

## CHAPTER 8

### CONCLUSIONS AND RECOMMENDATIONS

#### 8.1 INTRODUCTION

It will be recalled that the aim of the study was to determine and quantify the impact of the South African aviation policy in Africa, as reflected in the design of its BASAs, on air passenger traffic flows over a selected period. The study focused specifically on five air transport markets. The following research objectives were identified:

- To examine liberalisation of air services in Africa, with particular reference to the Yamoussoukro Decision;
- To review developments in the South African aviation policy overall and also with particular reference to Africa;
- To identify factors that have influenced liberalisation of air services between South Africa and its African air bilateral partners over the selected time period;
- To test the simultaneous impact of the South African aviation policy in Africa and the key influencing factors on air passenger traffic flows between 2000 and 2010. In particular, to measure the overall impact of the given policy in Africa and in each of the four regions, as well as the impact of its individual provisions.

In order to achieve these research objectives certain hypotheses were formulated:

#### **Null hypothesis**

**H<sub>0</sub>:** There is no relationship between the South African aviation policy in Africa and the South African – intra-African air passenger traffic flows.

### **Alternative hypothesis**

**H<sub>1</sub>**: There is a relationship between the South African aviation policy in Africa and the South African – intra-African air passenger traffic flows.

The same two hypotheses were formulated for each of the four other regions, namely the SADC, East, West and North African.

Objectives 1 and 2 were achieved through the literature review. It was also established through the literature survey that the impact of the aviation policy on air passenger traffic flows could not be tested in isolation as a multitude of other factors could also have an impact. Variations in these factors could mean that apparently identical air policy measures could exert disparate effects on such flows (Warnock-Smith & Connell, 2011). In fact, air policy liberalisation can be seen as a supply stimulus which may or may not have an effect on actual supply levels. This is partly due to specific network characteristics and complex supply and demand interactions (ICAO, 2004). To attain objectives 3 and 4, the study followed a mixed research methodology, where both the qualitative and quantitative approaches were used.

To ensure that the most significant and imperative factors impacting on the said flows had been identified, the study employed a two-round Delphi technique. The aim of this qualitative phase was to determine the opinions of aviation experts on features of BASAs, as well as those not related to BASAs, that they viewed as having an influence on these flows between country-pairs in Africa. This was essential to ensure that factors unique to the region from the industry perspective had also been identified.

The Delphi process generated an exhaustive list of 25 statements of factors related to BASAs and 48 statements non-related to BASAs. The consensus level for all statements was above the 51% threshold level with the exception of the “*break of gauge provision*”. These factors were subsequently plotted under factor categories identified from the literature, to create a conceptual framework of the relevant BASA and non-BASA factors. The ten main factor categories established were: 1) *government responsibility*, which was

further subcategorised into *aviation policy* and *all others*; 2) *external economic factors*; 3) *external political factors*; 4) *supply*; 5) *intangible factors*; 6) *demand*; 7) *socio-economic and geographic factors*; 8) *geo-economic factors*; 9) *external health factors*; and 10) *force majeure*. Given the importance of the aviation policy in this research, the aviation policy subcategory was further subdivided into a) *air services agreements' features* and b) *others*. The results of the Delphi were essential in bridging the gap between the literature review and the quantitative research.

The next step was to determine all factors impacting on the given flows that had been statistically measured and quantified in existing secondary research. Following this, all the factors identified through the Delphi and secondary literature, the majority of which were intertwined and interlinked, were assessed in relation to the availability of consistent and reliable data pertaining to them as well as the ability of the empirical model to statistically quantify and measure these over the chosen period in the African context. This step filtered the independent factors or predictors and narrowed them down to 12 in total.

The quantitative phase aimed at estimating and statistically quantifying the impact of the degree of restrictiveness or liberalisation of the respective BASAs, as measured by the four variants of the ALI. It also aimed at identifying which specific provisions of BASAs have the most significant impact on air passenger traffic flows.

Given the above factor filtering process, the preliminary empirical equation was then formulated and included one dependent variable (*traffic*) and 12 predictor variables, discussed comprehensively in Chapter 6. Six time-invariant explanatory variables or predictors, namely *distance*, *border*, *colony*, *language*, *Partner* and *Reporter Island*, which displayed no variation in their values over the 11 year time period, were omitted from the regression model as they had no power to predict the variation in *traffic*. Four variables, namely *traffic*, *GDP*, *trade* and *population*, were transformed through a natural logarithmic transformation. This made the distribution more normal, enhanced symmetry and stabilised the spread, as well as helped the variables to fit into the model better.

The final panel data regression model constructed for all four variants of the ALI, incorporated one dependent variable, namely air passenger traffic flows ( $\ln(\text{Traffic})$ ) and six predictors, namely  $\ln(\text{GDP})$ , population size ( $\ln(\text{Population})$ ), the presence of a low-income country (*low income*), the number of years BASAs have been in place (*ASA age*), magnitude of services trade flows ( $\ln(\text{Trade})$ ) and the degree of liberalisation of the policy (*ALI*). The *ALI* comprised seven market access features of BASAs.

