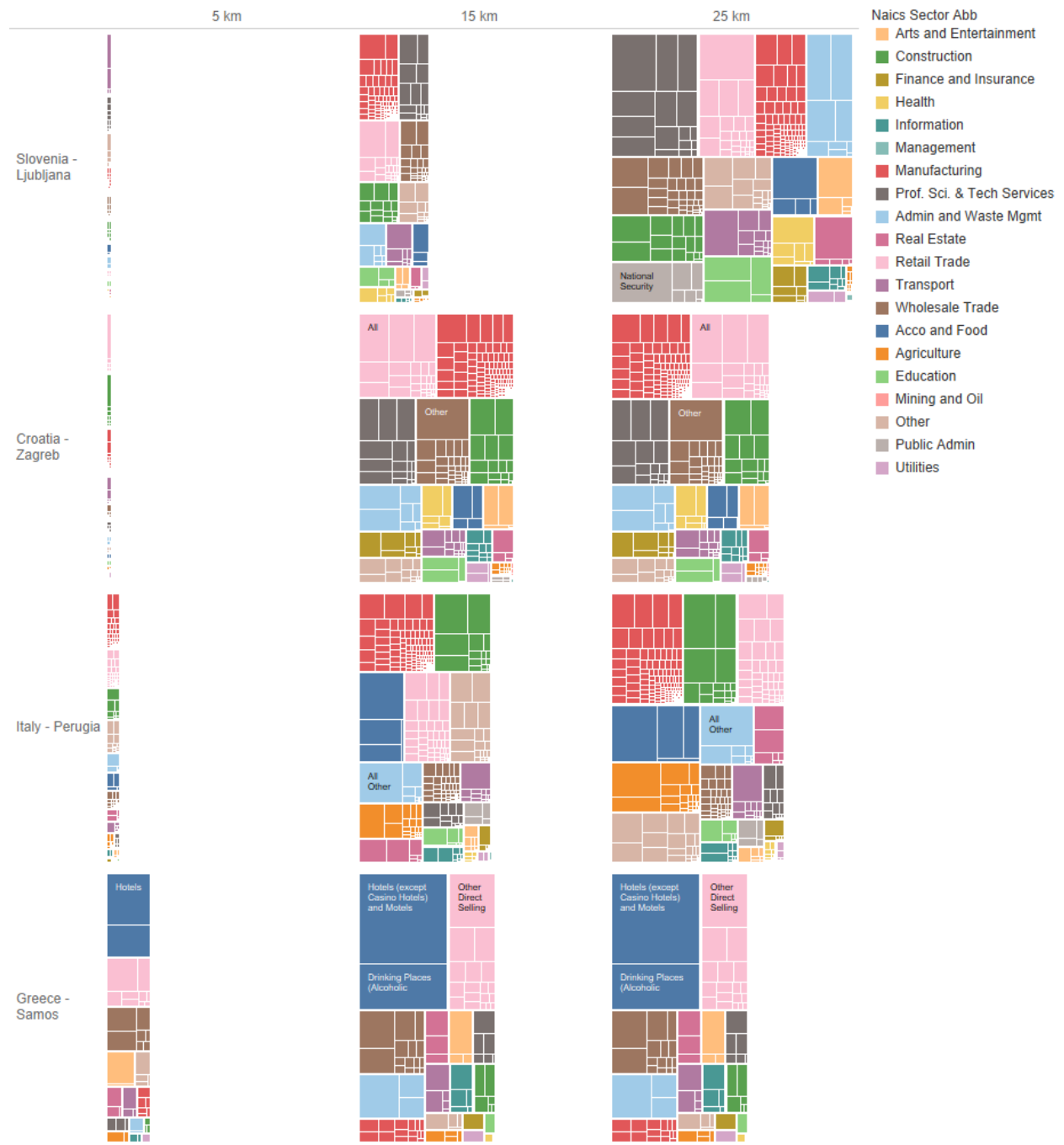|	5 km	10 km	15 km	20 km	25 km
Acco and Food	5.93%	6.19%	6.06%	6.06%	6.07%
Admin and Waste Mgmt	8.81%	9.28%	9.85%	9.54%	9.43%
Agriculture	0.91%	0.90%	0.82%	0.93%	0.98%
Arts and Entertainment	1.52%	1.67%	1.91%	1.94%	1.92%
Construction	7.69%	7.23%	6.82%	7.08%	7.21%
Education	5.22%	5.51%	5.40%	5.27%	5.24%
Finance and Insurance	2.71%	3.85%	4.95%	4.58%	4.54%
Health	7.01%	8.81%	8.32%	8.02%	8.02%
Information	1.86%	2.31%	3.08%	2.98%	2.90%
Management	0.61%	1.74%	2.33%	2.06%	2.05%
Manufacturing	9.16%	8.60%	8.01%	8.11%	8.19%
Mining and Oil	0.05%	0.20%	0.29%	0.26%	0.25%
Prof. Sci. & Tech Servi..	8.42%	9.85%	10.78%	11.21%	11.12%
Public Admin	3.45%	2.74%	2.94%	3.15%	3.11%
Real Estate	3.63%	4.04%	4.30%	4.33%	4.27%
Retail Trade	9.44%	9.35%	8.40%	8.67%	8.71%
Transport	10.53%	6.32%	4.84%	4.79%	4.85%
Utilities	0.40%	0.47%	0.52%	0.54%	0.63%
Wholesale Trade	6.73%	5.44%	5.05%	5.31%	5.35%
Other	5.93%	5.50%	5.31%	5.18%	5.15%

Source: Dun and Bradstreet

Figure 2.3. Distribution of Employees in Airports with <5M Annual Passengers, by Economic Activity and Distance

	5 km	10 km	15 km	20 km	25 km
Acco and Food	6.17%	6.21%	5.90%	6.01%	6.00%
Admin and Waste Mgmt	8.62%	9.27%	9.76%	9.36%	9.23%
Agriculture	1.79%	1.90%	2.08%	2.44%	2.65%
Arts and Entertainment	2.29%	2.21%	2.42%	2.38%	2.37%
Construction	10.99%	10.56%	10.47%	10.56%	10.67%
Education	2.13%	2.16%	2.18%	2.18%	2.17%
Finance and Insurance	2.84%	3.35%	3.60%	3.41%	3.38%
Health	5.08%	5.05%	4.74%	4.64%	4.61%
Information	2.51%	3.00%	3.18%	2.99%	2.93%
Management	0.91%	1.04%	1.40%	1.30%	1.28%
Manufacturing	6.14%	5.87%	5.88%	6.06%	6.16%
Mining and Oil	0.08%	0.09%	0.13%	0.12%	0.12%
Prof. Sci. & Tech Services	12.83%	13.18%	13.41%	13.21%	13.02%
Public Admin	0.50%	0.42%	0.44%	0.47%	0.48%
Real Estate	6.03%	6.45%	6.69%	6.83%	6.76%
Retail Trade	12.59%	12.14%	11.14%	11.28%	11.33%
Transport	3.47%	3.40%	3.12%	3.12%	3.17%
Utilities	0.45%	0.45%	0.47%	0.47%	0.48%
Wholesale Trade	5.99%	5.09%	5.07%	5.14%	5.13%
Other	8.60%	8.16%	7.91%	8.03%	8.06%

Source: Dun and Bradstreet

Figure 2.4. Distribution of Employees in Selected Airports, per Airport, Economic Activity and Distance
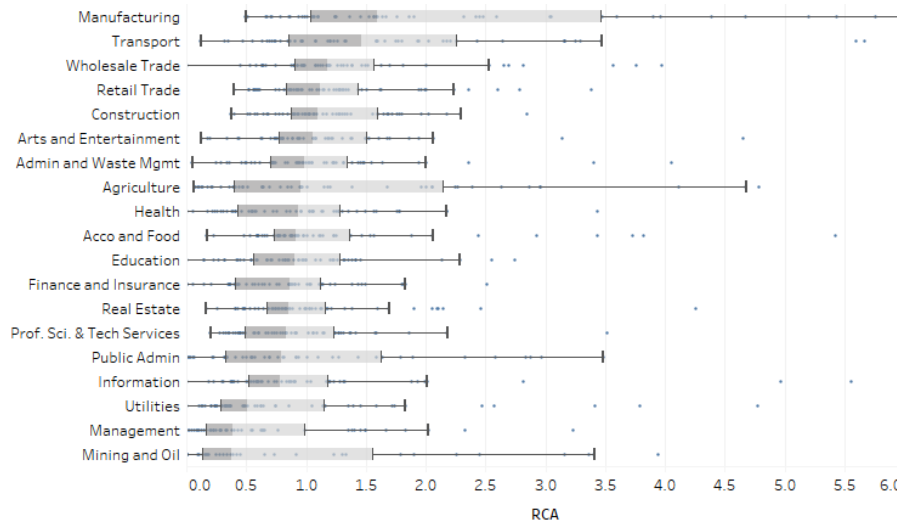

Source: Dun and Bradstreet

To know whether an activity can be thought off as competitively present in airport zones, we can define an estimate of revealed comparative advantage (RCA), suing Bela Balassa's methodology (Balassa 1965). An industry can be considered intensive in airport areas when its share of employees in the area around an airport is larger than the share of employees of the same activity in a reference area, for example the country where the airport is located. As an example, if manufacturing represents 40% of the activity around an airport, but only 10% of national employment, we can think of the activity as having an RCA of 4 and possessing revealed comparative advantage. In the case of airport areas in the selected sample, the activities with largest comparative advantage around airports are not only transportation and logistics, as expected, but also manufacturing activities, trade and construction (*Figure 2.5*). These results are relatively consistent throughout the airports that were analyzed in the sample (*Figure 2.6*). At a deeper level of detail, one can observe that activities that thrive in airport areas are not only airport-related services and manufacturing, but also a variety of activities related to trade, and food and accommodation (*Fig. 2.7*).

Figure 2.5. Median Airport Activity RCA in Airports with <5M Annual Passengers, by Economic Activity and Distance

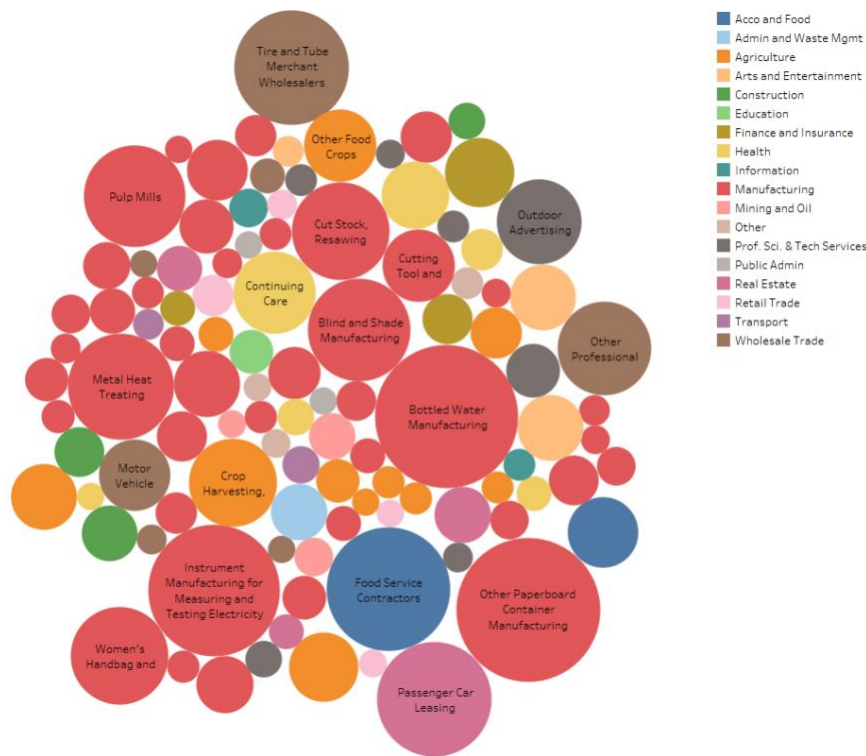|	(0,5]	(0,10]	(0,15]	(0,20]	(0,25]
Acco and Food	0.94	0.99	0.98	1.00	1.00
Admin and Waste Mg..	1.02	0.94	0.99	0.99	0.95
Agriculture	0.99	0.78	0.84	0.93	0.98
Arts and Entertainme..	1.09	1.08	1.09	1.09	1.09
Construction	1.13	1.04	1.03	0.99	1.00
Education	0.93	1.06	1.04	1.05	1.06
Finance and Insurance	0.89	0.92	0.97	0.94	0.95
Health	0.97	1.10	1.11	1.11	1.11
Information	0.81	0.65	0.68	0.69	0.70
Management	0.40	0.55	0.57	0.65	0.63
Manufacturing	1.64	1.26	1.13	1.12	1.13
Mining and Oil	0.39	0.51	0.56	0.54	0.57
Prof. Sci. & Tech Servi..	0.86	0.87	0.85	0.84	0.87
Public Admin	0.81	0.84	0.90	0.99	0.95
Real Estate	0.88	1.01	1.00	1.01	1.05
Retail Trade	1.15	1.21	1.12	1.10	1.16
Transport	1.51	1.16	1.03	1.00	0.98
Utilities	0.53	0.83	0.88	0.88	0.91
Wholesale Trade	1.22	1.03	1.01	1.03	1.03
Other	1.16	1.09	1.09	1.08	1.09

Source: Dun and Bradstreet

Figure 2.6. Airport Activity RCA at 5 km in Airports with <5M Annual Passengers, by Airport

Source: Dun and Bradstreet. Boxplot includes the 10th percentile, first quartile, median, third quartile and 90th percentile of observations.
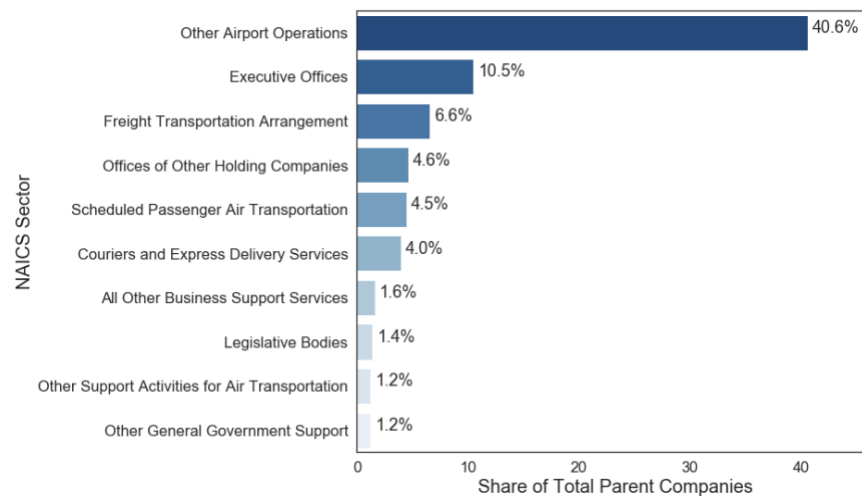
Figure 2.7. Airport Activity RCA at 5 km, RCA >2

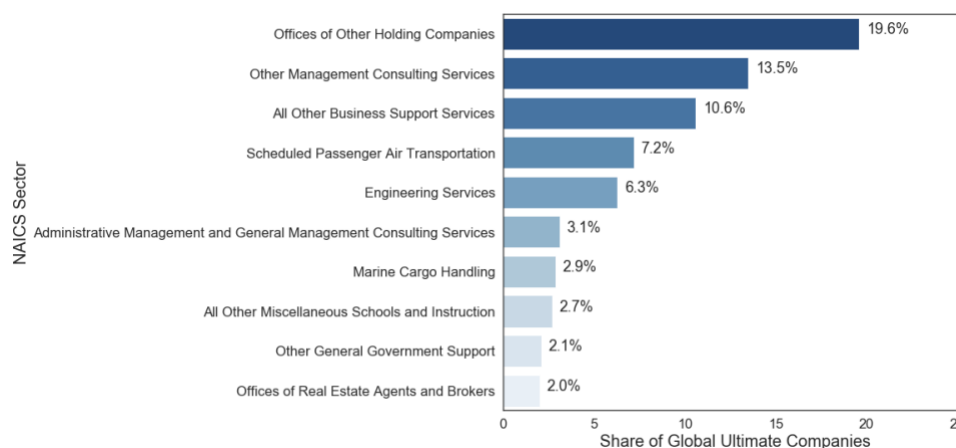Source: Dun and Bradstreet. Bubbles are sized according to RCA

Additionally, the Dun and Bradstreet database allows for the analysis of aviation-related businesses, including the ownership patterns of these companies. Most airport operators are owned by specialized companies, although some are controlled by freight operators (*Fig. 2.8*). As for ultimate parent companies, when there is a domestic ultimate parent, the distribution of industry codes is similar to the distribution of parent companies. However, when analyzing the ultimate global parents of companies, different types of companies appear (*Fig. 2.9*). A significant share of global ultimate parent companies run other types of businesses, such as credit intermediation and banking and security businesses (*Fig. 2.10*).

