

# **Contribution of public policies to the development of Colombian air transport**

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## **ABSTRACT**

Despite the dynamic growth experienced in the air transport sector in Latin America in general and Colombia in particular, there is a big gap in the scientific literature on the subject of public policies in the air transport sector and especially in the Colombian context. So this paper, of a descriptive character, develops, analyzes and evaluates how (through the analysis of several indicators) public policies contributed to the current development of air transport in Colombia.

*Keywords:* airport, Colombia, air transport, public policy, liberalization

## 1. Introduction

During the 1990s many Latin American and Caribbean (L&C) countries embarked on an unprecedented process of structural reform. Privatization in Latin America began earlier, spread wider and faster than any other part of the developing world. Public policy developed at that time implied action along two well-defined lines, deregulation/liberalization and the privatization of service infrastructure. As regards the latter concept during the 1990s accumulated income from privatization in 18 Latin American countries reached 6 per cent of GDP. Private sector investment in infrastructure alone amounted to USD 361 billion between 1990 and 2001 (World Bank, 2007).

Therefore, in the context of air transport, public policy acted to deregulate and free the commercial air sector allowing the entry or creation of more air operators in different countries. In addition, the airport sector witnessed a transformation, still under development, but saw the entry of the private sector under different formulas of airport concessions in various Latin American countries (Espirito Santo, 2013; ICAO, 2013a; Serebrisky, 2012; ICAO, 2011; Mendiola *et al.*, 2011; Carvallo, 2008; Lipovich, 2008; Rico Galeana, 2008; Bosch and García Montalvo, 2003; CLAC-ACI, 2003; Espirito Santo *et al.*, 2001). As a result of this dynamic between 1993 and 2008 the private sector invested more than USD 9.5 billion in airports within the L&C region. Argentina, Colombia and Mexico together represent almost 80 per cent of total investment in the region (Serebrisky, 2012). This process of privatisation of the airport sector in Latin America also implied an institutional restructure as regards competencies and responsibilities of the different agencies both administrative and regulatory, of the air transport industry as well as the development of regulatory policies (fare structures, etc.) (Serebrisky *et al.*, 2011).

Colombia has been no stranger to this transformation. Colombian air transport is undergoing rapid and dynamic growth, never before seen in its history, which started approximately twenty years ago. This period coincides with the establishment of continued implementation of public policy designed specifically for the air transport sector. The development of public policies has led to the transformation of air transport in a short time becoming one of the most important services in the Colombian economy. In the 1st place, owing to the difficult topography making other methods of transport difficult, it eases the

integration and connectivity, and for that reason air transport is essential to connect and reach some of the more distant regions of Colombian geography. Secondly, Colombia's geographical location (in the middle (north-south) of the American continent and borders two oceans, Pacific and Atlantic) permits connection with regional and global economies, a fact which is fundamental given the dynamics of world globalisation. In this sense, the Colombian state considers air transport an essential public service, which demonstrates its role as a vital factor for national economic development.

The growth of air traffic in Colombia has been strengthened since the 1990s by a public policy oriented to liberalising air space for internal and external markets, and by refocusing public investment towards modernising and updating airport infrastructure, concessioning the airports with greatest air traffic in the country. Since the economic opening of 1991, Colombia changed from regulation that made access to the market highly restricted to a scheme of supervised freedom. This is how during the last 20 years, after having a national flag carrier new companies were allowed to enter the market, to the point where through different forms of corporate reorganisation the market now boasts an important percentage of participation from foreign capital. On the international level liberalisation was undertaken through the signing of various bilateral agreements, as well as the decision to sign open skies agreements with various countries (ORE, 2011; IADB, 2007; CAF, 2006). On the other hand, the first generation of airport concessions was undertaken in the middle of the 1990s, and since then three more generations have been implemented. These public policies have been complemented by certain institutional reforms where the Colombian state restructured the national airport authority that administers the airports and Colombian airspace, with the aim of strengthening aspects related to airport concessions and decentralisation.

This essay will describe how the different public policies contributed to the evolution and the development of the Colombian air transport industry, and its effects and impact on industry will be measured through the analysis of certain indicators.

## **2. Institutional framework of air transport**

Current Colombian institutional framework divides public air transport administration among three groups with different levels of participation (SIC, 2013).