A fixed one-way panel regression technique was applied to the selected 11 year panel data set of 42 African countries, representing five markets: intra-African; the SADC; West African; East African and North African. The simultaneous impact of the six predictors was tested in all five markets. Results differed for the various regions, demonstrating that different predictors were statistically significant. Where the impact of the aviation policy was found to be significant, individual provisions were tested for their impact on air passenger traffic over two time periods: 2000 – 2010 and 2006 – 2010.

The quantitative results presented in Chapters 6 and 7 are now interpreted, followed by conclusions and implications drawn from these results, with contributions and limitations of the study, as well as recommendations for future research.

## **8.2 SUMMARY OF THE SIGNIFICANT PREDICTORS IN THE FIVE MARKETS**

The objectives and the sophistication of the aviation policies, as well as the ability to implement them, differ across various African countries. As was discussed in previous chapters, South Africa has a well-developed aviation policy, with very clear objectives and clearly defined implementation plan in relation to the intra-African market liberalisation and the YD implementation. The country's aviation policy supports the needs of its trade and tourism sectors, while taking into account the continental integration initiatives, such as those embodied in the African Union and the objectives of the NEPAD. As derived from the literature survey, the enthusiasm evidenced by the African counterparts to liberalise their respective air transport markets with South Africa in line with the YD agreement varies across the Continent. To date, the relationships between South Africa and its

African air counterparts remain heavily reliant on BASAs, which have seen gradual liberalisation over the 11 period.

The analysis of the BASAs and MOUs revealed that *multiple designation* had been adopted in 71% of the agreements by the end of 2010. *Grant of fifth freedom traffic rights* was allowed in 53% of the 45 agreements. In spite of the liberalisation initiatives, capacity remained restricted in 58% of the bilateral agreements; however 42% of the agreements permitted *free determination*, considered as the most liberal regime. Significant liberalisation progress in relation to ownership had been achieved in 42% of the BASAs, allowing for the *principal place of business* clause, which was more liberal than the YD *community of interest* clause. The results also indicated that 33% of the BASAs permitted *free pricing*, in line with the YD. Overall there were permissive policies in 60% of the agreements regarding the various *cooperative arrangements*. The *exchange of statistics* was stipulated in all 45 agreements. From the results it was evident that the most restrictive regimes were the most frequent with pricing, capacity and ownership, as well as the granting of fifth freedom traffic rights. Cooperative arrangements were in general allowed and the exchange of statistics was required in all the bilaterals.

In comparison to the South African – intra-African air bilateral situation, secondary research into 2 300 BASAs by Rousova (2009) representing 184 countries worldwide revealed that:

- 61% of the bilaterals permitted *multiple designation*;
- *Grant of fifth freedom rights* was permitted in 72% of BASAs;
- 57% of BASAs remained highly restrictive in terms of capacity;
- Only 6% of BASAs allowed a *principal place of business*;
- Only 17% of bilateral agreements allowed *free pricing*;
- *Cooperative arrangements* were not allowed in 95% of BASAs;
- The *exchange of statistics* was stipulated in 65% of bilaterals.

From the above it is evident that market access features, pertaining to *fifth freedom traffic rights, cooperative arrangements, capacity and exchange of statistics* are more liberal worldwide than in the South African – intra-African market. On the contrary, other market access features, pertaining to *designation, ownership and pricing* are more liberal in the latter.

It can therefore be concluded that the diversities across African economies, in particular regarding real incomes, population sizes, the size of the aviation and tourism sectors as well as the varying degrees of aviation policy development and implementation, lead to heterogeneous views and approaches towards intra-African air transport liberalisation, *inter alia*, hindering and slowing down its progress. Although gradual progress has been achieved in easing the South African – intra-African restrictions within the bilateral framework since the adoption of the YD, more needs to be done with respect to granting liberal traffic rights, removing capacity, tariff and ownership restrictions. For example, the *substantial ownership and effective control* clause is still predominant in the majority of the South African – intra-African BASAs and can be regarded as a major inhibitor of foreign investment and regional cooperation. The absence of the *fifth freedom* traffic rights in many BASAs can also be perceived as an impediment to further liberalisation and improved intra-African connectivity, by contributing to distortion in competition and irrational use of aircraft utilisation.

As stated earlier, the fixed one-way panel regression results differed in each of the five markets, identifying different predictors as having a statistically significant impact on air passenger traffic flows. The results of the F test, testing the significance of the panel regression model for all four variants of the ALI for the five markets, were found to be statistically significant. The null hypothesis was thus rejected, indicating that there was a simultaneous impact of the six predictors on the dependent variable *ln(Traffic)* for the intra-African market, as well as for the regional markets, irrespective of the ALI variant used. The predictors that were found to be statistically significant in each of the five markets are discussed in more detail in the subsequent sections.