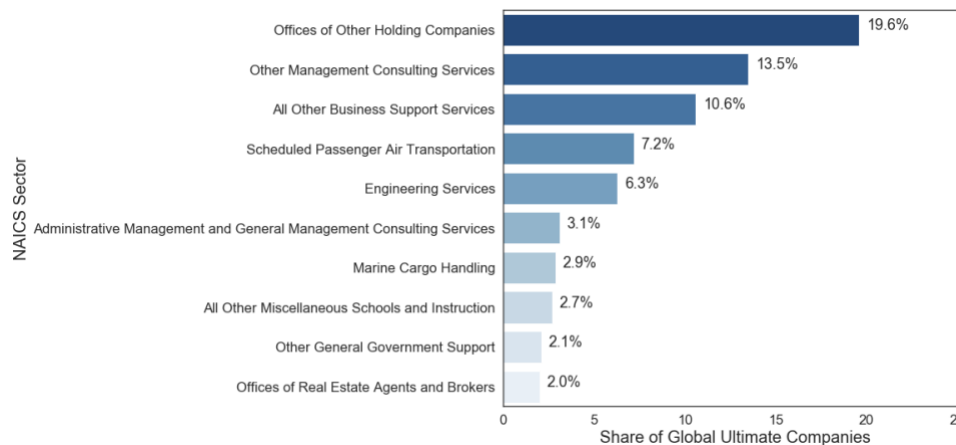**Figure 2.7. Parent Companies of Airport Operators (NAICS 488119)**

Source: Dun and Bradstreet

Figure 2.8. Global Ultimate Parent Companies of Airport Operators

Source: Dun and Bradstreet

**Figure 2.9. Global Ultimate Parent Companies of Airport Operators
(Other Businesses Owned)**

Source: Dun and Bradstreet

2.3. Planning for Airport-Centric Development

The agglomeration benefits of a successful aerotropolis are not guaranteed by the construction of an airport. For South Albania's new airport to actualize its potential returns, integrated planning of the airport site will be required, as the establishment of new businesses around a greenfield area presents the characteristics of a "coordination failures" given the interdependency of the many agents that would ideally operate under the airport city (Rodriguez-Clare 2005). The government should ensure the adequate provision of public goods and complementary inputs that are necessary for the development of a services cluster around the airport to make cooperation between private actors feasible. Some of the areas that arise in the literature as vital for the performance of the cluster are the following:

- *Real Estate Planning.* The area around the new Vlora airport is overall undeveloped and presents consequently both an opportunity and a challenge for the development of an airport city in its surroundings. In a country where land titling and administration often constrain business location decisions, achieving optimal real estate planning will not be unproblematic (O'Brien, Nedelkoska, and Frasheri 2017). Beyond the issue of land titling, the government will have to decide the optimal use for the land surrounding the airport. Conducting both qualitative and quantitative analyses to develop adequate zoning maps will be necessary to adequately plan the land-use around the airport (Cidell and Adams 2001). Land controls will be required to avoid the crowding out of the aviation-linked businesses that facilitate the effective functioning of the airport, such as warehousing and storage for cargo and logistic operations. Overall, having a strategy to delineate priority sectors (i.e. tourism, business headquarters, cargo) can serve as a guide for the government to make the best use of available real estate.

- *Complementary Infrastructure.* For an airport to ensure connectivity to destinations outside its immediate surroundings, it first has to be well-connected within the region it plans to serve. Especially given that the proposed airport in Vlora is a greenfield project, it is important that last-mile costs for travelling within Albania be reduced. To this end, road infrastructure, which includes not only connections to the existing highway but also bus services and other forms of ground infrastructure, should be guaranteed. Moreover, ICT infrastructure, as well as proper electricity and water connections will be necessary for the development of commercial services around the airport area.

- *Airport operations.* The ability of airports to attract initial air traffic is crucial for the development of the airport city. Airports obtain operational revenues through fees paid for gates and ticket counters. To spur airport development, some destinations have waived landing fees for international and low cost carriers for the first few years in which airlines schedule flights, trading off short-term operational revenues against longer-term airline activity and non-aeronautical revenue (US Government Accountability Office 2013). Although this option might not be possible - and given the trade-off between uncertain economic benefits has certain fiscal drawbacks - it is still important for the government to take into consideration the positive effect lower service fees can have on the development of the airport city area. Beyond fees, the performance of the airport itself - from the quality of the passenger experience to the custom clearance of goods - is vital for the airport to be at the center of business operations.

- *Minimizing negative effects on the community.* Aside from the many economic benefits offered by airports to the entire economy, the development of such a large infrastructure project naturally places costs on its immediate neighbors. These costs, such as crowding out of residential housing due to high real estate prices, air and noise pollution, lack of amenities for residents, and others, tend to be localized, whereas the benefits are spread through the economy. This tradeoff between economy-wide benefits and localized costs is simpler in the case of Vlora, since the proposed airport is a greenfield project with no major population centers in its immediate vicinity. There are no expected land-allocation disputes, unlike in the context of airport development in built-up areas, automatically minimizing the obstacles related to land. However, local stakeholders should still be brought into a feedback process during planning to attempt to minimize transaction costs.

The development of the airport area will require collaboration across multiple stakeholders in the public sector - responsible for development of ground infrastructure, ownership of adjacent land, investments or procurement - as well as from interested actors in the private sector, from land developers to freight forwarders. Establishing defined roles and responsibilities, as well as sound governance structures for both air operations and real estate development in the surrounding areas of the airport, will certainly be a challenge for policymakers given the unprecedented characteristic of the new venture but are key to increasing the social returns of the airport to the region and the country.

3. Policy Complements for a Tourism Strategy in South Albania

Establishing an airport in Vlora has the potential to spur regional development in South Albania through facilitating the growth of the tourism sector and its related activities. A new airport could improve both the region's connectivity and airfare competitiveness, connecting southern Albania to Europe and the world and thus increasing the relative competitiveness of the region as a tourist destination. Generally, transport infrastructure to and within locations have been estimated to be key determinants of tourism destinations' competitiveness (Khadaroo and Seetanah 2008). Inefficiencies in transportation systems to given destinations that increase travel cost or time decrease tourist preferences for these locations, ultimately affecting demand (Prideaux 2000). Moreover, increasing air connectivity to remote areas has been shown in case studies to increase not only the number of arrivals but also visit durations and local tourism revenues (David and Saporito 2017). Altogether, the interaction between tourism and airport infrastructure has important spillover effects on local economic growth, which further emphasize the importance of guaranteeing functioning air infrastructure (Dimitriou, John, and Maria 2017; Dimitriou 2018). In this context, a new airport in South Albania has the potential to facilitate tourist access and hence promote economic activities in the region.
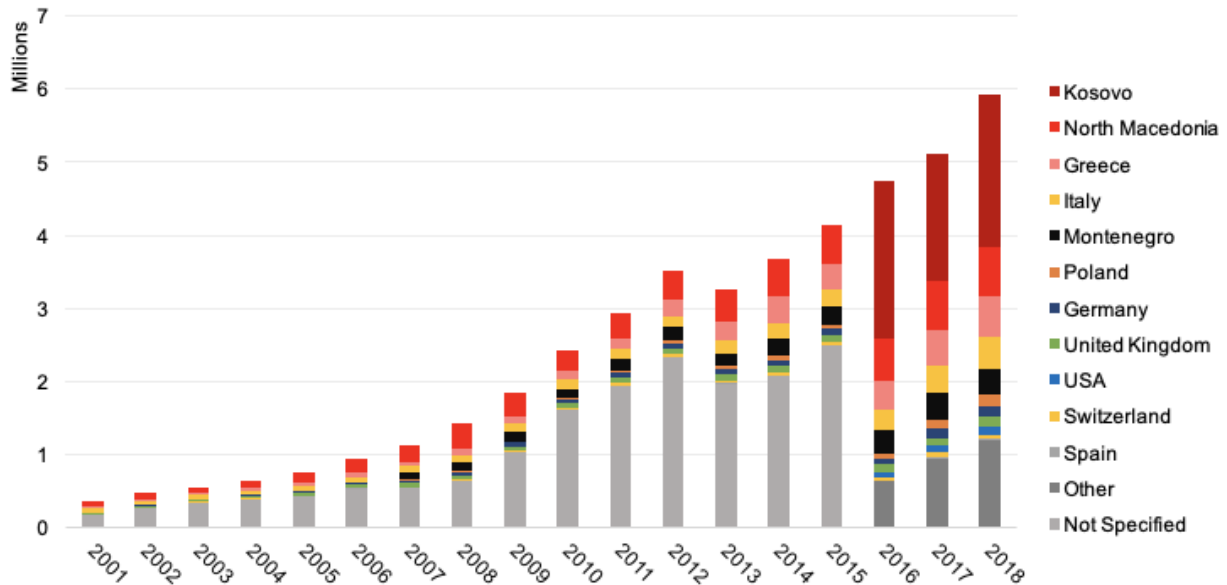
Nevertheless, airport connectivity is far from being the only determinant in the competitiveness of tourism destination and consequently cannot alone ensure the sector's growth. The tourism industry is built around complex productive ecosystems with numerous inputs that need to interact successfully in order for a destination to be competitive. This section will assess the state of the tourism industry in South Albania and its recent development, as well as take stock of current challenges that hinder growth and propose mechanisms by which a new airport could contribute to the sector's growth. Lastly, the section will discuss some of the complementary reform areas that would need to be addressed in order to amplify the impact of the airport on tourism in the region.

3.1. Albania's Tourism Industry

Albania's tourism industry has seen strong growth in the last two decades, with nearly 6 million foreign citizen visitors in 2018, more than seven times the size of the sector in 2005 (*Fig. 3.1*). Breaking these numbers down further, however, suggests that Albania's tourism industry has not yet reached its full potential. Despite recent growth, Albania continues to lag behind regional peers on multiple metrics, including both arrival levels and growth rates (*Fig. 3.2*). Out of all foreign visitors, 90% of arrivals come from Europe, indicating very limited tourism from the rest of the developed and developing world. Moreover, within European tourists, three quarters come from bordering or neighboring countries, suggesting a very high concentration of tourism in a very limited market. Albania is indeed only capturing a small share of the Balkans tourism market: Germany, the United Kingdom, and Italy are the three top European source countries in the region, but Albania trails far behind in attracting visitors from these countries, in particular relative to EU destinations such as Greece, Croatia and Bulgaria. As an example, in 2018, Greece,
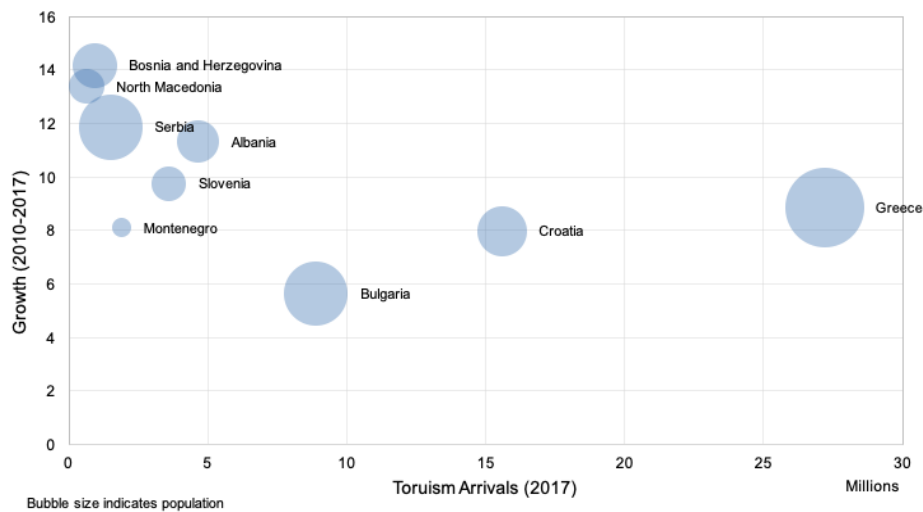
Bulgaria, and Croatia each attracted around 4 million, 1 million, and 1 million German tourists respectively while Albania attracted fewer than 150 thousand.