First, the Ministry of Transport manages and heads regulation, development, supervision and control of the transport sector in Colombia. The Ministry of Transport has general and specific responsibilities laid down by Law 489 of 1998. The Ministry delegates many of its competencies among independent specialised entities in its own jurisdiction, in the specific case of air transport the Ministry of Transport delegates competencies and responsibilities to the Special Administrative Unit of Civil Aeronautics (henceforth Aerocivil) and the National Infrastructure Agency (henceforth ANI) (Ministerio de Transporte, 2011a).

In second place, the Special Administrative Unit of Civil Aeronautics (Aerocivil) is an entity attached to the Ministry of Transport, with separate judicial recognition, administrative autonomy and independent equity, to undertake the responsibilities of Aeronautic Authority in all of the national territory (Ministerio de Transporte, 2004). This unit has the jurisdiction and competency to regulate, manage, supervise and control the use of Colombian airspace by civil aviation, and to coordinate relations of this sector with the state; developing policies, strategies, plans, programs and projects on the subject, contributing thus to the maintenance of security and national sovereignty. Aerocivil is also responsible for the administration of airports in the country and in this manner also for the maintenance and construction of the same.

And thirdly, in 2003, through Decree 1800, the National Institute of Concessions (INCO) was established, public agency of national order attached to the Ministry of Transport, with separate judicial recognition, independent equity and administrative and financial autonomy, entrusted with the undertaking, planning, structuring and administration of contracts of concession for transport infrastructure with private capital participation in Colombia. Nonetheless, this decree indicated that these activities would be undertaken only for roads, rivers, railroads and ports, thus excluding the concession of air transport infrastructure projects from the responsibilities of INCO and keeping them under exclusive control and management of Aerocivil (Ministerio de Transporte, 2003). After a few years of INCO operations and the celebration of airport concession contracts by Aerocivil, the Ministry of Transport, through Decrees 4164 of 2011 and 4165 of 2011 (Ministerio de Transporte, 2011b, 2011c) restructured the method of the state contracting for the transport sector, especially for air transport that, as has been said, before that date was responsibility of Aerocivil. On the one hand, through Decree 4164 of 2011, the tasks of structuring, celebration

and contractual management of concession projects associated with airports would be transferred to the responsibilities of INCO (Ministerio de Transporte, 2011b), in addition this decree established that the INCO would be in charge of undertaking these tasks as of 1 January 2012 and as at that time, the airports that are to be given in concession will be handed over to INCO, by Aerocivil, under the figure of administration. On the other hand, and during the same year-2011, the Ministry of Transport through Decree 4165 of 2011, restructured INCO starting with its name, stating that as of that date the agency should be called the National Agency for Infrastructure (ANI). Legislation stated that the new entity, in charge of designing and implementing all of the concession contracts in the transport sector (all modes) replaced INCO completely and assumed its functions, adding to them as well, in order to, according to legal dispositions, be the agency in charge of: planning, coordinating, structuring, contracting, managing, administering and evaluating concession projects and other forms of public and private association, for the design, construction, maintenance, operation, administration and/or exploitation of the public transport infrastructure and related services.

### **3. Colombian aviation regulations**

There are a series of guidelines established by Aerocivil with the aim of supervising and controlling the operation of airports in the country, this regulation is applied in different fields of operation of the airports which, under the entities viewpoint, should be the object of the same. In that way, it is the responsibility of Aerocivil to design and develop strategies and policies, guidelines and procedures concerning air transport and airport regulation.

Therefore, Aerocivil under the competencies and functions acquired in Law 105 of 1993, Decree 2724 of 1980 and Law 336 of 1996 produced a regulatory document entitled Colombian Aviation Regulations (RAC) (Aerocivil, 2015i). In this document Aerocivil states that these regulations should be applied universally by all Colombian and foreign aeronautic agents within Colombia in all activities related to aeronautics. The RAC are a collection of regulations distributed in 20 chapters that contain all information necessary to understand the requirements that each and every one of the aeronautic agents must comply.

## **4. Development of public policy**

### **4.1 Origin and precedents of public policy in the air transport sector**

The National Development Plan, published every 4 years by the National Department of Planning (DNP), is the document that is the basis of and provides strategic guidelines for public policy (including the investment plan) formulated by the President of the Republic of Colombia through his team in the government. Its design, communication, evaluation and follow-up is the direct responsibility of DNP.