### 8.2.1 Discussion of the significant predictors in the South African – intra-African air transport market

The results of the panel regression model, represented by a full panel of 42 African countries over the 11 year time period, indicated that three predictors had a statistically significant simultaneous impact on air passenger traffic flows for all four variants of the ALI, while controlling for all the other variables in the model. These were  $\ln(\text{Trade})$ ,  $ALI$  and  $\ln(\text{GDP})$ , the results of which are summarised in table 7.4. The coefficient of determination or R-square value for modelling the South African – intra-African market returned an extremely high value of 0.976, which indicated that, for all four variants of the ALI weighting system, 97.6% of the variability of air passenger traffic flows was explained by the six predictors, namely  $\ln(\text{GDP})$ , population size ( $\ln(\text{Population})$ ), the presence of a low-income country (*low income*), the number of years BASAs have been in place (*ASA age*), magnitude of services trade flows ( $\ln(\text{Trade})$ ) and the degree of liberalisation of the policy ( $ALI$ ), as mentioned in the hypotheses. These findings support the notion that liberalisation of air services as reflected through the design of the BASAs is a necessary but not a sufficient condition for traffic growth. No new services will result if there is no underlying demand to support them. For example, if income levels in source countries decrease, demand may still decline even if fares are reduced and service levels increase (Warnock-Smith & O’Connell, 2011).

The results confirmed a partial positive impact of the  $\ln(\text{Trade})$  predictor on air passenger traffic flows, while controlling for all the other variables in the model. This was in line with the expectations that such flows were positively impacted by the magnitude of the services trade flows; it was also supported by secondary research, the results of which indicated an increase of traffic by between 13% and 35% for every unit increase in services trade flows (InterVISTAS-ga<sup>2</sup> Consulting, Inc., 2006; Myburgh *et al.*, 2006; InterVISTAS-EU, Consulting, Inc., 2009; Rousova, 2009). The panel regression results showed that for every unit increase in the  $\ln(\text{Trade})$ , the  $\ln(\text{Traffic})$  would increase by 32%, irrespective of the ALI weighting system used.

Unlike goods, services are perishable because they are consumed at the same time and place as they are produced and therefore cannot be stored in inventory. As services usually imply a close interaction between the seller and the consumer, the sale of services increases the need for face-to-face communication and is an important determinant of the demand for travel (InterVISTAS-ga<sup>2</sup> Consulting, Inc., 2006:65). From the panel data, the CAGR<sub>00-10</sub> for services trade flows between South Africa and the 42 African countries was found to be +26%, indicating the sector's notable growth and increased movement of people. This growth might possibly be attributed to: 1) the South African government's commitment to foster trade as one of the priority sectors in line with its aviation strategy and 2) the various regional economic communities, such as WAEMU, CEMAC, EAC, COMESA and SADC *inter alia*, which have been working on increasing inter- and intra-community trade, investment and movement of goods and people.

The panel regression results confirmed a positive partial impact of the *ALI* predictor on air passenger traffic flows, while controlling for all the other variables in the model. This was in line with the expectations that liberalised BASAs, reflecting the key policy levers of South Africa's aviation policy in Africa, lead to an increase in the South African – intra-African air passenger traffic flows. In Africa, where road and rail infrastructure is practically non-existent and air traffic is often extremely expensive, introducing such agreements may be the only viable alternative for improved market access, more competition, increased frequency and capacity, leading to better air service quality, variety of choice for consumers and a decrease in prices. It can therefore be concluded that the artificial constraints posed by BASAs hamper the growth of the South African – intra-African air traffic flows, represented by a diversity of air transport markets with different levels of economic, social and political development.

The panel regression results indicated that for every unit increase in the *ALI*, the *ln(Traffic)* would increase by about 1%, irrespective of the *ALI* weighting system used. These findings were supported by secondary research (InterVISTAS-ga<sup>2</sup> Consulting, Inc., 2006; Myburgh *et al.*, 2006; Warnock-Smith & Morrell, 2006; Grosso, 2008; Rousova & Piermartini, 2008; InterVISTAS-EU Consulting, Inc., 2009; Rousova & Piermartini, 2009;



Rousova, 2009; Grosso, 2010), the results of which showed an increase of air passenger traffic by between 1% and 7% for every unit increase in the *ALI*.

The quantitative results indicated that some progress had been achieved in relaxing the South African – intra-African BASA restrictions over the 11 year time period. By the end of 2010 only 17 bilaterals had been revised between South Africa and its respective African counterparts, in line with the key elements of the Yamoussoukro Decision. They were with: Benin, Botswana, Cameroon, Egypt, Ethiopia, Gabon, the Gambia, Ghana, Kenya, Lesotho, Liberia, Libya, Rwanda, Senegal, Sierra Leone, Togo and Uganda (Sithole, 2012). Thus, the regional distribution of the 17 bilaterals between South Africa and the respective African counterparts was as follows: nine (52.9%) bilaterals with the West African region, four (23.5%) with the East African, two (11.8%) with the North African and two (11.8%) with the SADC region. The liberalisation target of the YD implementation for 2010 as set by the Airlift Strategy was 34 BASAs. It must be noted that the successful implementation of the liberalisation target was linked to the readiness and willingness of the African states to implement the key elements of the YD with South Africa. It should also be recognised that while air transport liberalisation could bring many potential benefits to this air transport market, ranging from wider consumer choices to the growth of trade, tourism and international investment, many inherent structural, institutional and protectionist hindrances to liberalisation still exist within several member states. The partial impact of the *ALI* predictor on air passenger flows in each of the respective regions will be discussed in the subsequent sections.