Figure 3.1. Growth of Foreign Citizen Arrivals to Albania, 2001-2018

Source: INSTAT

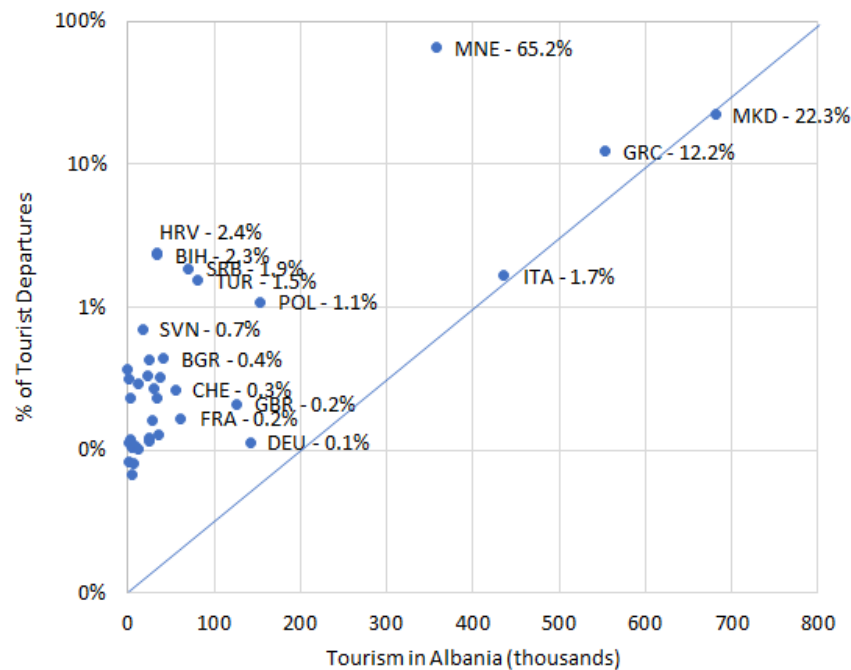**Figure 3.2. International Tourism Growth in the Balkans**

Source: World Bank

Albania indeed only has strong penetration in the tourism market of its neighboring markets, occupying large shares of the Montenegro, North Macedonia, Kosovo and Greece markets but only a small share of the rest of the European tourist market (*Fig. 3.3*). None of the countries with

strong tourism to Albania is a major tourist sending country, and of the major tourist sending countries, very little of the tourism is coming to the country (*Fig 3.4*). Improving performance in untapped markets such as Germany or France may be challenging, but there are existing opportunities for Albania's tourism industry to grow within the South European tourism market, where Albania already holds reasonable shares of arrivals.

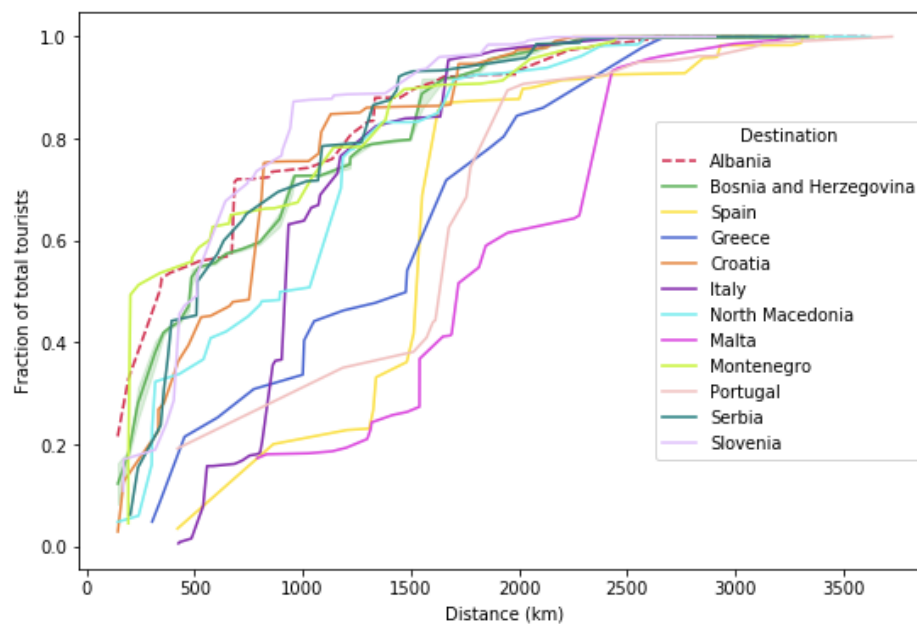**Figure 3.3. Albanian Penetration in European Tourism Markets, 2018**

Source: UNWTO[3]

In order to determine the potential destinations from which Albania could draw more air travelers, we estimated a gravity model of tourism flows for the European Union and other South European countries using data on bilateral tourist flows from UNWTO. The model takes into consideration a variety of tourism determinants - income per capita and population in sending and recipient countries, distance, common language, and destination competitiveness - to predict the "expected" levels of tourism between pairs of countries. The model's methodological assumptions, data sources and regression tables are presented in *Appendix 3*.

---

[3] Analysis based on UNWTO includes EU-28 and EFTA countries, Serbia, Montenegro, North Macedonia, Bosnia and Herzegovina and Turkey. Data on tourist flows to Kosovo is not available for most countries.

Figure 3.4. Albanian Penetration in European Tourism Markets (excluding Kosovo), 2018

Size indicates Revealed Comparative Advantage, or (% of European Tourism) / (% of Tourism in Albania).

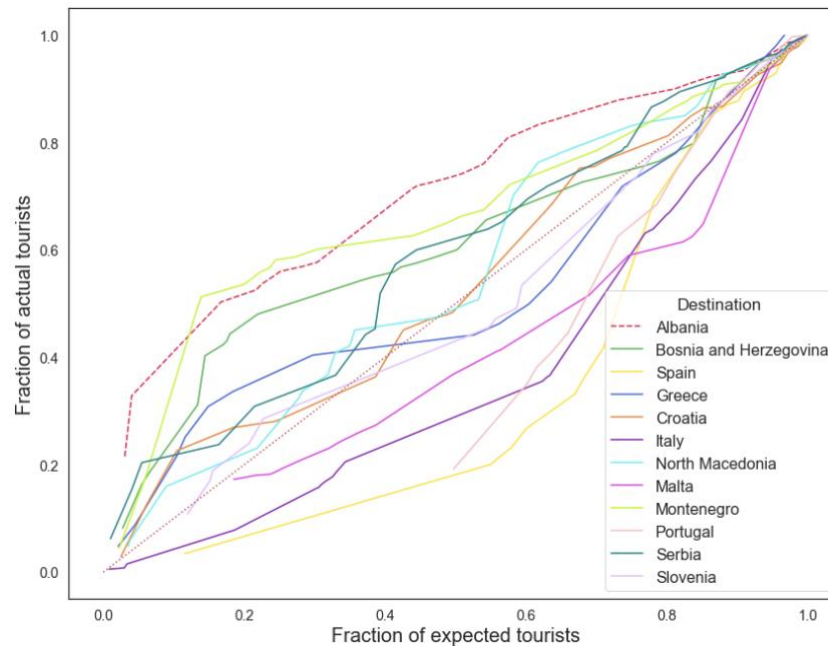**Figure 3.5. Tourism Potential in Albania for European Countries**

As expected, countries with higher income per capita or higher population are expected to become higher tourism senders, while tourists are predicted to travel more to countries at a closer distance or those that share common borders. Moreover, tourism flows are greater between countries that share a common language or to destinations that can be held as competitive according to the quality of their business environment, infrastructure, and tourism policy effectiveness. In the case of Albania, when comparing the model's estimates and actual tourism flows, the model shows that tourism from France, Spain, Denmark, Netherlands or Sweden is significantly underrepresented (*Fig. 3.5*). Tourism from some of Albania's neighboring countries on the other hand can be considered higher than what would be predicted given the presented covariates. The model also shows that the negative effect of distance on the number of tourists is more pronounced for Albania relative to the rest of Southern Europe. About 70% of Albania's tourists come from countries that are less than 700 km away, a substantially larger share than for most peers (*Fig. 3.6*). Moreover, this "distance" effect for Albania in actual tourism flows is significantly larger than what the models predict should be the actual effect of distance on tourism (*Fig. 3.7*).

Figure 3.6. Effect of Distance on European Tourist Arrivals to Albania
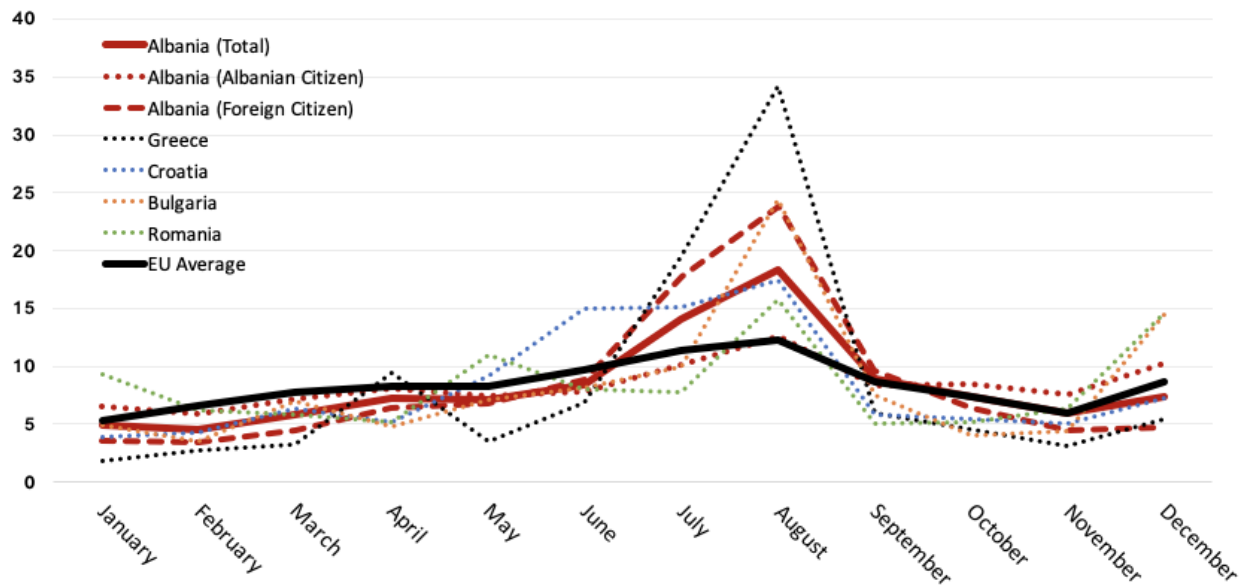

Source: Various

**Figure 3.7. Expected vs. Actual Effect of Distance
on European Tourist Arrivals to Albania**

Albania's slow growth is partly due to constraints that are common to the Balkans and Southern European tourism sectors. Tourism demand in Albania tends to be highly seasonal and concentrated in the summer: nearly half of total annual foreign visitors to Albania arrive in the summer months, with the largest share concentrated in July and August (*Fig. 3.8*). While this high seasonality in demand for tourism in Albania is not shared on average by European tourism, it is a common problem for other Southern European destinations such as Greece and Bulgaria. In aggregate numbers, Albania has the lowest tourist arrivals in non-summer seasons than all of these comparators. Not only does Albania share some of the same challenges of the Balkans' tourism sector, it also faces similar constraints according to several region-centered reports (OECD 2016). Issues such as the skills gap in the tourism services workforce, maintenance of cultural and natural heritage sites, underdeveloped transportation infrastructure (both air and ground), shortage of accessible information about tourism offerings, and the lack of long-haul tourism appear to be common to many Balkan tourism markets. Despite commonalities, any of these challenges is ultimately location-specific, as issues such as tourism and transportation infrastructure have their own specificities in each country or region.

Figure 3.8. Seasonality of Tourist Arrivals to Albania (2016-2019 Average)

3.2. Transportation as a Challenge for the Tourism Ecosystem

Competitive tourism sectors encompass a complex and wide-ranging set of industries: a successful destination not only needs to have attractions (natural or cultural) to create an initial interest from visitors, it also requires a network of supporting industries to facilitate access to sites through transportation, provide accommodation and food, clean and maintain attractions, and market a destination to enhance appeal. Although many of these industries are private, a significant of tourism's necessary inputs ultimately derive from government-provided public goods, such as public transportation, or even government-funded maintenance of cultural or natural sites. Moreover, all of these features or inputs need to successfully interact in proper functioning business environments for them to properly grow. The variety of inputs and interactions is precisely what makes the tourism industry and the determinants of its success often hard to define, analyze, and measure.

Recent literature identifies pathways to classify tourism's inputs and participating sectors by considering their function in the context of destination competitiveness. The key frameworks generally align on separating tourism ecosystems into two main components: factor endowments and enabling environments (Crouch and Ritchie 1999; Dwyer and Kim 2003; Enright and Newton 2004; Hong 2009; World Economic Forum 2019)[4]. Factor endowments include the core resources of natural and cultural heritage attractions that create initial appeal for a destination, as well as supporting structures that facilitate access to core resources and improve the overall tourism

---

[4] Main models from the literature and further examples of factor endowments and enabling environment conditions are summarized in *Appendix 4*.
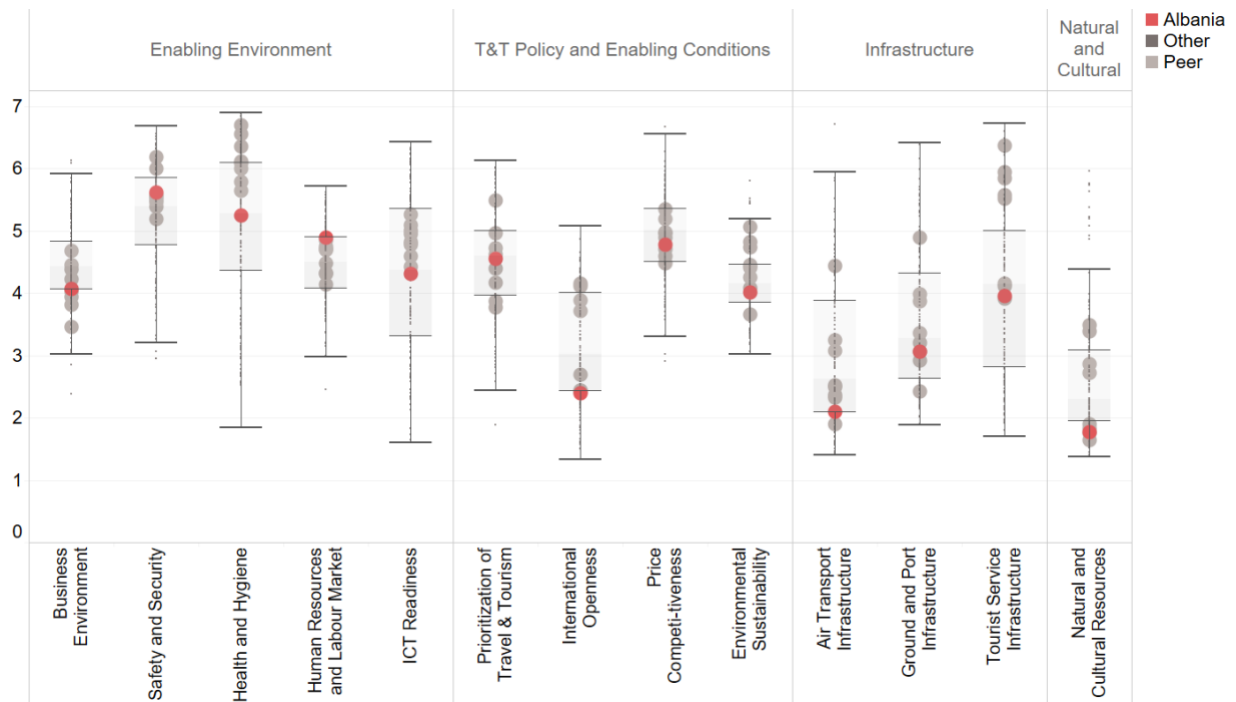
experience. These supporting structures include tourism infrastructure, transportation infrastructure, tourist services, and human capital in the workforce. These factor endowments interact within an enabling environment that can enhance or diminish their value and appeal. The enabling environment consists of both local and global conditions and includes destination management and marketing as well as the general policy and business environments of a given location. Any tourism ecosystem is in turn embedded in the larger social and economic system of a given region. Ultimately, the success of a tourism destination depends on the interaction between factor endowments and the enabling environment.