National development plans before 2002 contained public policies for investment in transport infrastructure in general, with a great emphasis on road transport, and therefore there were no specific policies for the air transport sector. The 1st national development plan with established public policy for the air transport sector albeit in an indirect and implicit way was for 2002-2006 (DNP, 2002). In the section Strategic Infrastructure for Transport the plan says that the national government will give continuity to the investment policy in infrastructure, where supposedly those for the air transport sector are included. Subsequently, the national development plan for 2006-2010 (DNP, 2006) made substantial strides in the establishment of public policy for the air transport sector. In view of evolution of the movement of air cargo and growing participation of this in the value of foreign trade, the national government reaffirms the importance that air transport has acquired in Colombia during the past few years. For that reason it establishes that actions related with the airport infrastructure should be focused on improving the air transport system for cargo and passengers, through the intervention in terminals and runways and other areas of strategic importance for national and/or regional competitiveness. In addition, the government states that it will continue with the implementation of the programmes for participation by the private sector for the administration and modernisation of airports infrastructure and the channelling of investment in these type of projects, according to traffic volume. The government will likewise develop plans for efficient and harmonic articulation of the airports to optimise the operation within the territorial and/or regional framework of which they are a part. In addition it states that Aerocivil should implement programs oriented to the generation of financial resources from activities related to the air transport service such as commercial exploitation of the terminals and air navigation services. Subsequently, the national development plan 2010-2014 (DNP,

2010), considering the important growth of the industry and its significant contribution to the national economy at that time-2010, establishes that the national government will continue applying policies for the positive technical legal and financial development of the airport concession contracts already under weigh (8 at this time) and that may be celebrated in the future. In addition the plan states that the national government implement a programme to improve infrastructure of 17 airports which have regular passenger service in Department capitals and strategic points identified by Aerocivil. A program to maintain the basic conditions for operation will be implemented in another 32 airports. In distant regions where air transport is the best alternative for communication, improvement and maintenance of regional airports will be undertaken, incorporating the risk variable in the definition of the programmed construction. To deal with the increase in air transport Aerocivil will modernise the aeronautic infrastructure along with satellite technology systems and communication, navigation and air space systems established in the Air Navigation Plan of Colombia (PNA-COL) (Aerocivil, 2015c). This plan is oriented by the Global Air Navigation Plan of the International Civil Aviation Organisation (ICAO, 2013b). In such a way that along with neighbouring countries an appropriate integral system for future in aviation is promoted. In addition the increase of nocturnal cover an operation of airports that serve business centres and allow for simultaneous landing and take-off will be sought. As regards management of, the RAC must be updatable and flexible to be adapted to the economic environment of the aeronautic sector and compliance with international standards and treaties, with the aim of stimulating even more competition in the national market. At the national level the plan requires the search of alternatives to facilitate the entry of new operators, taking into consideration the evolution of the air market, the financial indicators for the industry, occupation levels, market concentration and the effect of oil prices on the behaviour of the market. On international level alternative for the entry of new operators will be analysed, stimulating free competition in passenger and cargo markets.

#### **4.2 Airport public policy**

As concerns management of airport infrastructure Colombia has followed the regional tendency to concession the administration of this infrastructure (Espirito Santo, 2013; ICAO, 2013a; Serebrisky, 2012; ICAO, 2011; Mendiola *et al.*, 2011; Carvallo, 2008; Lipovich, 2008,

Rico Galeana, 2008; Bosch and García Montalvo, 2003; CLAC-ACI, 2003). This model seeks to liberate the state from the high expense required for aeronautic infrastructure. This process is regulated by a national law (Law 80 of 1993, article 30). Through another regulation (DNP, 1994) the State formalise the process of concession airports by way of a plan for order in airport infrastructure. Aside from proposing a technological renovation, the document authorised the process of concession of the airports to private companies, and considered economic payment to the state as the only element necessary to deliver the concession. The destination of these payments were defined as: a) increase the aeronautic compensation fund to subsidise unprofitable airports, b) finance new investments in said airports and c) finance the services of air traffic and security. The above meant that in parallel Aerocivil concentrate its efforts on the operation, control, development and maintenance of the airspace and supervision of air operations.