As expected, the results of the panel regression confirmed a positive partial impact of the *GDP* predictor on the said flows, in line with the assumption that the magnitude of economic activity had a positive impact on such flows between two countries. Most research concluded that these flows grew disproportionately faster than the level of income. Thus, for every unit increase in the *GDP*, the  $\ln(\text{Traffic})$  would increase by about 79%, irrespective of the *ALI* weighting system used. The positive relationship was supported by secondary literature, indicating between 7% and 68% increases in air passenger traffic flows for every unit increase in the *GDP* (InterVISTAS-ga<sup>2</sup> Consulting, Inc., 2006; Myburgh

*et al.*, 2006; Warnock-Smith & Morrell, 2006; InterVISTAS-EU Consulting, Inc., 2009; Rousova, 2009; Grosso, 2010).

The following sections discuss the significant predictors in each of the four regional markets.

### **8.2.2 Discussion of the significant predictors in the South African – SADC regional air transport market**

In the South African – SADC regional market, represented by a panel of 13 countries over the selected period, three predictors, namely the magnitude of services trade flows ( $\ln(\text{Trade})$ ), key aviation policy levers as reflected by the respective BASAs ( $\text{ALI}$ ) and the size of the economy ( $\ln(\text{GDP})$ ), were found to be statistically significant. The significant predictors and the signs of their partial regression coefficients were identical to the results of the overall market. As evident from table 7.5, the extent of their impact on air passenger traffic flows differed, for each of the significant predictors, from the ones in the overall market.

In particular, the results confirmed that for every unit increase in the  $\ln(\text{Trade})$ , the  $\ln(\text{Traffic})$  would increase by between 66% and 72%, depending on the ALI weighting system used. The partial impact of this predictor on the South African – SADC air passenger traffic flows was more substantial than in the South African – intra-African air transport market. This relationship was also substantiated by the  $\text{CAGR}_{00-10}$  for services trade flows between South Africa and the 13 SADC countries of +25%, indicating the sector's notable growth and increased movement of people.

As mentioned earlier, trade, together with tourism, are instrumental for economic growth through the increase in the GDP and employment. The South African government identified them as the priority sectors and aligned air transport with them. In terms of BASA negotiations in line with the YD key principles the SADC region had been prioritised both in the Airlift and the *Vula Sky* Implementation Plan and was flagged in the Tourism Growth

Strategy. In his research, Negasi (2009) found that on the intra-community level South Africa contributed the highest share (44%) in intra-SADC trade, followed by Zimbabwe (16%) and Namibia (11%).

Aligned with the principles of the YD, the free movement of people, goods and services within the community has been supported by various initiatives, such as the UNIVISA initiative, the SADC Trade Protocol signed in 1996, the SADC Protocol on Transport, Communications and Meteorology and harmonisation of trade liberalisation created by SADC, COMESA and EAC, as well as the Millennium Development Goal on air transport. The main objective of the latter is to improve air transport services, reduce fares and facilitate the movement of goods and services in the community as well as in all African countries by 2015.

The UNIVISA, if implemented, would considerably improve the ease of travel and increase flows to and from the region, as a number of countries within the community still require a visa. For example, it is currently required between South Africa and Angola or the Democratic Republic of the Congo or Madagascar or Tanzania and even between Zimbabwe and South Africa. One may therefore conclude that various instruments and tools are required to achieve deeper integration between the services that already exist in the SADC; the success of which lies in their effective implementation, which over the last decade has seen challenges as the various members are at different stages of development.

A breakdown of the number of tourist arrivals to South Africa indicated that a high proportion (69%) of 8 073 552 tourists were residents of the SADC, 10% of whom arrived by air (Statistics South Africa, 2011). The use of road transport as a preferred mode can be attributed to good road infrastructure and the proximity between South Africa and the SADC member states. In the South African – intra-African context, foreign air tourist arrivals from SADC represented the majority of traffic flows (80%), clearly highlighting the importance of this regional air transport market for South Africa.

The panel regression results also indicated that for every unit increase in the *ALI*, the air passenger traffic flows would increase by between 1% and 2%, depending on the *ALI* weighting system used. This indicates that less restrictive bilateral agreements in the South African – SADC air transport market do lead to increases in flows of this type, similar to liberalisation experiences achieved in other regions of the world.

Over the selected period, gradual liberalisation has been taking place between South Africa and the SADC, as depicted in figure 6.3. By the end of 2010, the BASAs between South Africa and Botswana as well as Lesotho were fully compliant with the main YD principles, which can be regarded as a success story. In certain instances, less restrictive BASAs may have been signed to stimulate further bilateral traffic. Overall, the South African – SADC air transport market represented a heterogeneous picture. On the one hand, some governments and airlines substantially funded such as SAA clearly perceived the benefits of further liberalisation in existing markets on a less restrictive basis. On the other hand, certain governments were extremely protectionist towards their national air carriers, safeguarding them from competition through very restrictive BASAs. For example, in Mozambique and Angola the governments opposed rapid liberalisation, but were willing to agree to gradual liberalisation if it was accompanied by measures which strengthened their weak airline industries and allowed them to participate in and benefit from the process.

BASA negotiations for Angola and Mozambique were prioritised in the Airlift Strategy and the Implementation Plan. By the end of 2010, gradual progress had been achieved in relaxing the restrictive bilaterals with Angola and Mozambique; however capacity and ownership restrictions prevailed in the former BASA, while capacity, ownership and pricing restrictions controlled the latter. In Angola and Mozambique, the national carriers TAAG and LAM Mozambique airlines are weak and cannot effectively participate and benefit from the liberalisation. Restrictive BASAs are therefore seen as a means of protecting the national carrier by controlling capacity and limiting competition.