Consequently, the impact that a new airport in South Albania could have for the country and region's tourist sector can only be understood within the context of the country's tourism ecosystem. The country's tourism sector faces multiple obstacles, but not all of them are necessarily equally binding as they do not all equally distort the region's competitiveness. If air transportation were one of the sector's most binding constraints, then removing the constraint by increasing transportation competitiveness would have the largest. If any of the other constraints in the sector were more binding, the effect of improving air competitiveness alone would be smaller than the effect if both constraints were removed in parallel, as a "growth diagnostic" framework would suggest (Hausmann, Rodrik, and Velasco 2008). Destination competitiveness frameworks reveal that in addition to the construction of a new airport, Albania faces multiple obstacles that must be addressed to unlock the full potential of its tourism industry. In analysis of the existing reviews on tourism in the region, transportation infrastructure appears as a possible candidate for the "most binding" constraint on the sector; transportation and, more specifically air transportation, challenges appear as some of the most urgent in many of the recent assessments (*Fig. 3.9*). Furthermore, air transportation appears as particularly uncompetitive with regards to peers and other comparators in the World Economic Forum's latest Travel & Tourism Competitiveness Report 2019 (*Fig. 3.10*). Nevertheless, the extent of available data and evidence is insufficient to determine "beyond reasonable doubt" the centrality of transportation constraints over other challenges faced by the sector.

Figure 3.9. Tourism Factor Endowment Constraints Faced in Albania

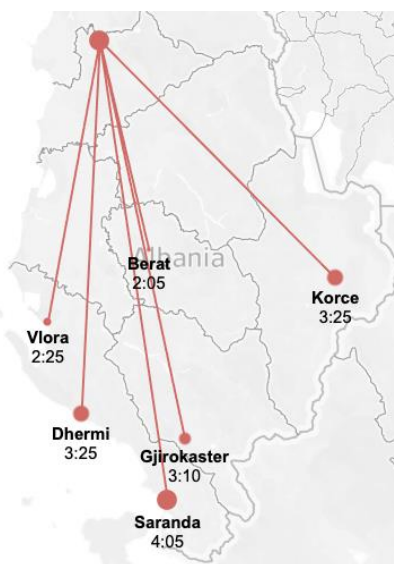| Source	Scope of Report	Core Endowments	Tourism Infrastructure	Transportation Infrastructure	General Infrastructure	Service Quality
OECD (2016, 2018)	Southeast Europe Tourism	●●●	●●	●●●		●●
European Commission (2017, 2019)	Albania Tourism	●	●●●	●●●	●	●●●
World Economic Forum (2019)	Global Tourism	●●●	●●	●●●	●	

Figure 3.10. Average Score for Tourism and Travel Competitiveness, 2015-2019

Source: World Economic Forum

In the Albanian context, transportation presents a dual challenge: infrastructure is lacking for both getting *to* and getting *around* destinations. Assessments of the current transportation infrastructure in Albania suggest that obstacles to movement into the country and the South Albania region in particular present one of the most significant constraints for the country's tourism sector. Currently, nearly 80% of visitors entering Albania arrive by land while only 10% arrive by air, according to Instat. The high cost of air travel, both in terms of ticket prices and poor flight connectivity, decreases Albania's attractiveness as a destination compared with neighboring countries (OECD 2016; European Commission 2019). A 2017 analysis of Albania's airport connectivity highlights the limited number of direct flights from TIA compared with the airports out of Kosovo, Serbia, and North Macedonia. The same analysis finds that the least expensive flights into Tirana from major European cities are on average less expensive than flights to comparator cities, but these flights generally involve prohibitively long layovers over the travel route. Reducing these layover times substantially increases ticket costs, implying a significant tradeoff between cost and time (O'Brien, Nedelkoska, and Frasheri 2017).

Figure 3.11. Average Travel Times by Road from Rinas to South Albanian Cities

Assuming 10am Weekday Departure
Source: Google Maps, own calculations

Moreover, poor road infrastructure throughout the country adds further difficulties to travel both into and within the South Albania region. Major tourist destinations in South Albania are currently only connected to TIA and international borders by road, and long travel times and poor connectivity further exacerbate the inaccessibility of the region (*Fig. 3.11*). In some cases, challenges with regards to road safety and quality prevent access to cultural heritage sites and attractions (GIZ 2015; EBRD 2018). Mobility to and within cultural heritage sites is often difficult--a recent World Bank document identifies increasing urban mobility in the city of Saranda, refurbishing access to Berat Castle, and adding street lighting to Gjirokastra's historical district as priority targets for improving tourism infrastructure in South Albania (World Bank 2016). On the
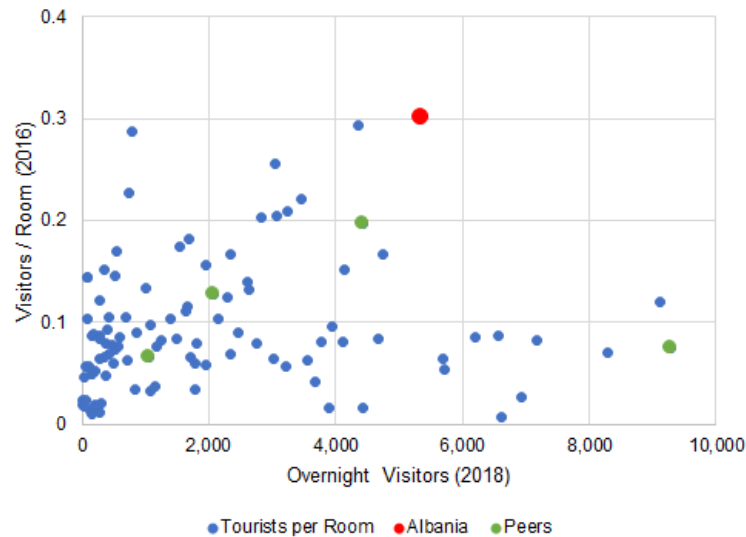
quality of roads more generally, the World Bank estimates that as of 2018, nearly half of the roads in the local and regional road networks are classified as in poor or very poor condition. Road safety in Albania is a significant concern: Albania averages 15.1 fatalities per 100,000 people, an accident rate higher than peer countries and significantly higher than rates in the EU countries from which most Balkan tourists originate. Recognizing this, a 2018-2022 World Bank funded project will focus on improving the condition of priority roads to key tourism and agriculture sites as productive sectors of the economy (World Bank 2018).

3.3. Other Constraints of the Tourism Sector

The establishment of an airport in South Albania would ease some of the tourism industry constraints tied to transportation into the country and region. Nevertheless, given the high reliance of the tourism industry on its many complementary inputs, more than one area of concern may have to be addressed for the impact of the new airport to be maximized. As noted above, these complementary goods and inputs can be classified as either factor endowments or enabling environment conditions. A summary of major factor endowment constraints and the extent of their severity based on secondary literature review is summarized in *Fig. 3.9* and WEF's latest review of Albania's tourism competitiveness is included in *Fig. 3.10.* Overall, core resources and tourism infrastructure are identified as some of the sector's most urgent constraints after transportation infrastructure, followed by service quality in the tourism sector. General infrastructure is overall not considered a binding factor for the sector's growth.

- *Core resources.* Although core resources (natural and cultural) are raised as a constraint by many analyses, the resources themselves are not themselves a constraint. South Albania and the country as a whole both have a wealth of potential tourist attracting sites. The region, however, struggles with issues around the quality of its tourism sites, which often are not properly maintained and do not meet international standards. The area has an abundance of natural attractions including coastline and mountains, three UNESCO World Heritage Sites, and numerous cultural heritage sites that have been central to the history of the country. Many tourist sites, however, are not properly protected, have not been restored for tourism purposes, and lack important components such as visitors' centers and signage with information, as well as pedestrian and road access infrastructure (World Bank 2016). All of these together obscure the value of the region's core endowments and interfere with tourism development. Strengthening the value and quality of cultural and natural tourism sites could allow the country to diversify its tourism offer and increase demand.

Figure 3.12. Tourists and Accommodations

Source: UNWTO

- *Tourism infrastructure.* Albania faces challenges with tourism infrastructure around natural and cultural attractions, including accommodation, food, and entertainment infrastructure. There is a general consensus among official reports that Albania has a shortage of tourist accommodation structures, particularly those with large capacity. Although official data is outdated, as of 2016 Albania had an unusually high number of overnight visitors per accommodation unit, suggesting a shortage of capacity (*Fig. 3.12*). According to information from the Ministry of Tourism and Environment, Berat, Gjirokaster, and Korce have fewer than 200 officially registered accommodation structures each, while Vlora has less than 300, substantially below regional tourism benchmarks. Moreover, assessments of the quality of accommodations in Southeastern European more generally note that often, existing accommodation structures do not meet international standards and might be a limiting factor for tourism arrivals (OECD 2018). Thus, improvements to tourism accommodation infrastructures must be two-fold: both expanding options for tourists and improving the quality of existing sources. Nevertheless, given the lack of detailed accommodation and occupational rates data, it is difficult to precisely estimate the extent to which accommodation infrastructure is constrained and poses a challenge to the sector. Beyond accommodation, developing public transportation for tourists and information centers could strengthen the attractiveness of the country as a tourism destination.

- *Human capital resources.* General assessments of the tourism industry in the Southeastern European region find that there are critical skill gaps that create challenges for the tourism industry. Missing skills include the capacities to analyze market needs and create appropriate product offerings; purchase and procure tourism-related products; market and sell destinations; serve as tour guides and experts on tourist attractions; and gather and understand customer feedback. Albania-specific analyses suggest that firms
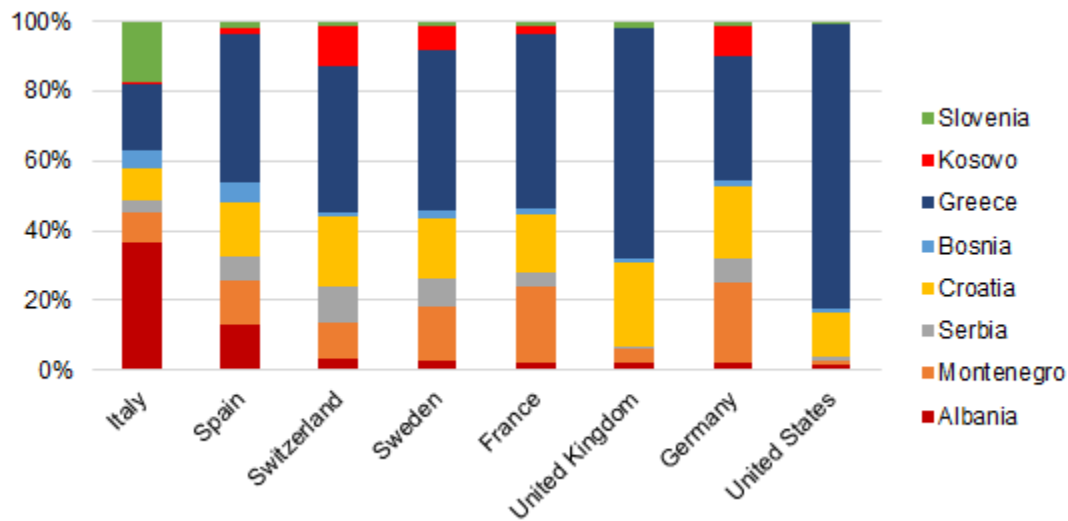
generally struggle finding a suitable trained labor force for the tourism sector, given the lack of trained tourist guides, hotel staff, and other service providers, particularly in the context of a lack of high-quality vocational training (European Commission 2017; 2019). The skill mismatch between the capacities needed for effective and long-term industry growth and the available human resources reduces quality of supply and competitiveness, undermining the value of the region's core resources.

- *General Infrastructure.* Electricity, water, and waste management have all been identified in the past by tourism analyses as potential constraints for the tourism sector. Electricity has historically been a major constraint for business operating in the country, but reforms since 2013 have substantially minimized outages and improved the quality of supply, reducing the negative impact on the services sector. Moreover, although poor water quality and waste management across the country are issues to be addressed, they do not appear as binding in any way for the sector.

Challenges with regards to factor endowments are exacerbated by a range of shortcomings in the enabling environment for tourism in Albania and specifically in the South Albania region.

- *Marketing and destination management.* Albania altogether remains not only a region with tourism substantially below its potential, but also a destination that is unknown outside of the Balkans and South Europe (*Fig. 3.13*). The lack of comprehensive marketing efforts that promote a tourism vision for the country provides a negative incentive for demand and indirectly disincentives the upgrading of the country's factor endowments, as it undermines possible interest from both foreign and domestic firms to invest in the sector. Moreover, the overall lack of publicly gathered data on tourism behavior and preferences adds further difficulty not only to the process of generating evidence-based policy but also the process of private sector planning.

- *Business environment.* Specific issues around tourism's business environment currently create a number of challenges for the sector. Issues around land administration and law impede the construction of tourism infrastructure and complicate the process of creating tourist attractions (Guri 2016). The lack of clear rules and regulations around tourism activities, as well as licensing and certification processes prevent the implementation of higher quality standards for the sector and reduce the country's competitiveness as a tourism destination in the region (European Commission 2019).

Figure 3.13. Google Searches in Travel Category in 2019, per Country

As for the *prioritization of tourism*, the current Government of Albania's National Tourism Strategy has recognized the potential of the country's tourism industry as well as the major obstacles to its development. The multi-pronged strategy aims to build core and supporting resources through the "development of destinations, areas, products and diversification of the tourism offer" as well as maximize the impact of tourism on the development of the Albanian economy and society (Government of Albania 2019).