In this way, from the middle of the 1990s and in four phases or generations, the Colombian government through Aerocivil handed over various airports in the country in concession, the largest and most important of the 75 that the public aeronautical authority administers (18 to date) (Aerocivil, 2015d, 2015e) with the aim of achieving a better administration, modernisation and expansion, operation, commercial exploitation and maintenance of the airports with greater traffic. Under the objective from the airport concessionaires in the country, the company, society, consortium or airport concessionaire functions only as an administrator of the same.

The 1st generation of concessions was undertaken under a model of guaranteed minimum income to the concessionaires, by which no risk was assumed. In this generation all regulated and unregulated income from imports is given to the concessionaire, in return for a fixed payment to the state. It also established the responsibility for the handling, maintenance and operation of the terminal, runway, ramp, airborne installations and audiovisual and approximation helps and accessories to the concessionaire. In this generation the concessions did not have a master plan, which made it impossible to identify and quantify the investment needed and therefore those that were undertaken were only minor repairs to the terminals, determined by the concessionaire himself. In this way, the presence of private capital in infrastructure was insignificant.



Starting with the 2nd generation of concessions, in the period 2000-2007, payments to Aerocivil were distributed between some fixed costs and some variable costs over the gross income of the concessionaire. This change in privatisation terms for the airports was necessary given that the income received by Aerocivil from certain airports was insufficient for the investments they had in mind. Likewise, responsibilities were projected depending on the different agents involved in the process and consequently a re-assignment of risks was performed. The concessionaire was in charge of a series of obligatory investments and rehabilitation, linked to demand, through master plans that established the short, medium and long-term needs, with an estimation of the associated costs. The latter should have been completed within the 1st twelve months after the start of the contract, if they did not certain sanctions would be applied (Fedesarrollo, 2011).

The third generation of concessions in 2010 maintained and improved the conditions of the second generation. Nonetheless, the most important differences arose from on the one hand, the method of determining the increase in the percentage of gross income is not made up of fixed income and variable income but rather corresponding to a determined percentage of the concessionaire must pay Aerocivil. On the other hand, compliance with the master plan is deemed obligatory and therefore the execution of investments and the care and risk of the concessionaire, defining an estimated income model from which the regulated income generated can be equated.

The process of the fourth generation of concessions began on December 30, 2014 with the concession of only one airport (Airport of Barranquilla). The planned investment for the expansion and modernization of the airport will be USD 135 million (constant 2014) (Ministerio de Transporte, 2015).

#### **4.3 Investment policy in airports**

The policy for airport concessions was accompanied by an investment policy. Public investment in the air transport sector has been increasing steadily during the last decade reaching 14 per cent as a percentage of the air transport GDP for the year 2013, double the amount of a decade ago (Ministerio de Transporte, 2014). Private investment in airports has evolved according to the dynamics inherent in the concessions, passing from inexistent in 1996, the start year of the 1st concessions, to 20 per cent as a percentage of air transport GDP

for 2010 (Fedesarrollo, 2012). Along these lines, during the last few years the concessions generated an important packet of private investment in almost all of the outsourced airports. These investments are programmed implying that to date these investments have already been made, but as the contracts are signed for a long term future investment is expected. The average annual private investment (by airport operators) for the period 2010-2013 represented 18 per cent of the air transport GDP for the year 2013 (Ministerio de Transporte, 2014; aerocivil, 2014e; Fedesarrollo, 2013).

#### **4.4 Public policy in commercial aviation market**

Latin American context. The Latin American air transport liberalization initiated in the early 90s, has developed slowly (at different speeds in the countries of the region), mainly through subregional (or multilateral) agreements, and secondly by bilatellar agreements between countries (ICAO, 2003). On multilateral agreements we have: first, the Andean Community of Nations (CAN), since the Cartagena Agreement (1991), sets guidelines for air transport policies for the subregion through the so-called Decisions (CAN, 2015). CAN adopted a policy of open skies for the subregion, which meant free access by airlines of the Member States (García Sarmiento, 2000). Secondly, through the Fortaleza Agreement (1996), signed by Argentina, Bolivia, Brazil, Chile, Paraguay and Uruguay, it gives birth to a common commercial aviation market for MERCOSUR (Common Market of South America) plus Bolivia and Chile, characterized by deregulation, privatization and decentralization developed in these countries. This agreement essentially contemplated a policy of open skies (free access and lack of capacity limits), for the whole route at that time was not covered by bilateral agreements (Lipovich, 2009). And thirdly, the Association of Caribbean States (ACS) adopted in 2000, the Principles for a Common Commercial Air Transport Policy for the subregion of member countries (although work and approval of certain agreements began in 1995) (ACS, 2000). Definitively, the common features of all these agreements were free market access, freedom of supply and tariff freedom (Ospina, 2001). Alongside these multilateral agreements the Latin American Civil Aviation Commission (CLAC) regional specialized agency, has followed closely the process of liberalization of the sector providing support and guidance to different regional policies through the so-called Recommendations and Resolutions (CLAC, 2015).