Despite the efforts made by those SADC countries who have been gradually revising their bilaterals with South Africa, restrictive regimes were still dominant by the end of 2010, although to a lesser extent than in 2000. In summary:

- *Capacity* restrictions prevailed in BASAs with Madagascar, Malawi and Zimbabwe;
- *Ownership* restrictions prevailed in the BASA with Mauritius;
- *Capacity* and *ownership* restrictions prevailed in BASAs with Namibia and Tanzania, where the governments were protecting their weak national airlines. In the instance of Air Tanzania, the national air carrier would have not been competitive enough in a fully liberalised environment; therefore the government approached liberalisation with South Africa by gradually removing restrictions on *rights, tariffs, designation and cooperative arrangements*;
- Restrictive clauses in relation to *capacity, ownership and cooperative arrangements* prevailed in the BASA with Zambia;
- The two most restrictive bilaterals in this region were with Seychelles and Democratic Republic of the Congo.

The panel regression results also found that for every unit increase in the *GDP*, the air passenger traffic would increase by between 56% and 58%, depending on the ALI weighting system used. This was in line with secondary research indicating that countries with a larger economic size are anticipated as having a larger volume of passenger air transport services due to higher spend on foreign travel (Endo, 2007). The magnitude of the impact of this predictor in the South African – SADC air transport market was not as substantial as in the South African – intra-African one.

### 8.2.3 The significant predictors in the South African – West African regional air transport market

Although the F test confirmed that the model was statistically significant in the South African – West African regional market, represented by a panel of 17 countries over the 11 years, none of the specified six predictors were found to be significantly different among the countries. Therefore, the null hypothesis could not be rejected. The significance of the model was due to the significant differences among countries regarding air passenger traffic flows in this region. These findings were unexpected for two major reasons:

- Significant liberalisation progress had been achieved over this period in relaxing the very restrictive South African – West African regional BASAs as discussed in section 6.3.1 so that, by the end of 2010, nine BASAs (53%) were YD-compliant, removing *capacity, tariff, ownership, designation, cooperative arrangements* and 5<sup>th</sup> *freedom traffic rights* restrictions. The nine BASAs were with Benin, Togo, Senegal, Cameroon, Gabon, the Gambia, Sierra Leone, Liberia and Ghana and represented three RECs, CEMAC, BAG and WAEMU. In Chapter 3, the liberalisation progress achieved in these RECs was discussed comprehensively and they were identified as the most progressive in terms of implementing the YD within their respective RECs. It is clear that the governments of the nine countries have taken the implementation of the YD further by signing YD-compliant BASAs with South Africa, outside of their RECs. The air transport situation in these nine West African countries is very diverse: for example, in Togo the air transport industry has completely disappeared after several unsuccessful attempts to develop new operators, whereas in the Gambia, Liberia and Sierra Leone, the flag of convenience phenomenon has become particularly important;
- The share of air arrivals from West Africa to South Africa was substantial with 11% in 2000 and 12% in 2010 of total intra-African air traffic, representing the second highest African air transport regional market for South Africa. Air arrivals represented 90% of total arrivals from West Africa and highlighted the importance of

air transport as a means of access to South Africa and *vice versa*. A number of West African countries, such as Ivory Coast, Ghana and Mali were flagged in the TGS as *watch-lists markets*. Nigeria in particular was prioritised in the TGS, the Strategy and in the Implementation Plan. Although the BASA between Nigeria and South Africa had been gradually relaxed over the specified period in relation to *pricing, designation and cooperative arrangements*, artificial *capacity, ownership and traffic rights*, restrictions still prevailed by the end of 2010. The absence of an effective air transport hub airport in the West African region together with limited intra- and inter-regional air links contributed to poor air availability and access, which could possibly be improved through the exchange of fifth freedom traffic rights and the effective use of cooperative arrangements, such as code-sharing.

It is therefore recommended that further research is undertaken to establish the impact of the selected predictors on the South African – West African regional air passenger traffic flows, either by looking at sub-samples within the region or by selecting a different time period.

#### **8.2.4 Discussion of the significant predictors in the South African – East African regional air transport market**

In the South African – East African regional market, represented by a panel of seven countries over the same period, four predictors, namely the presence of a low income country in a country-pair (*Low\_Inc*), the magnitude of services trade flows (*ln(Trade)*), key aviation policy levers as reflected by the respective BASAs (*ALI*) and population size (*ln(Population)*), were found to result in a statistically significant impact on air passenger traffic flows. The presence of a low income country in the country pair and the size of the population were unique to the South African – East African regional air transport market. The panel regression results are summarised in table 7.7.

The results confirmed that the presence of a low income country in a country-pair had a partial negative impact on the given flows between those two countries. Thus, for every

unit increase in the *Low\_Inc*, such flows would decrease by between 57% and 58%, depending on the ALI weighting system used. This predictor captured the relatively low attractiveness of low income countries for passengers from other countries, as well as the impact of low income on travel and demand patterns. These results were substantiated by Rousova and Piermartini's study (2008) which found that a unit increase in the *Low\_Inc* predictor would decrease air passenger traffic flows by between 19% and 74%. This was particularly relevant as the East African region was represented by six low income countries and one lower middle income country.