The development of a comprehensive tourism strategy for the country is an important step forward in the prioritization of the sector but will not provide impactful change if not backed by effective policies and action at both the national and regional government level. The recent growth in the tourism sector has been mostly driven by private sector initiative and demand, rather than by public sector efforts. A strategy that not only defines realistic goals but assesses the current challenges that hinder the sector's growth and prioritizes complementary reforms and policies to address these can contribute to boost the sector's competitiveness. Many of the key inputs that are currently constraints to the development of the tourism industry are by definition public goods that rely not on the hands of one public agency but of many. These inputs are not limited to infrastructure goods, as overall marketing strategy, data availability and legal regulations around tourism accommodations also fall under the government's responsibility and may be affecting the development of the sector. Consequently, the government will need to ensure the development of the complementary goods required to ensure that the South Albania tourism industry can take advantage of the benefits of the new airport.
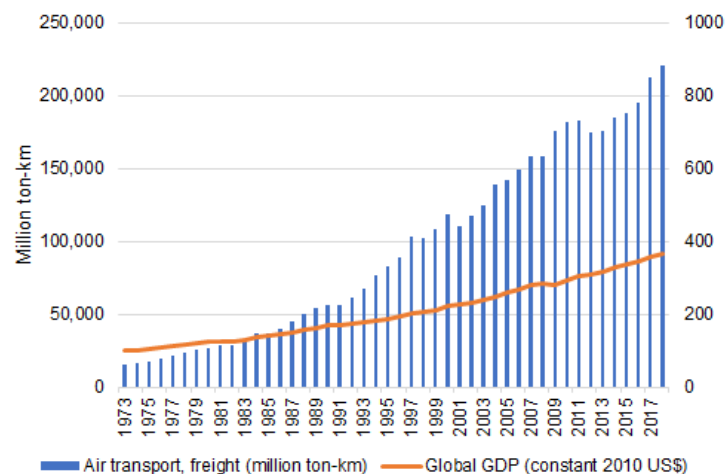
The development of a new airport in the Vlora region is an important first step in spurring tourism in the region, with spillover effects for regional economic development. However, as this section has argued, the existence of the airport is not the silver bullet solution for the regional tourism industry. Based on analysis of the existing constraints, facilitating transportation access around

the South Albania region and specifically to tourist sites; preparing natural and cultural heritage sites for tourism use; expanding tourism infrastructure to accommodate potential growth in demand; further developing basic infrastructural elements; improving human capital capacities within the tourism industry; and creating a policy environment more conducive to tourism growth are the most salient. A government strategy should focus on these constraints to ensure that the South Albania region becomes a competitive tourist destination.

4. Facilitating Export Competitiveness through Air Freight

An airport can facilitate an alternative mode of transport for specific types of goods and hence promote a country's exports. In countries or regions that are landlocked or where ground infrastructure (road, train) is deficient, cargo can alleviate this constraint by providing alternative and reliable ways of transporting goods. Air freight is specifically appropriate for the export of goods with high value per mass content or which involve some element of time sensitivity, such as perishable goods. This comparative advantage comes from air freight's relatively high cost - 4 to 5 times the cost of road transport and 12 to 16 costlier than sea transport (Saghir and Hoekman 2009). Since fuel consumption is the highest at low altitudes and at takeoff, longer distances make air cargo more competitive. Can the new airport in Vlora become an opportunity for Albania to promote its exports via air freight? The following section will examine the global air freight ecosystem and analyze potential opportunities for Albania in it.

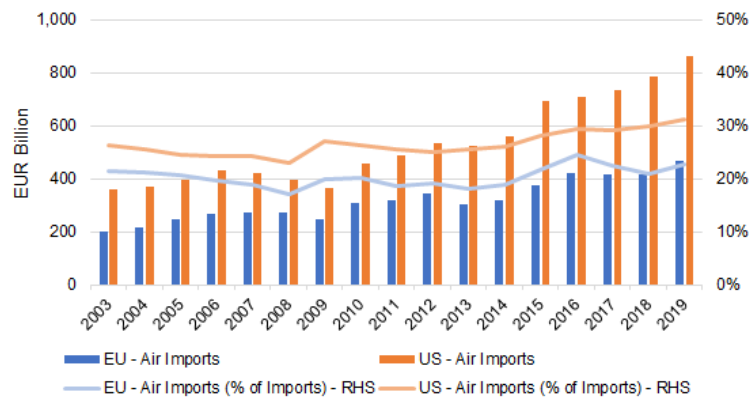**Figure 4.1. Evolution of Air Freight**

Source: World Bank

4.1. Air Freight and Trade

The air freight business experienced fast development after the end of the Second World War. The introduction of propeller aircraft in the 1950s, followed by jet passenger aircraft, jet freighters in the 1960s, and wide-body aircraft in the 1970s expanded the capacity and efficiency of the business. All-cargo and chartered services as well as air courier services increased starting in the late 1970s in developed economies. The 1990s were characterized by the expansion of both freight and courier services to developing economies. From the 1970s onwards, air cargo traffic has grown at a yearly 6% rate, although growth rates were substantially lower throughout the late 1990s and 2000s, coinciding with periods of global slowdowns (*Figure 4.1*). Cargo levels overall stagnated following the global financial crisis but rebounded in 2017, when it achieved a 10.1% growth led by global economic, industrial and trade expansion (Boeing 2018). Around 40% of
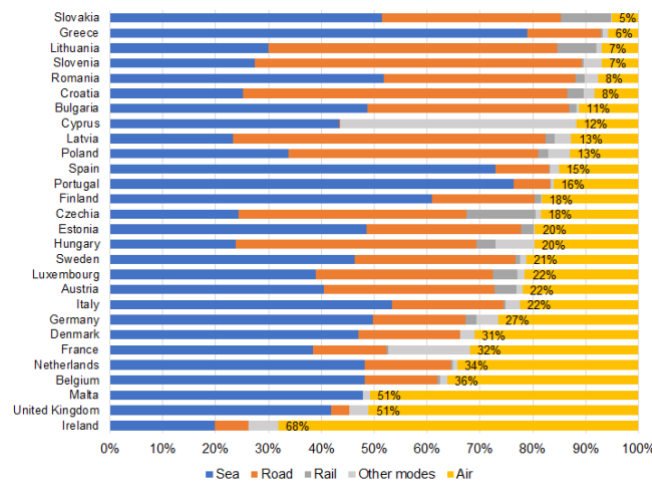
cargo freight currently originates in the Asia and Pacific region, followed by 26% in Europe and 14% in North America. Boeing's latest market report expects world air cargo traffic to grow at 4.2% in the next twenty years. At present, although cargo represents less than 1% of trade's overall "tonnage", it represents a much larger share of the value of traded goods. In the case of Europe and the US - two of Albania's largest markets - air imports have grown over the last two decades at a similar pace as total imports, maintaining their share at around 20% and 30% of total imports respectively (*Fig. 4.2*). Within the EU, imports are the largest in the island states, followed by other Western European countries (*Fig. 4.3*).

Figure 4.2. Air Imports, US and EU-28 Imports

<div align="right">Sources: US Census Bureau, Eurostat</div>

Figure 4.3. EU Imports, by Mode of Transport
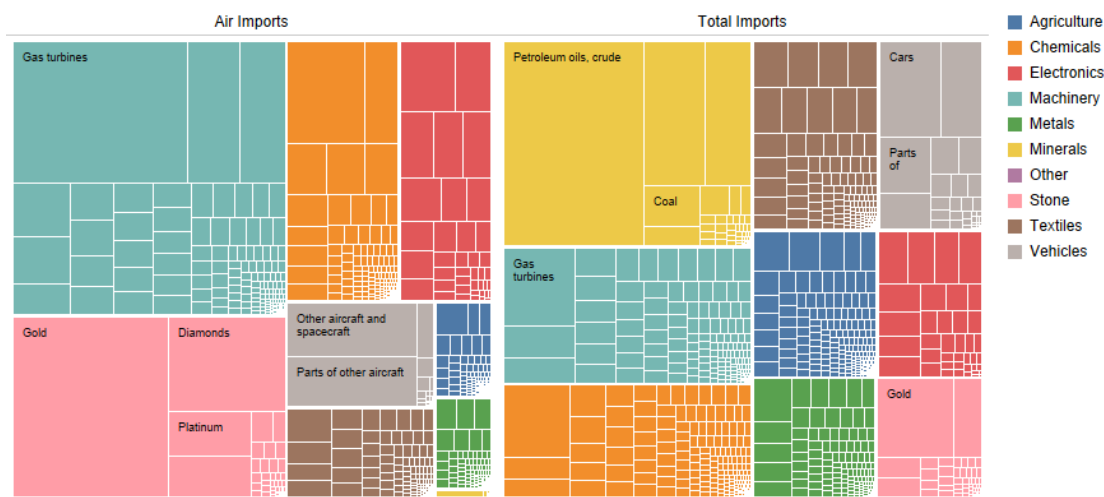

<div align="right">Source: Eurostat</div>

The main types of goods that are usually shipped through air freight are capital and transport equipment, high-value consumer goods (gold and other valuables, electronics, apparel), intermediate goods for manufacturing, and refrigerated agriculture products (fresh vegetables and seafood). Overall, goods transported via air have a different profile than those transported via

road or sea, which is either because of their high value per mass or their time-sensitive nature (*Fig. 4.4*). Different types of commodities require different services: "emergency freight" is responsible for time-critical shipments of parts and documents; "high-value freight" values speed and security for the transportation of luxury goods; "perishable freight" focuses on the transport of goods such as vegetable, fruit, seafood and cut flowers (and air freight accounts for large share of delivered price); and "routine freight" is a catchall category that accounts for other uses for freight such as rapid replenishment cargo (Saghir and Hoekman 2009).

Air freight gives producers a competitive advantage by providing the possibility of shipping products by air when there are delays in production or when it is necessary to replenish inventories. Air freight also allows economies to introduce reliable delivery of small volumes of products in new markets, that can be replaced by less costly transport once an acceptable volume in the market is secured. On the same note, air cargo allows producers to exchange samples with customers, improving the productivity of contract manufacturing. Air cargo should be thought of hence not only as a facilitator of existing trade but as a trade creator itself, since it allows the connection of markets that would otherwise not be connected in such manner (Appold and Kasarda 2013). The examples of cut flowers in Colombia, Kenya, and Ethiopia; fresh seafood in Ecuador; and electronics in the Philippines and other East Asian economies are some of the most successful cases of air-cargo intensive exports (Bofinger 2009).

Figure 4.4. EU - Air vs. Total Imports - 2015-2017 Average

Source: Eurostat

Air freight can be divided into five types of operations: (1) bellies of scheduled passenger airlines, (2) scheduled dedicated cargo-only carriers (Cargolux), (3) integrated express carriers (FedEx, DHL), (4) dedicated charter operators and (5) special operations such as military, aid, and aircraft parts transport (Bofinger 2009). Except in the case of major air freight exporters, developing countries usually ship their exports in belly cargo, complemented by chartered freighters during demand peaks. Utilizing belly space in passenger aircraft has the benefit of complementing airlines' profitability but tends to limit in the medium-term the development of the sector, given the limits in capacity of aircrafts that prioritize passengers and baggage. In the case of chartered freights, fees tend to be larger, in particular in the cases in which the load factor is only high in one direction of the route. The majority of non-express air freight are managed by hybrid service providers such as "consolidators", which combine shipments to obtain lower transport rates and fly these to the nearest hub, or "freight forwarders" which arrange the transportation by road of the cargo to the nearest airport. In both cases, the service provider is in charge of purchasing freight capacity and scheduling space for clients' shipments.

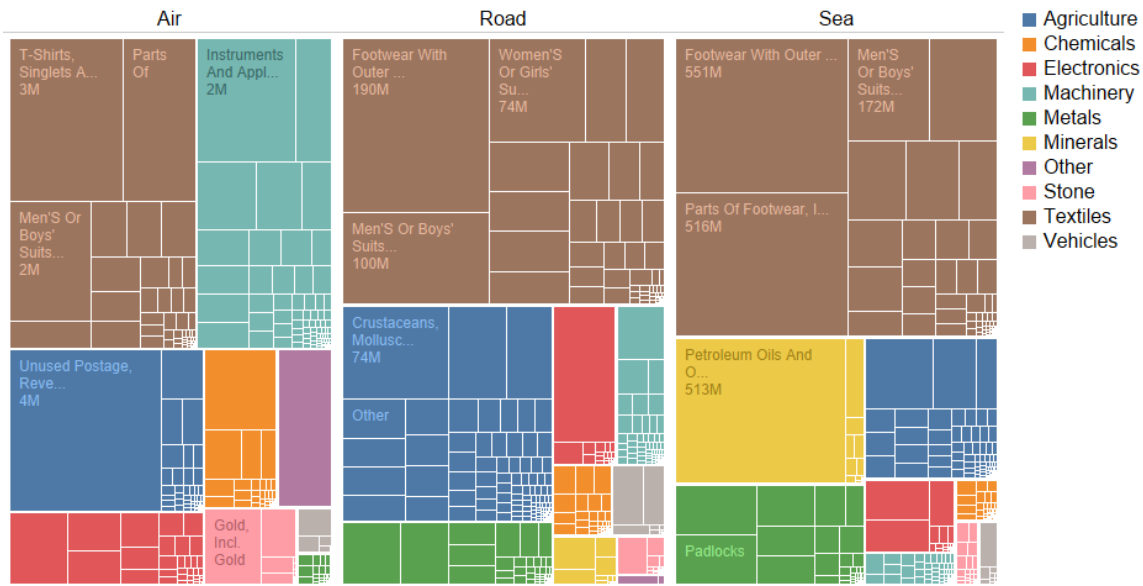## 4.2. Air Freight as an Instrument for Trade Promotion

With regards to Albania's current use of air freight as an instrument for trade promotion, cargo operations in TIA appear to remain altogether constant around 2,200 tons per year in the last five years, according to the concessionaire's statistics. Records show that air exports to the US have majorly increased in value since 2013 (*Fig. 4.5*). Given the absence of transatlantic flights from TIA, these exports are most likely processed at another regional hub and then shipped to the US. As for exports to Europe via air freight, these have not surpassed their 2012 levels. At present, Albania's air exports still remain an insignificant share both of the country's exports (less than 1%) and of the US and EU-28's air cargo trade. Albania's air exports both to the US and Europe are concentrated in textiles, with a lower share assigned to chemicals and a very low selection of agriculture products (*Fig. 4.5-4.7*).
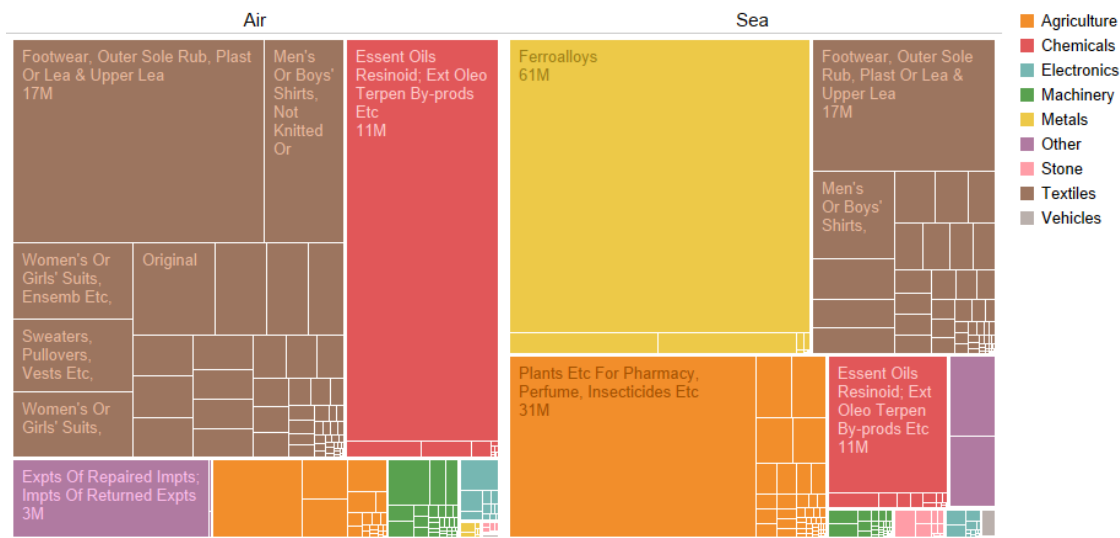
Figure 4.5. Albania's Air Cargo Exports