Colombian market. One of the most important barriers for access to markets are rules and controls for routes, capacity and tariffs. As regards to local or domestic markets, during the past 25 years Colombia has evolved from a protectionist scheme to a supervised freedom scheme. Although access to the national market has been gradually liberalised recently there is still an established maximum number of operators for passenger routes and there is a ceiling on airfare prices still in effect. Within this policy of flexibility, the great economic crisis in Colombia from 1999-2002 resulted in the contraction of the market and with it the bankruptcy and disappearance of certain national airlines, as well as a decrease in demand resulting from the terrorist acts of September 2001 in United States and an increase in the price of oil. The circumstances motivated the national government to intervene in the national air market, defining criteria and general guidelines with regards to offer, establishing a maximum number of designations for route origin/destination and greater control by Aerocivil when authorising new projects or routes. There was even the obligation to constitute cautions when presenting project for constitution of a new company, with the aim of organising regular air transport, and strict requirements for suspension or cancellation of services were defined. In 2006 the policy eliminating some of the barriers (for example: extension of quotas for operators by route, flexibility of requirements with respect to the minimum number of aircraft, etc.) (Fedesarrollo, 2011).

As regards the liberalization of air fares in Colombia from 1992 to the publication of Aerocivil Resolution 3299 of 2007 (about national and international rates of scheduled air transport of passengers), the intervention of Aerocivil in aeronautical tariffs consisted the approval of tariffs proposed by airlines for a given route and not in direct taxation thereof. The proposed rates and conditions should comply with technical criteria of equity and adequacy laid down in Aviation Regulations of Colombia. Resolution 3299 of 2007 changed the tariff regime by eliminating minimum fees for companies in domestic and international air transportation. The resolution stipulates that companies can freely set rates, provided that such rates are not higher than the Aerocivil has approved for other. The immediate effect of tariff liberalization was a substantial reduction in tariffs set by companies for both domestic and international destinations. This effect was consistent with the purposes of competition policy and also with the promotion of tourism related services. Therefore, the decision to eliminate minimum prices whose effect was to increase competition in the market, was in line with

government policy to promote tourism, and was also consistent with the principle of open competition established in the General Tourism Law (Law 300 of 1996) (Miranda and Gutierrez, 2008).

In Colombia the entry of private air carriers into the market with a business model FSC (Full-Service Carrier) occurred soon after the liberalization of the sector (early 90s). But the market entry of the LCC's (Low-Cost Carrier) was many years after the liberalization. The two only ones LCC's began their activities in the Colombian market, and even today operations, are include EasyFly (established in 2006 and which began operations in 2007), and VivaColombia (set-up in 2009 but which began operations in 2012). The public company SATENA (acronym of *Servicio Aéreo a Territorios Nacionales*), the second oldest airline in Colombia, provides services exclusively to regional destinations, reaching the most remote areas of the country. Finally, the market (both domestic and international routes) is dominated by Avianca, former flag carrier of Colombia (and oldest airline in the country), and today a private company (Aerocivil, 2015f).

With respect to international markets, integration and flexibility initiatives for air traffic in Latin America have progressed spurred on fundamentally by aeronautical authorities and commerce. Colombia has been no stranger to this panorama of world development, having passed from a protectionist model with restricted access and tariff control to an intermediate focus of gradual access starting in the 1990s. During the past 25 years achievements include not only a regional agreement but also a relationship of bilateral agreements whose aim has been the harmonisation of policies in the granting of traffic rights, regulation of conditions for access to markets and fluidity of air transport. This process of liberalisation of traffic in Colombia has been undertaken in 3 fundamental stages: the stage started at the beginning of the 1990s with the opening of commerce, and the implementation of a model in which the limiting factors that were eliminated with regard to foreign investment in airlines operating in the country and permission for more companies to operate in the local market. Finally, as of 2009 a policy of complete deregulation is consolidated, through the promotion of agreements for greater liberty up to the so-called open skies with countries that have air connections with the country to guarantee a completely free market, with the aim of advancing towards free access to the market and tariffs (ORE, 2009). Currently, Colombia has signed multilateral agreements with the nations of the Andean Community of Nations 33 bilateral agreements

established formally to regulate international air transport and 3 reciprocal relations, distributed thus: 21 in Americas (of which 18 are Bilateral Air Service Agreements), 12 in Europe and 3 in Asia. Bilateral agreements were also signed with Belgium, the UAE, Barbados, Singapore, Korea, Paraguay, Iceland and Turkey (ORE, 2011; IADB, 2007; CAF, 2006).