As in the other two markets, the results confirmed that flows of this kind were partially positively impacted by the magnitude of the services trade flows. Thus, for every unit increase in the *ln(Trade)*, *ln(Traffic)* would increase by 44%, irrespective of the ALI weighting system used. From the panel data, the  $CAGR_{00-10}$  for services trade flows between South Africa and the seven East African countries, which are members of the COMESA and EAC, was found to be +27%. This figure indicated the sector's notable growth and its increased strategic importance. Of note is that in 2008 at the Tripartite Summit involving the SADC, COMESA and the EAC, discussions centred on achieving acceleration of economic integration on the Continent, in line with the Abuja Treaty and the African Union's objective of the formation of one continental economic bloc. The summit provided a platform for the three blocs to join forces in forming a larger Free Trade Area (Kalaba & Tsedu, 2009). These blocs have been actively working on the creation and implementation of the joint competition regulations, which were adopted in 2006; their implementation, however, still remains pending in all three regional groupings. Nonetheless, by the end of 2010, four BASAs (57%) with Ethiopia, Rwanda, Uganda and Kenya, were in line with the YD key principles: all four allowed for the *principal place of business*, a clause more liberal than the YD's *community of interest*. The TGS also flagged three East African countries and classified them as a *strategic hub* (Ethiopia), *core market* (Kenya) and a *watch-list market* (Uganda).

The panel regression results confirmed a partial positive impact of the *ALI* predictor on the *ln(Traffic)*, while controlling for all the other variables in the model. The relationship was



similar to the South African – intra-African and South African – SADC air transport markets. This finding confirmed worldwide evidence, in line with the expectations, that liberalised bilateral air services agreements lead to an increase in air passenger traffic flows. Removal of constraints in relation to capacity, tariffs, traffic rights and cooperative arrangements *inter alia*, imposed by restrictive BASAs, allows airlines to compete more effectively and operate more efficiently. The panel regression results found that for every unit increase in the *ALI*, the  $\ln(\text{Traffic})$  would increase by 1%, irrespective of the *ALI* weighting system used. By the end of 2010, significant liberalisation progress had been achieved with Ethiopia, Kenya, Uganda and Rwanda; with restrictions in relation to *tariffs*, *designation* and *cooperative arrangements* gradually relaxed in the bilateral between South Africa and Sudan.

In the East African region, Kenya and Ethiopia represent about two-thirds of the region's seat capacity (Schlumberger, 2010). Both countries operate strong national carriers which have significantly benefited from air services liberalisation through expansion of their regional operation. The use of fifth freedom operations has successfully positioned these two countries as a convenient connection to West and Central Africa. In line with their massive expansion drive, Kenya Airways and Ethiopian Airlines, being two of the five dominant operators on the intra-African routes, have significantly improved their service quality through increased capacity and frequencies as well as access to new routes (Chingosho, 2011). In contrast, Burundi, Rwanda and Uganda are relatively small players in the regional air market with Uganda completely opening up its air transport market after its national carrier was liquidated in 2002. While its own fleet remained stagnant, traffic by other carriers, which have been allowed to operate quite freely, has risen steadily. Uganda, as previously highlighted, is a clear example where liberalised air transport policy has led to substantial growth in tourism traffic and receipts, with traffic increasing by 82% to 350 000 tourists between 2000 and 2004 (Myburgh *et al.*, 2006:10).

As expected, a positive relationship between the size of the population and air passenger traffic flows was established, indicating that for every unit increase in the *Population*, air passenger traffic flows would increase by 0.2%, irrespective of the *ALI* weighting system

used. The results of the secondary research proved to have a more substantial impact on air passenger traffic flows, ranging between 13% and 26% increase (Myburgh *et al.*, 2006; Abate, 2007; Grosche *et al.*, 2007).

### **8.2.5 Discussion of the significant predictors in the South African – North African regional air transport market**

During the selected period, in the South African – North African regional air transport market, represented by a panel of five countries, only one predictor, *GDP*, was found to be statistically significant and positive, in line with the assumptions that the magnitude of economic activity had a positive impact on air passenger traffic flows between two regions. Thus, for every unit increase in the *GDP*, South African – North African regional air passenger traffic flows would increase by 70%, irrespective of the ALI variant used. As previously discussed, this predictor was also found to have a statistically significant impact in the South African – intra-African and the South African – SADC air transport markets. This finding is also supported by Boeing in Fu, Oum and Zhang (2009), which attributes about two-thirds of traffic growth to the GDP growth and the rest to other factors, such as increasing trade, lower costs and improved services. By the end of 2010, the bilaterals with Egypt and Libya were YD compliant. This can possibly be attributed to the success of EgyptAir, which has established itself as a dominant carrier on intra-African routes, as well as to the fact that both Egypt and Libya are members of COMESA.

The impact of the South African aviation policy was not found to be statistically significant in this market which may possibly be ascribed to two main factors:

- Three of the five countries that had an existing BASA with South Africa over the selected period were members of the AMU, within which no YD implementation has occurred;

- In Egypt and Libya, a variety of factors appeared to account for traffic fluctuation, such as the volatility of the international tourist market given recurrent security and political problems.