Sources: US Census Bureau, Eurostat

Figure 4.6. Albania's Exports to European Union (EU-28) - 2017-2019 Total

Source: Eurostat

Figure 4.7. Albania's Exports to United States - 2017-2019 Total

Source: US Census Bureau

Are there opportunities for Albania to use air freight as a tool for export promotion and diversification? Previous growth diagnostic research conducted by Growth Lab at the Center for International Development (CID) at Harvard University has found that the lack of productive knowhow is the binding constraint to stronger growth in Albania (O'Brien, Nedelkoska, and Frasheri 2017). Limited diversification has taken place in the country's private sector over the last twenty years, which has resulted in low export levels and low export sophistication. In this regard,

as of 2017 transportation costs did not appear as a priority issue for firms (it did appear so for tourism), although connectivity between Albania and other countries evidently remains limited. In this context, the contribution of air freight to export diversification is not immediately evident. Nevertheless, even in the case that transportation is not as binding as it would otherwise be in a landlocked country that may have poorer road and sea access, competitive air infrastructure could influence economic potential through a different channel, particularly in a country in which the accumulation of knowhow appears as a binding constraint. Air freight could provide new avenues in the process of product "self-discovery", as it both expands the set of products in which a country could be competitive and it provides additional avenues for entrepreneurial experimentation by reducing the costs of ex ante investments (Hausmann and Rodrik 2003). The discovery of the flower industry in a country such as Ethiopia is an excellent example in this regard (Gebreeyesus and Iizuka 2012).

Although it is entirely possible to find that products traditionally traded by road or sea freight can also be traded by air in a competitive manner, the set of products that can be competitively traded through air freight appears as a prudent starting point for an air freight oriented export promotion policy. To know whether a product is at present competitively traded through air freight, we need to first define some measure of "air intensity". Bela Balassa's methodology of estimate revealed comparative advantage (RCA) can be useful in that regard (Balassa 1965). A product can be considered air intensive when its "Air RCA" is larger than one, that is when the product's share of air imports in a given economy is larger than the product's share of global imports. If M_{cp} represent a country c's imports of product p, via a particular mode of transport, then we define:

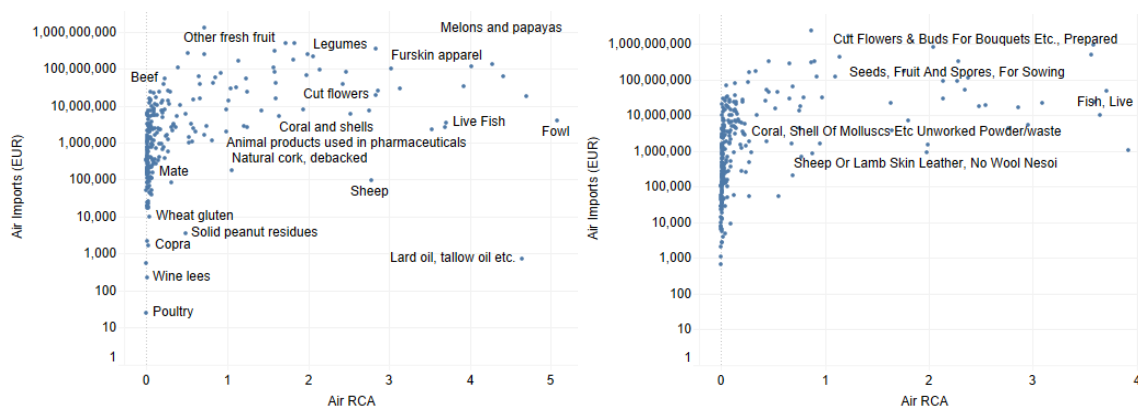$$\text{Air RCA}_{cp} = \frac{M_{cp,\,Air}/\Sigma_p M_{cp,\,Air}}{M_{cp,\,Total}/\Sigma_p M_{cp,\,Total}}$$

As an example, if textiles represented 20% of a given country's air imports, but only 10% of the country's total imports, the product would have an Air RCA of 20%/10% or 2 in that country. Products with an Air RCA over 1 (or in some cases over a lower threshold such as 0.8) will be considered competitive for air freight, as they tend to be exported relatively more through air than through other modes of transportation. As an example, if we take only agricultural products in the United States and Europe, we can observe that certain products, such as fowl, fresh seafood or cut flowers, tend to be competitive for cargo while others (such as cereals) are generally not (*Fig. 4.8*).

Once Air RCA is defined, some measure of comparative advantage for Albania's exports must also be defined, since not every air-intensive product is likely to be exported by the country and hence should not be pursued as an opportunity for promotion or diversification. It is convenient to first distinguish the products in which Albania is already a competitive producer, so as to separate the tasks of "promotion" of existing exports and "discovery" of new opportunities. With the same methodology from Balassa, one can define whether a country is an effective exporter of a good based on whether it exports more or less than its "fair share", that is in this case an amount greater or lower than the share of world trade represented by the product. Hence, if X_{cp} are the exports by a country c of product p, we can define:

$$RCA_{cp} = \frac{X_{cp}/\Sigma_c X_{cp}}{\Sigma_p X_{cp}/\Sigma_c \Sigma_p X_{cp}}$$

To demonstrate this, if wheat represents 0.5% of a country's exports, but 1% of world trade, then in that case the country will not be considered an "effective exporter" of this good or revealed as competitive, as its RCA will be 0.5% / 1% = 0.5; that is, the country exports less than what is perceived as its fair share for that product.
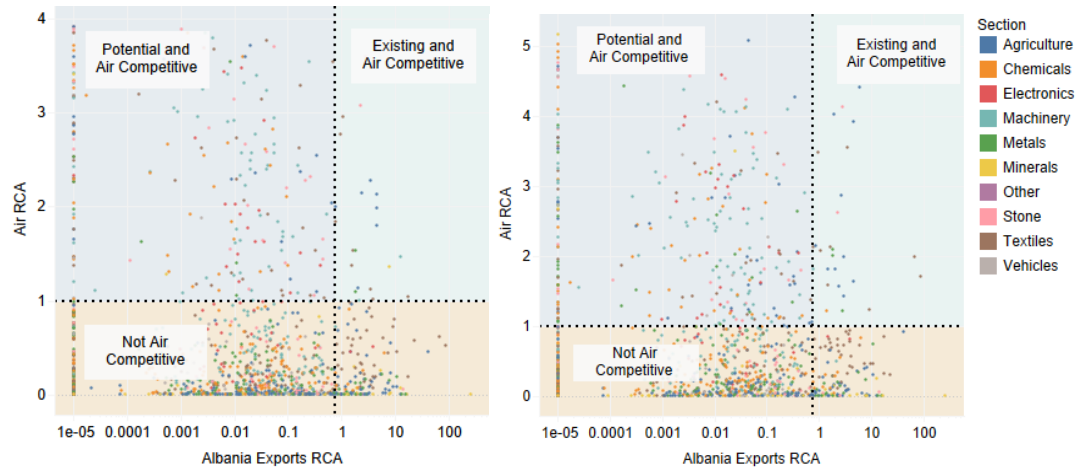
Figure 4.8. Agriculture Products in US and EU-28 - Imports and RCA (2015/17)
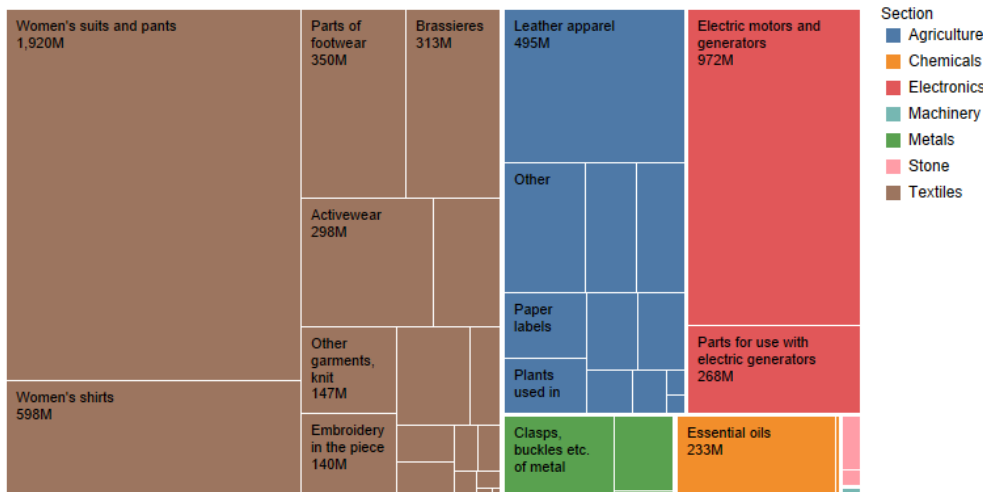
Given these two definitions, the first step to seize the potential impact of an improvement in air freight conditions for export promotion is to understand which products Albania is already competitively exporting and which can be competitively exported through air freight. In *Figure 4.9*, Albania's export RCAs are visualized against the air freight intensiveness of imports in the United States and the European Union: since both entities import different products by air and other modes of transport, the set of products that is competitively imported by air freight differs for both economies. The figure highlights the products that are currently both competitive exports for Albania and air freight intensive, products that are air freight intensive, but are not currently competitive exports for Albania, and products that are neither. As *Figures 4.10* and *4.11* show, many of the products that Albania currently is competitive in producing and could be exported by air freight are textiles and agricultural products. Some of these indeed coincide with products that Albania is *already* exporting through air freight.

Figure 4.9. Export RCA and Air Freight Intensiveness RCA - US and EU-28 (2015/17)
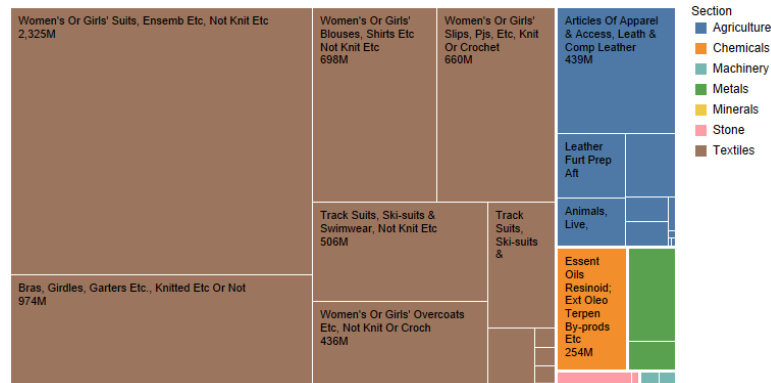
Figure 4.10. EU-28 - Export-Competitive and Air-Intensive, by Market Size (2015/17)

Figure 4.11. US - Export-Competitive and Air-Intensive, by Market Size (2015/17)
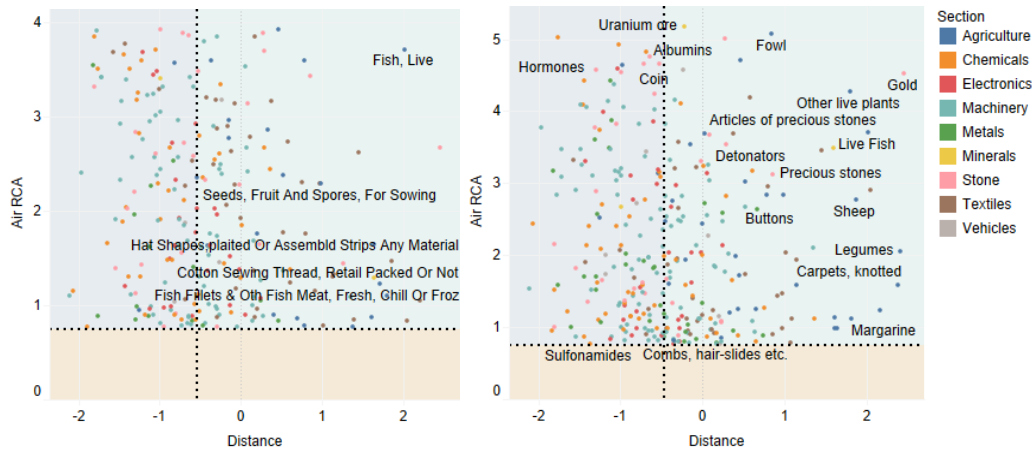
Limiting the analysis of prospective opportunities for air freight transportation to industries in which Albania is already a competitive exporter can be misleading. The fact that Albania is *not* a competitive exporter in some industries is precisely a condition that could be affected were air freight to improve the country's condition to participate in these industries. Albania might produce a certain product domestically or export it without being an effective exporter (RCA<1), and competitive air freight services may be in that case a factor that could help the country to become one. Nevertheless, for this to be so, it is important to first consider whether this type of product could be competitively transported through air cargo. To check this, air intensities again provide some perspective as to the products that are at present competitively exported via this mode of transportation.