## **5. Effect of public policy on the air transport sector**

### **5.1 Evolution of sector indicators**

It can be affirmed that there are three milestones marking the before and after of air transport development in Colombia. The first milestone is the process of liberalization of the sector that began in 1991. The 2nd milestone is the regulation laid down by the government through National Department of Planning for the year 1994 (DNP, 1994), which establishes institutional and financial restructuring for the aeronautics sector, as well as the plan for expansion of the airport and aerospace systems, which derived in among other things, the start of a program for the concession of some airport in the network to the private sector (1st, 2nd & 3rd concession, and the privatization of the country's largest airport, Bogota-El Dorado). The 3rd relevant milestone is the 1st definition of an important set of specific public policies exclusive to the Colombian air transport sector in the national development plan for 2006-2010 (DNP, 2006). As the majority and the most important concessions were made during the 1st decade of this century, this is the period of the great leap of the air transport industry.

Therefore, based upon these events, to the 1st indicator, we can clearly see a growth of total passenger traffic between 1991 and 2014 of 420 per cent and total air cargo between 1991 and 2014 increase 200 per cent (Aerocivil, 2015g). The liberalization of air transport (1991) was relevant to the beginning of the great development of industry, coming from a decade of almost zero growth. The 1st and 2nd generation concessions did not have a prominent impact in the growth of industry, and the situation was also hurt by the great economic crisis experienced in Colombia between 1999 and 2002. However both the privatization of the country's main airport (Bogota International Airport) in 2007 as the third generation of concessions (2007-2010) promotes the growth of air transport.

Connectivity. As regards connectivity between Colombia and the rest of the world (international routes) between the years 2002 and 2007, the number of international routes to

and from the Colombian airports increased by 39 per cent, and the frequency of international flights increased by 34 per cent during the same period (IATA, 2007). By 2010 there were already 77 active international routes to and from Colombia (Oxford Economics, 2011). As regards principal international routes, those with the greatest volume of international passenger traffic to and from Colombia, growth has been very important during the period 2004-2014 with respect to all the connected regions, but mainly with North America (144%) and Europe (150%) (Aerocivil, 2015g).

Demand. In relation to the measurement of real or effective passenger traffic (RPK), in 2013 in all of the airports in Colombia and all of the groups both national and international, 37 thousand millions of passenger-kilometres were transported. The RPK grew 12 per cent with respect to 2012 (Aerocivil, 2015h), more than double the world average growth rate of 5.2 per cent (ICAO, 2014).

Colombian airlines have responded to growing demand in the market, offering more seats and more flights. During 2009-2013 the offer of seats for the international sector grew by 43 per cent, and the growth of seats in the national sector grew by 53 per cent. As regards flights offered by the airlines, during the same period, these grew by 30 per cent for international flights and 17 per cent for national flights (ATAC, 2014).

## **5.2 Colombian air transport in the international context**

Sustained growth of Colombian air transport has been reflected in international indicators. For the period 2005-2013 annual increase for total number of passengers in Colombia has been 10.5 per cent, more than twice the world average and two thirds above the average for the Latin American and Caribbean region (ACI, 2014, 2010, 2008, 2007; Aerocivil, 2014a).

For the L&C region (and for 2013) the Bogotá International Airport-El Dorado is the 3rd most important regional terminal in terms of total passengers, after the airports of São Paulo (GRU) and Mexico City (MEX) and the 1st in total air cargo (Aerocivil, 2015a; AICM, 2015; ALTA, 2014; GRU, 2015).

### **5.3 Economic dimension of Colombian air transport**

In this essay the dimension and economic impact of the Colombian air transport industry is measured from 3 sources: a) by its contribution to GDP, b) support to other industries, and c) by creation of employment.