#### **8.2.6 Summarised overview of the significant predictors in the respective markets**

To summarise, the following significant relationships, while controlling for all the other variables in the model, were established in the five air transport markets over the given time period:

- There was a statistically significant and partial positive impact of the magnitude of services trade flows on air passenger traffic flows in the South African – intra-African, South African – SADC and the South African – East African regional air transport markets. The scale of the impact on air passenger traffic flows ranged between a 32% and a 72% increase for every unit increase in services trade flows, depending on the air transport market and the variant of the ALI weighting system;
- There was a statistically significant and partial positive impact of the key air policy levers, as measured through the design of the respective BASAs, on air passenger traffic flows in the South African – intra-African, South African – SADC and the South African – East African regional air transport markets. The size of the impact on the said flows ranged between 1% and 2% increase for every unit increase in the key policy levers, depending on the air transport market and the variant of the ALI weighting system;
- There was a statistically significant and partial positive impact of the GDP, reflecting the size of the economic activity on air passenger traffic flows in the South African – intra-African, South African – SADC and the South African – North African regional air transport markets. The extent of the impact on such flows ranged between a

56% and a 79% increase for every unit increase in the size of the economic activity, depending on the air transport market and the variant of the ALI weighting system;

- There was a statistically significant and partial negative impact of the presence of a low income country in the country pair on the given flows in the South African – East African regional air transport market. The scale of the impact ranged between a 57% and a 58% decrease for every unit increase in the *Low\_Inc* predictor, depending on the variant of the ALI weighting system;
- There was a statistically significant and partial positive impact of the size of the population on air passenger traffic flows in the South African – East African regional air transport market. It equalled a 0.2% increase for every unit increase in the size of the population, irrespective of the variant of the ALI weighting system.

As discussed above, the impact of the aviation policy on flows of this type, as measured through the *ALI*, was found to be significant in the three markets. The next step was to determine which of the seven features of the *ALI* predictor had a significant partial impact on air passenger traffic flows in the three air transport markets, while controlling for all the other variables in the model. Despite the fact that the *ALI* predictor was found to be insignificant in the North African region, it was decided that for this step, the partial impact of each of the individual *ALI* features on these flows would be tested as the *p*-value for the *ALI* was 0.086 for all four ALI variants.

The impact of the significant features of the *ALI* on these flows in the four air transport markets is discussed in the following section.

### **8.2.7 Significant *ALI* features in the four air transport markets**

As the focus of the study was placed on the impact of the South African aviation policy in Africa on air passenger traffic flows, it was important to run the same panel regression on the data for the five year period from 2006 to 2010 and to compare these results to the 11

year period from 2000 to 2010. The first period represented that during which South Africa embarked on the five year liberalisation campaign driven by the Airlift Strategy and the Airlift Implementation Plan. The results of the panel regression for both periods in each of the respective markets are summarised in table 7.10. The individual *ALI* features which were found to exert a statistically significant impact on the given flows are presented in table 8.1 below.

**Table 8.1: Summary of the significant ALI features for the selected time periods**

Market	ALI features	
	2006 - 2010	2000 - 2010
South African – intra-African	5th freedom traffic rights Capacity Designation Cooperative arrangements	
South African – SADC region	Capacity Designation Cooperative arrangements	5th freedom traffic rights Capacity Tariffs
South African – East African region		Designation
South African – North African region		

Source: Department of Statistics, University of Pretoria (2012)

In summary, *capacity* was the only feature found to have a statistically significant and partially positive impact on air passenger traffic flows in the South African – SADC regional air transport market, both in the five and 11 year periods. The results established that for every unit increase in the *capacity*, such flows would increase by between 10% and 12% for the five year period, and by between 11% and 13% for the 11 year period, depending on the ALI variant used. This was in line with the expectation that the increase in the level of openness of the *capacity* leads to increased air passenger traffic flows between countries and that restrictive regimes in relation to the *capacity* feature of bilateral air

services agreements inhibit air passenger traffic growth. In their study, Rousova and Piermartini (2008) found that a restrictive *capacity* regime decreased air passenger traffic flows by between 4% (Bermuda I regime) and 13% (predetermination), while a liberal capacity regime, such as free determination, increased these flows by as much as 36%. InterVISTAS-ga<sup>2</sup> Consulting, Inc. (2006) forecast a 25% air passenger traffic increase if the capacity regime was changed from predetermined to free determination and an increase by 18%, if it was changed from the Bermuda I regime to free determination.

In the 2006 – 2010 panel regression, three features were established to have a significant impact on air passenger traffic flows, both in the South African – intra-African market and the South African – SADC regional market: *capacity, designation and cooperative arrangements*. The impact of the *capacity* feature on flows of this type was once again found to be partially positive and significant; the results confirmed that for every unit increase in the *capacity*, the said flows would increase by between 5% and 6% in the South African – intra-African market, depending on the ALI variant used.