As for which products Albania does not currently export competitively but successfully diversifying into, the theory of Economic Complexity provides tools and concepts to identify these (Hausmann et al. 2014)[5]. The concept of "distance" allows us to measure how close a product is to a country's existing knowhow and capabilities: using global trade data, distance is calculated by taking into consideration the co-occurrence of production of specific products in different economies. As an exercise, one could compare the set of products that are air-intensive with those that have the lowest distance (*Fig. 4.12*). Two more concepts allow us to gauge the desirability of diversifying into specific products: "product complexity" (PCI) measures the sophistication of the product by quantifying the complexity and diversity of the economies that produce it and "opportunity outlook gain" (OG) takes into consideration the linkages that a product might have to other high-complexity products. Although PCI and OG tend to be positively correlated, distance and OG exhibit a negative correlation, which presents a trade-off between more complex or "strategic" industries and industries that are closer to the country's existing capabilities. Taking into consideration Albania's need to incorporate knowhow in order to diversify its economy, and the relatively few nearby opportunities that appear for diversification (given the current knowhow as revealed by the country's production), a diversification strategy may have to pursue a "strategic bets approach", where "long jumps" to distant products with strategic potential are prioritized. This

---

5 See *Appendix 5* for a more detailed description of some of the theory's concepts.

approach can be translated into different "bundles" of distance, PCI and COG that will ultimately deal to a different prioritization of products. An example of this is provided in *Figure 4.13* and *Figure 4.14.*
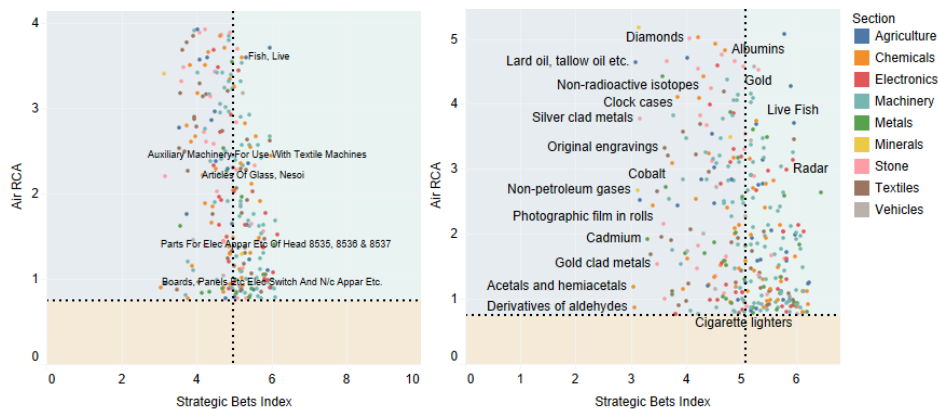
Figure 4.12. Distance and Air Freight Intensiveness RCA - US and EU-28 (2015/17)

Sources: US Census Bureau, Eurostat, Atlas CID
Distance is normalized in the figure so that products that are "closest" show larger values.

Figure 4.13. Strategic Bets Index and Air Freight Intensiveness - US and EU-28 (2015/17)

Sources: US Census Bureau, Eurostat, Atlas CID
The Strategic Bets index is calculated in this case by weighting 50% Distance, 35% OG, 15% PCI

This exercise should serve a starting point for developing a strategy to identify opportunities for export diversification, but its results should by no means be taken as the final word on industry prioritization. A prioritization of industries for export promotion and diversification should ideally leverage a larger variety of measures of an industry's viability and its attractiveness for a given economy, as economic complexity indicators might omit from the prioritization process industries that are strategic for the country for other economic or political reasons (as an example, access to EU market access) but also include industries that are not viable in it for idiosyncratic grounds such as the lack of a specific natural resource. In any case, the process of industry prioritization

should emerge from an iterative process that takes into consideration the perspectives of current and prospective stakeholders in Albania's economy.

Figure 4.14. US - Strategic Bets and Air-Intensive Products, by Market Size (2015/17)

4.3. Challenges for Air Freight as a Policy Strategy

An effective air freight strategy does not and cannot uniquely depend on the simple availability of a nearby airport. Tirana International Airport has been successfully improving its passenger traffic since 2005 and yet the cargo business has not increased to match. Even with the right prioritization of industries, effective air cargo is an unusually complex operation that requires many complementary inputs beyond basic air infrastructure for both arriving and departing aircrafts for it to become competitive (Bofinger 2009; Saghir and Hoekman 2009; Kunaka and Carruthers 2014). Should the new airport in South Albania aspire to become a competitive hub for Albania's air freight, these inputs would have to be properly developed:

- *Cargo-appropriate air infrastructure.* Not any airport can become an effective cargo operator. Runway dimensions need to accommodate suitable aircraft; and a dedicated large cargo apron is sometimes important for the effectiveness of operations. In some cases, the availability of cold storage facilitates refrigerated goods exports, but it does not appear as necessary in all cases.

- *Road infrastructure.* Air freight is essentially a multi-modal operation, whose success depends on the overall quality of adjacent logistics infrastructure. Potential exporters need to be able to reach the airport in time and safely, particularly in the case of fresh goods exports.

- *Customs and security.* Delays and dwell time in customs clearing for exports are an important hindrance to the development of the air freight sector. Paperwork and inspections should not take more than what is appropriate for air delivery to be competitive.

- *Safety and regulations.* The cargo literature frequently mentions the role of international standards regarding safety oversight set by the International Civil Aviation Organization (ICAO) as essential for the success of the airport operations. Moreover, air services agreements between countries that limit flights and specific carrier operations between countries can restrict the growth of the air freight sector.

Improving export promotion and diversification efforts through increased air freight competitiveness is possible but is no simple task. Not only are cargo operations complex, requiring many complementary inputs to be competitive, but product-specific strategies require specific efforts for which there is relatively little experience in the country. For that reason, it is not evident that the new airport in South Albania will be able to change this situation. Moreover, although the new airport should be able to operate with larger aircraft (providing hence additional capacity and more competitive tariffs for belly cargo), it is unclear whether there will be an evident market for Albania's exports through this mode of transport. In some sense, the majority of Europe is "too close" for air cargo for most goods to be cost-effective relative to road or sea transportation. It remains to be seen whether the new airport can facilitate air access to other regional hubs and hence cargo operations directed towards the US. Regardless, although the potential for air freight in South Albania could be high, it is by no means a safe bet nor does it imply with certainty significant impact in the immediate future.

Bibliography

Appold, Stephen J., and John D. Kasarda. 2013. "The Airport City Phenomenon: Evidence from Large US Airports." *Urban Studies* 50 (6): 1239–1259. https://doi.org/10.1177/0042098012464401.

Balassa, Bela. 1965. "Trade Liberalisation and 'Revealed' Comparative Advantage." *The Manchester School* 33 (2): 99–123. https://doi.org/10.1111/j.1467-9957.1965.tb00050.x.

Blonigen, Bruce A., and Anca D. Cristea. 2015. "Air Service and Urban Growth: Evidence from a Quasi-Natural Policy Experiment." *Journal of Urban Economics* 86: 128–146. https://doi.org/10.1016/j.jue.2015.02.001.

Boeing. 2018. *World Air Cargo Forecast 2018–2037*.

Bofinger, Heinrich. 2009. "Freight Transport For Development Toolkit: Air Freight." *World Bank*.

Brueckner, Jan K. 2003. "Airline Traffic and Urban Economic Development." *Urban Studies* 40 (8): 1455–1469. https://doi.org/10.1080/0042098032000094388.

Button, Kenneth, Soogwan Doh, and Junyang Yuan. 2010. "The Role of Small Airports in Economic Development." *Journal of Airport Management* 4 (2).

Calderón, César, and Luis Servén. 2014. "Infrastructure, Growth, and Inequality: An Overview," World Bank Policy Research Working Paper No. 7034, . https://doi.org/10.1596/1813-9450-7034.

Canning, David, and Esra Bennathan. 1999. "The Social Rate of Return on Infrastructure Investments," World Bank, . https://doi.org/10.1596/1813-9450-2390.

Cidell, Julie L. 2015. "The Role of Major Infrastructure in Subregional Economic Development: An Empirical Study of Airports and Cities." *Journal of Economic Geography* 15 (6): 1125–1144. https://doi.org/10.1093/jeg/lbu029.

Cidell, Julie L, and John S Adams. 2001. "The Groundside Effects of Air Transportation. Research Report," no. 2: 104.

Crouch, Geoffrey I., and JR Brent Ritchie. 1999. "Tourism, Competitiveness, and Societal Prosperity." *Journal of Business Research* 44 (3): 137–152. https://doi.org/10.1016/S0148-2963(97)00196-3.

David, Francesco, and Giuseppe Saporito. 2017. "L'impatto Di Un Nuovo Aeroporto Sul Turismo Internazionale: Il Caso Di Ragusa (The Impact of a New Airport on International Tourism: The Case of Ragusa (Sicily))." *Bank of Italy Occasional Paper*, no. 412. https://doi.org/10.2139/ssrn.3120489.

Dimitriou, D. J. 2018. "Comparative Evaluation of Airports Productivity towards Tourism Development." *Cogent Business & Management* 5 (1): 1464378. https://doi.org/10.1080/23311975.2018.1464378.

Dimitriou, D. J., Mourmouris C. John, and Sartzetaki F. Maria. 2017. "Quantification of the Air Transport Industry Socio-Economic Impact on Regions Heavily Depended on Tourism." *Transportation Research Procedia* 25: 5242–5254. https://doi.org/10.1016/j.trpro.2018.02.051.

Dwyer, Larry, and Chulwon Kim. 2003. "Destination Competitiveness: Determinants and Indicators." *Current Issues in Tourism* 6 (5): 369–414. https://doi.org/10.1080/13683500308667962.

EBRD. 2018. "Albania: Infrastructure and Tourism Enabling Programme." https://www.ebrd.com/documents/procurement/81334-tors.pdf?blobnocache=true.

Enright, Michael J., and James Newton. 2004. "Tourism Destination Competitiveness: A Quantitative Approach." *Tourism Management* 25 (6): 777–788. https://doi.org/10.1016/j.tourman.2004.06.008.

European Commission. 2017. "EU Support to a Tourism-Led Model for Local Economic Development." Instrument for Pre-Accession Assistance. https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/ipa_2017_040210_01_eu_support_to_a_tourism-led_model_for_local_economic_development_.pdf.

———. 2019. "Economic Reform Programme of Albania (2019-2021)." Commission Assessment. https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/albania_2019-2021_erp.pdf.

Gebreeyesus, Mulu, and Michiko Iizuka. 2012. "Discovery of Flower Industry in Ethiopia: Experimentation and Coordination." *Journal of Globalization and Development* 2 (2): 1–27. https://doi.org/10.1515/1948-1837.1103.

GIZ. 2015. "Assessment of Tourism Assets of Vlora County." https://qarkuvlore.gov.al/wp-

content/uploads/2017/10/Inventory-of-tourism-potential-of-destination-%E2%80%93-Vlora-County-Report-1.pdf.

Government of Albania. 2019. "National Strategy for Sustainable Tourism Development 2019 – 2023." https://turizmi.gov.al/wp-content/uploads/2019/12/National-Tourism-Strategy-2019-2023-EN.pdf.

Green, Richard K. 2007. "Airports and Economic Development." *Real Estate Economics* 35 (1): 91–112. https://doi.org/10.1111/j.1540-6229.2007.00183.x.

Guri, Aulent. 2016. "The Role of Sustainable Tourism in the Economic Development of Vlora District." *European Journal of Research and Reflection in Management Sciences* 4 (4): 53–62.

Hakfoort, Jacco, Tom Poot, and Piet Rietveld. 2001. "The Regional Economic Impact of an Airport: The Case of Amsterdam Schiphol Airport." *Regional Studies* 35 (7): 595–604. https://doi.org/10.1080/00343400120075867.

Hausmann, Ricardo. 2016. "Economic Development and the Accumulation of Know-How." *Welsh Economic Review* 24: 13–16. https://doi.org/10.18573/j.2016.10049.

Hausmann, Ricardo, César A. Hidalgo, Sebastián Bustos, Michele Coscia, Alexander Simoes, and Muhammed A. Yildirim. 2014. *The Atlas of Economic Complexity: Mapping Paths to Prosperity*. MIT Press.

Hausmann, Ricardo, Bailey Klinger, and Rodrigo Wagner. 2008. "Doing Growth Diagnostics in Practice: A 'Mindbook,'" CID Working Paper 177.

Hausmann, Ricardo, and Dani Rodrik. 2003. "Economic Development as Self-Discovery." *Journal of Development Economics* 72 (2): 603–633. https://doi.org/10.1016/S0304-3878(03)00124-X.

Hausmann, Ricardo, Dani Rodrik, and Andrés Velasco. 2008. "Growth Diagnostics." *The Washington Consensus Reconsidered: Towards a New Global Governance*, 324–355. https://doi.org/10.1093/acprof:oso/9780199534081.003.0015.

Hong, Wei-Chiang. 2009. "Global Competitiveness Measurement for the Tourism Sector." *Current Issues in Tourism* 12 (2): 105–132. https://doi.org/10.1080/13683500802596359.

Ishutkina, Mariya A., and R. John Hansman. 2011. "Analysis of the Interaction between Air Transportation and Economic Activity: A Worldwide Perspective."

Karakaya, Fahri, and Cem Canel. 1998. "Underlying Dimensions of Business Location Decisions." *Industrial Management & Data Systems*.

Kasarda, John D. 2019. "Aerotropolis." In *The Wiley Blackwell Encyclopedia of Urban and Regional Studies*, 1–7. Wiley. https://doi.org/10.1002/9781118568446.eurs0436.

Kasarda, John D., and Stephen J. Appold. 2014. "Planning a Competitive Aerotropolis." In *The Economics of International Airline Transport*, 4:281–308. Advances in Airline Economics. Emerald Group Publishing Limited. https://doi.org/10.1108/S2212-160920140000004010.

Khadaroo, Jameel, and Boopen Seetanah. 2008. "The Role of Transport Infrastructure in International Tourism Development: A Gravity Model Approach." *Tourism Management* 29 (5): 831–840. https://doi.org/10.1016/j.tourman.2007.09.005.

Kimelberg, Shelley M., and Elizabeth Williams. 2013. "Evaluating the Importance of Business Location Factors: The Influence of Facility Type." *Growth and Change* 44 (1): 92–117.

Kunaka, Charles, and Robin Carruthers. 2014. *Trade and Transport Corridor Management Toolkit*. World Bank.

Little, Ian Malcolm David, and James A. Mirrlees. 1990. "Project Appraisal and Planning Twenty Years On." *World Bank Economic Review* 4: 351–382. https://doi.org/10.1093/wber/4.suppl_1.351.

McGraw, Marquise J. 2017. "The Heterogeneous Impact of Airports on Population and Employment Growth in Cities." In *The Economics of Airport Operations*, Emerald Group Publishing, 261–312.

Morley, Clive, Jaume Rosselló, and Maria Santana-Gallego. 2014. "Gravity Models for Tourism Demand: Theory and Use." *Annals of Tourism Research* 48: 1–10. https://doi.org/10.1016/j.annals.2014.05.008.

Mukkala, Kirsi, and Hannu Tervo. 2013. "Air Transportation and Regional Growth: Which Way Does the Causality Run?" *Environment and Planning A: Economy and Space* 45 (6): 1508–1520. https://doi.org/10.1068/a45298.

O'Brien, Tim, Ljubica Nedelkoska, and Ermal Frasheri. 2017. "What Is the Binding Constraints to Growth in Albania." *Center for International Development, Harvard University*.