Contribution to GDP. The contribution of air transport GDP to national GDP in Colombia has been practically constant during the last decade, about 0.43 per cent overall it has shown an uninterrupted an important increase since 2010, reaching 0.52 per cent for the year 2013 (Banco de la República, 2015).

Support to other industries. The transport of cargo by air is an important building block of Colombian foreign trade. During the past decade (2003-2013) the average annual growth of exports by air was 16.78 per cent, while the average annual growth of total Colombian exports was 8.82 per cent. Imports by air cargo also show a positive annual growth average, albeit more modest, 1.39 per cent (Ministerio de Transporte, 2014; MinCit, 2015). It is true that in terms of tonnage maritime transport has the greatest share of total exports, 98 per cent, but in terms of value maritime transport has a share of 85 per cent, and air transport only 10 per cent. But if the transport of coal, petroleum and petroleum derivatives are excluded, the participation in the value of exports by air might gear is 25 per cent of the total (MinCit, 2014).

And finally mention that the contribution of air transport to tourism is relevant, especially if one considers that in Colombia tourism is the 3rd most important source of foreign exchange after oil and coal (MinCit, 2015). For the period 2004-2004 the increase in visitors from abroad that entered by air was 186 per cent; in 2013 1.8 million tourists enter the country by air, 86 per cent of the total, the remainder entered by sea on cruise ships (MinCit, 2015).

Generation of employment. Nowadays the air transport industry in Colombia generates approximately 124,000 jobs distributed as follows: a) 55,000 direct jobs; b) 44,000 indirect jobs, associated with the supply chain of the industry, and c) 25,000 induced jobs. And in parallel, is promoted the creation of 198,000 positions in related industries, principally in the tourist sector, as a result of the catalytic effects of the air transport industry (Aerocivil, 2015b; Oxford Economics, 2011).

## **6. Continuity of public policy in the air transport sector**

The Colombian government will continue offering stability and strengthening public policy for air transport. On one side, with the aim of covering the delay in public investment in infrastructure and technology with respect to the international sector, the Colombian Air Navigation Plan 2013-2019 (Aerocivil, 2015c) has as its fundamental goal to increase coverage, quality and competitiveness of the airport infrastructure improve the service rendered, security and satisfaction of the airport users. According to this plan for the period 2013-2019 investment needs totalled USD 1.84 billion (constant 2012) which are distributed according to the following formula: a) airport infrastructure: 63.4 per cent; b) aeronautic infrastructure: 19,3 per cent; c) airport security: 11,7 per cent; d) institutional structuring: 5,6 per cent.

And on the other hand, the national development plan for 2014-2018 (DNP, 2014) shows a clear tendency to the continuity of public investment policy in transport infrastructure in general and air infrastructure in particular. The main objective on the subject of transport infrastructure is to increase the rate of investment. With the aim of closing the breach of infrastructure and improving connectivity conditions for the country, the government will increase investment in the transport section (all modes) to level of 3 per cent of annual GDP and will sustain this for the following decade.

## **7. Conclusions**

The most relevant public policies for the air transport sector in Colombia were implemented halfway through the 1st decade of this century, after the sector experienced a normalisation and stabilisation of its institutional framework that began in the first-quarter of the 20th century ending practically halfway through the 1990s. It wasn't until 2006 when the Colombian national government, in view of the revolution of the industry indicators, really understood the strategic importance of air transport for the national economy. For this reason, although certain policies for the sector were already being implemented in national development plans and other legislative instruments (*ad hoc* norms and decrees) since the mid 1990's it was only until the latter half of the 1st decade of 2000 when the most important public policies for their transport emerge into national development plans for the periods



2006-2010 and 2010-2014. These were implemented, administered and controlled principally by the National Aeronautical Authority, Aerocivil, and to a lesser extent by the National Agency for Infrastructure. Industry indicators show that both the airport concession program to the private sector, undertaken in four phases between 1996 and 2014, along with deregulation and progressive liberalisation of the commercial sector, which began in 1990s were fundamental for the growth, consolidation and strengthening of the Colombian air transport industry both locally and internationally. The impact and effects of public policy on air transport illustrate clearly the indicators shown here. These policies have not only catapulted the industry but have also meant that air transport on the one hand, contributes significantly to national wealth, and on the other hand supports and stimulates growth in other strategic sectors in the country, for example tourism and international trade.

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