OECD. 2016. *Fostering Tourism Competitiveness in South East Europe*. https://www.oecd.org/south-east-europe/programme/Fostering_Tourism_Competitiveness_South_East_Europe.pdf.

———. 2018. "Competitiveness in South East Europe." https://www.oecd-ilibrary.org/development/competitiveness-in-south-east-europe_9789264298576-en;jsessionid=L50hQwefbpngu_Y-V8rCEqk3.ip-10-240-5-4.

Percoco, Marco. 2010. "Airport Activity and Local Development: Evidence from Italy." *Urban Studies* 47 (11): 2427–2443. https://doi.org/10.1177/0042098009357966.

Prideaux, Bruce. 2000. "The Role of the Transport System in Destination Development." *Tourism Management* 21 (1): 53–63. https://doi.org/10.1016/S0261-5177(99)00079-5.

Redding, Stephen J., and Matthew A. Turner. 2015. "Transportation Costs and the Spatial Organization of Economic Activity." In *Handbook of Regional and Urban Economics*, 5:1339–1398. Elsevier.

Redondi, Renato, Paolo Malighetti, and Stefano Paleari. 2013. "European Connectivity: The Role Played by Small Airports." *Journal of Transport Geography* 29: 86–94.

Reuters. 2019. "Albania Calls for Offers to Build Southern Airport," December 19, 2019. https://www.reuters.com/article/albania-airport-idUSL8N28T5QZ.

Rodriguez-Clare, Andres. 2005. "Coordination Failures, Clusters, and Microeconomic Interventions." *Economía*, Economia, 6 (1): 1–42.

Saghir, J., and B. Hoekman. 2009. "Air Freight: A Market Study with Implications for Landlocked Countries." *World Bank*.

Sheard, Nicholas. 2014. "Airports and Urban Sectoral Employment." *Journal of Urban Economics* 80: 133–152. https://doi.org/10.1016/j.jue.2014.01.002.

———. 2019. "Airport Size and Urban Growth." *Economica* 86 (342): 300–335. https://doi.org/10.1111/ecca.12262.

US Government Accountability Office. 2013. "Airport-Centric Development."

World Bank. 2016. "Project for Integrated Urban and Tourism Development." Project Appraisal Document. http://documents.worldbank.org/curated/en/330301479438041183/pdf/Albania-PAD-10272016.pdf.

———. 2018. "Regional and Local Roads Connectivity Project." Project Appraisal Document. http://documents.worldbank.org/curated/en/133741523301183905/pdf/Albania-Roads-Project-Appraisal-Document-PAD-Revised-04052018.pdf.

World Economic Forum. 2019. "The Travel & Tourism Competitiveness Report 2019." https://www.weforum.org/reports/the-travel-tourism-competitiveness-report-2019.

Appendix

A1. Air Traffic Methodology

The gravity model was estimated using data on bilateral air passenger flows from Eurostat. The gravity model takes bilateral tourist flows from the following countries:

1. Albania;
2. European Union (27 Member States) and United Kingdom;

We use the following equation to estimate the gravity model:

$$logN_{ij} = \beta X_i + \gamma Y_j + \lambda C_{ij} + \psi_i + \mu_{ij}$$

where N_{ij} is the vector of air passengers travelling from countries *i* to *j*:

X_i are origin country characteristics, including GDP per capita and population (from World Bank's World Development Indicators);

Y_j are destination country characteristics, including GDP per capita, population, and a tourism competitiveness index from the World Economic Forum's Travel & Tourism Competitiveness Report 2019, as a destination quality index;

C_{ij} are the costs of traveling from countries *i* to *j*, including distance, calculated as the haversine distance between country centroids, and dummies for common language (based on SERISS Survey coding language list) and whether countries share a common border;

ψ_i corresponds to origin fixed effects;

μ_{ij} is the error term.

The following table presents results of five different specifications:

	(1)	(2)	(3)	(4)	(5)
Intercept	-7.428***	-37.888***	-37.459***	-32.963***	-10.355***
	(1.688)	(1.643)	(1.663)	(1.815)	(1.263)
log_gdppc_orig	0.932***	1.043***	1.027***	1.057***	0.452**
	(0.098)	(0.074)	(0.074)	(0.073)	(0.191)
log_gdppc_dest	0.880***	1.006***	0.990***	0.332**	0.306**
	(0.098)	(0.075)	(0.075)	(0.134)	(0.125)
log_distance	-0.027	-0.068***	-0.076***	-0.078***	-0.124***
	(0.128)	(0.020)	(0.023)	(0.023)	(0.025)
log_distance_squared		-0.136***	-0.153***	-0.155***	-0.248***
		(0.039)	(0.046)	(0.045)	(0.050)
logpop_orig		0.949***	0.954***	0.953***	-0.095
		(0.043)	(0.044)	(0.043)	(0.102)
logpop_dest		0.952***	0.957***	0.714***	0.710***
		(0.043)	(0.044)	(0.063)	(0.058)
travel_comp_index_dest				1.314***	1.413***
				(0.246)	(0.229)
C(commonlanguage)[T.1]			0.916***	0.870***	0.701**
			(0.327)	(0.325)	(0.312)
C(bordering)[T.1.0]			-0.462	-0.477*	-0.475*
			(0.285)	(0.281)	(0.274)
N	1223	1223	1223	1199	1199
R2	0.118	0.489	0.493	0.508	0.588
FE	None	None	None	None	Origin

A2. Airport Ecosystem Methodology

The analysis of airport ecosystems relies on several different databases.

1. *Dun and Bradstreet (D&B).* A proprietary database of around 19.3 million companies worldwide, including detailed 6-digit NAICS industry classification, and employee counts;

2. *Eurostat.* Official EU employment statistics by economic activity (NACE industry classification), at the most granular geographic region available (NUTS3);

3. *Airports data.* Airport locations from *openflights.org* and airport traffic from *Anna.aero* on European airports;

4. *City locations.* City locations of cities with populations over 15,000, or capital cities, from *geonames.org*.

While Dun and Bradstreet and Eurostat provide similar information on employee counts by industrial sector, Dun and Bradstreet provides richer data at the company level. Further, the 6-digit NAICS (North American Industrial Classification System) provides more granular information on industrial sectors than the broad NACE sector at which Eurostat data is available at small geographic levels (NUTS3). However, since the Dun and Bradstreet dataset is prone to errors in employment counts, assumptions are made regarding outliers, data reliability and other issues.

Due to inconsistencies in the Dun and Bradstreet data (most likely related both to data entry errors and missing observations), we run reliability analyses to select those airports around which data is of a sufficient quality, by benchmarking against Eurostat data. Only the 97 airports that pass the reliability tests have been included in the analyses. However, since the Eurostat data is only available at the NACE section-level, D&B data from the detailed 6-digit NAICS was aggregated up to section-level NACE by using NAICS-NACE detailed concordances, and in cases where a single NAICS code maps to multiple detailed NACE codes, the NAICS code was assigned to it the most frequent NACE section. Subsequently, the reliability analysis sought to ensure that the spatial patterns of employment by industrial sector observed around each airport were broadly *representative* of the spatial patterns observed in Eurostat data, which was used as a benchmark. Two criteria were used to ensure consistency: adequate coverage of D&B data and correlation of distribution of industries between the two databases. Outliers in terms of employee that most likely implied data entry mistakes (companies with more than a million employees) were excluded from the analyses. Out of an initial sample of 316 airports, 97 airports passed the representativeness criteria.

A3. Tourism Gravity Model Methodology

Tourism gravity models have increasingly risen as a methodological alternative to estimate potential tourism demand (Khadaroo and Seetanah 2008; Morley, Rosselló, and Santana-Gallego 2014). The gravity model was estimated using data on bilateral tourist flows from the United Nations' World Tourism Organization (UNWTO). The Republic of Kosovo is currently not a member state of UNWTO and is hence not the organization's statistical library does not specifically keep track of the country's tourism flows for all countries, which is why the country is not included in the model.

The gravity model takes bilateral tourist flows from the following countries:

3. Albania;

4. European Union (27 Member States) and United Kingdom;

5. European Free Trade Association members
   (Iceland, Liechtenstein, Norway, and Switzerland);

6. Southeastern Europe countries
   (Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia);

7. Turkey.

Due to differences in the metrics reported to UNWTO by member states on inbound and outbound tourist flows, we sequentially prioritize the following measures taking into consideration both missing values and the measure's reliability:

1. TFR: Arrivals of non-resident tourists at national borders, by country of residence;

2. TFN: Arrivals of non-resident tourists at national borders, by nationality;

3. VFR: Arrivals of non-resident visitors at national borders, by country of residence;

4. VFN: Arrivals of non-resident visitors at national borders, by nationality;

5. THSR: Arrivals of non-resident tourists in hotels and similar establishments, by country of residence;

6. THSN: Arrivals of non-resident tourists in hotels and similar establishments, by nationality;

7. TCER: Arrivals of non-resident tourists in all types of accommodation establishments, by country of residence;

8. TCEN: Arrivals of non-resident tourists in all types of accommodation establishments, by nationality.

We use the following equation to estimate the gravity model:

$$logN_{ij} = \beta X_i + \gamma Y_j + \lambda C_{ij} + \psi_i + \mu_{ij}$$

where N_{ij} is the vector of tourists travelling from countries *i* to *j*:

X_i are origin country characteristics, including GDP per capita and population (from World Bank's World Development Indicators);

Y_j are destination country characteristics, including GDP per capita, population, and a tourism competitiveness index from the World Economic Forum's Travel & Tourism Competitiveness Report 2019, as a destination quality index;

C_{ij} are the costs of traveling from countries *i* to *j*, including distance, calculated as the haversine distance between country centroids, and dummies for common language (based on SERISS Survey coding language list) and whether countries share a common border;

ψ_i corresponds to origin fixed effects;

μ_{ij} is the error term.

The following table presents results of five different specifications:

	(1)	(2)	(3)	(4)	(5)
Intercept	2.475**	-20.818***	-20.712***	-12.338***	-3.654***
	(1.029)	(0.838)	(0.801)	(0.797)	(0.526)
log_gdppc_orig	0.467***	0.591***	0.578***	0.560***	0.441***
	(0.079)	(0.049)	(0.047)	(0.040)	(0.112)
log_gdppc_dest	0.501***	0.351***	0.325***	-0.827***	-0.818***
	(0.068)	(0.042)	(0.041)	(0.066)	(0.063)
distance	-0.001***	-0.002***	-0.001***	-0.001***	-0.002***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
distance_squared		0.000***	0.000***	0.000***	0.000***
		(0.000)	(0.000)	(0.000)	(0.000)
logpop_orig		0.833***	0.812***	0.805***	0.294***
		(0.025)	(0.024)	(0.021)	(0.055)
logpop_dest		0.706***	0.680***	0.255***	0.260***
		(0.025)	(0.024)	(0.029)	(0.028)
travel_comp_index_dest				2.368***	2.370***
				(0.115)	(0.110)
C(commonlanguage)[T.1]			0.332*	0.308**	0.375**
			(0.175)	(0.150)	(0.146)
C(bordering)[T.1.0]			1.368***	1.207***	1.158***
			(0.156)	(0.134)	(0.130)
N	1157	1157	1157	1157	1157
R2	0.169	0.682	0.711	0.789	0.814
FE	None	None	None	None	Origin

A4. Models of Tourism Destination Competitiveness

Paper	Factor Endowments	Enabling Environment	Interactions
Crouch and Ritchie (1999)	- Core attractors: "primary elements of destination appeal" (physiography, culture/history, market ties, activities, special events, superstructure) - Supporting resources (infrastructure, accessibility)	- Destination management (resource stewardship, marketing, organization, information, service) - Qualifying determinants (location, dependencies, safety, cost)	- Factor endowments provide foundation for attractiveness; destination management enhances appeal and qualifying determinants define scale of competitiveness - Destinations must be competitive in micro market (against peers) and macro market (against global tourism trends)
Dwyer and Kim (2003)	- Endowed resources (natural, cultural) - Created resources (tourism infrastructure) - Supporting resources (basic infrastructure, service quality)	- Destination management (enhances value of resources and addresses constraints from situational environment) - Situational conditions (affect business operations)	- Created and supporting resources increase the value of endowment - Feedback loops between factor endowment and destination management - Created resources/supporting resources influence demand/destination management and vice versa
Enright and Newton (2004)	- Attractiveness factors (core resources, resources specific to urban tourism)	- Business factors (business competition, industrial and regional clustering, social structures agendas)	- Relative importance of attractiveness and business factors in different environments
Hong (2009)	- Resource endowments (natural, cultural, capital, human, knowledge, technological innovations) - Resource allocations (infrastructure, market ties, maintenance, monitoring)	- Global environment (affecting international tourism industry) - Domestic environment (affecting domestic tourism industry) - Destination management (resources stewardship, marketing, organization, business integration, information provision, services)	
World Economic Forum (2019)	- Infrastructure (air transport, ground and port, tourist service) - Natural and cultural resources (natural resources, cultural resources and business travel)	- Enabling environment (business environment, safety and security, health and hygiene, human resources and labor market, ICT readiness) - Policy enabling conditions (prioritization of tourism, international openness, price competitiveness, environmental sustainability)	

A5. Economic Complexity Indicators

The theory of Economic Complexity has as its point of departure the role of tacit knowledge in economic activity (Hausmann et al. 2014). Most products and services in a modern economy are the result of intertwined networks that incorporate different degrees of knowhow. By observing patterns of production across different places (countries, states, cities) and throughout time, the theory allows us to construct concepts that quantitatively capture the "magnitude" of knowhow incorporated in a given product or industry and place. The concepts most widely used in the theory are the following[6]:

- *Diversity.* A measure of how many different types of products an economy is able to competitively produce, hence a measure of collective know-how in an economy.

- *Ubiquity.* A measure of how many economies (countries when using trade data) are able to make a product competitively.

- *Economic Complexity Index (ECI).* A ranking of economies based on the diversification and sophistication of their production basket. Economies that are home to a large diversity of products, in particular those products that have low ubiquity, are understood as home to a larger amount of knowhow.

- *Product Complexity Index (PCI).* A ranking of products based on their ubiquity and the economic complexity of the countries that produce them.

- *Distance.* A measure of a particular place's ability to develop a specific product. The index captures the extent of a country or city's existing capabilities to make a product that is not currently produced by measuring how related this product is to other products the place already competitively produces. Products that are "nearby" require fewer additional capabilities: this *proximity* is defined by the probability of the product being co-produced by the same economy.

- *Opportunity Outlook Gain (OG).* The index measures the benefits in terms of ECI improvement that a specific location can obtain by diversifying into a particular product. The index quantifies how a new product can "open" paths to more and more complex products.

---

[6] Definitions for economic complexity concepts are drawn from http://atlas.cid.harvard.edu/. The site also provides the step-by-step technical methodology to calculate cited indexes.