The results indicated a negative partial impact of the *designation* feature on air passenger traffic flows both in the South African – intra-African and South African – SADC air transport markets, which was unexpected and contradictory to secondary research findings. It is therefore recommended that further research is conducted in these two markets. However, in the South African – East African air transport market, the results confirmed a statistically significant and partially positive impact of the *designation* feature on these flows over the 11 year time period. Thus, for every unit increase in the *designation*, the given flows would increase by between 9% and 20%, depending on the ALI variant used. The results once again confirmed that restrictive features of the BASAs did not stimulate flows of this kind. Secondary research (Rousova & Piermartini, 2008 and Rousova, 2009) confirmed this positive impact and reported that a liberal *designation* regime (multiple designation) increased passenger traffic flows by between 15% and 21%. In addition a study by InterVISTAS-ga<sup>2</sup> Consulting, Inc. (2006) established that restrictive *designation* regimes, in particular those with a single designation, lead to a 21% decrease

in such flows and also forecast a 51% growth if the *designation* regime was changed from single to multiple.

The impact of the *cooperative arrangements* on such flows over the five year time period was found to be partially positive both in the South African – intra-African and South African – SADC air transport markets. This is in line with the expectation that *cooperative arrangements*, when allowed in the BASAs, stimulate air passenger traffic through additional tools such as code-sharing and cooperation by maximising the route opportunities available. According to AFRAA (2012), code-sharing can be perceived as an effective tool for African airlines to widen their reach, increase frequencies and minimise costs. The panel regression results found that for every unit increase in the *cooperative arrangements*, air passenger traffic flows would increase by between 36% and 43% in the South African – intra-African air transport market and by between 21% and 25% in the South African – SADC regional air transport market over the five year time period, depending on the ALI variant used.

The panel regression results confirmed a partially positive impact of the *fifth freedom traffic rights* on air passenger traffic flows in the South African – intra-African air transport market over the five year period, as well as in the South African – SADC regional air transport market over the selected 11 year period. Thus, for every unit increase in the *fifth freedom traffic rights*, air passenger traffic would increase by between 2% and 4% in the South African – intra-African market and by between 3% and 7% in the South African – SADC regional air transport market, depending on the ALI variant used. In a study by InterVISTAS-ga<sup>2</sup> Consulting, Inc. (2006) air passenger traffic flows were forecast to increase by 9% when *fifth freedom traffic rights* were stipulated in the BASAs. This is in support of the notion that such rights establish new air services and expand the network, thereby providing increased access, consumer choice and encouraging competition, which should lead to lower airfares. For South Africa, *fifth freedom traffic rights* could benefit South African airlines through the creation of additional opportunities to convey traffic, provided that *fifth freedom traffic rights* can also be obtained from the relevant third

countries (Department of Transport, 2006:63). In essence, *fifth freedom traffic rights* will mainly benefit strong and effective African air carriers.

A partial negative impact was found between the *tariffs* feature and air passenger traffic flows in the South African – SADC regional air transport market over the eleven year time period, indicating that for every unit increase in the *tariffs*, such flows would decrease by between 5% and 6%, depending on the ALI variant used. The result was unexpected; it contradicted the expectations and evidence from secondary literature. It is therefore recommended that additional research is undertaken to investigate this relationship more comprehensively, as more liberal pricing regimes lead to a decrease in airfares, in turn stimulating additional passenger traffic. Secondary research established a 53% increase in air passenger traffic flows when free pricing, the most liberal tariffs regime, prevailed in BASAs (Rousova & Piermartini, 2008).

As evident from tables 7.10 and 8.1, none of the *ALI* features were found to be significant in the South African – North African regional air transport market.

Based on the above discussion, it is therefore concluded that the most traffic-enhancing provisions were:

- *Fifth freedom traffic rights, capacity and cooperative arrangements* in the South African – intra-African air transport market over the five year period;
- *Capacity and cooperative arrangements* in the South African – SADC regional air transport market over the same period;
- *Fifth freedom traffic rights and capacity* in the South African – SADC regional air transport market over the 11 year time period;
- *Designation* in the South African – East African regional air transport market over the latter period.



### 8.3 MANAGERIAL IMPLICATIONS AND OVERALL RECOMMENDATIONS

According to ICAO (2004), air policy liberalisation can be perceived as a supply stimulus which may or may not have an effect on the actual supply levels. This is partly due to specific network characteristics and complex supply and demand interactions. Hence, the panel regression analysis in this study captured the simultaneous impact of the relevant predictors on air passenger traffic flows, one of which was aviation policy. In Africa, the national aviation policies vary, reflecting the balance between objectives and strengths of different constraints. In addition, the sophistication of the aviation policies adopted and the ability to implement them effectively differ across African countries.

Based on the above statement, the comprehensive literature review (in particular with respect to the South African aviation policy and the impact of air transport liberalisation around the world and in Africa), as well as the empirical results of this study, the following recommendations are made:

- In any further research, the impact of the South African aviation policy on air passenger traffic flows over a number of years should be assessed in conjunction with the relevant socio-economic and geo-economic factors. In particular, the simultaneous impact of the predictors should be considered as demonstrated in the five air transport markets, given that variations in these can have disparate effects on such flows;
- The analysis of the South African – intra-African, as well as the South African – SADC and the South African – East African markets, confirmed the positive impact of a more liberal aviation policy on air passenger traffic flows. It is therefore recommended that further negotiations, pertaining to gradual liberalisation of the regulatory restrictions, should be pursued and prioritised in these markets, with the aim of becoming fully YD-compliant. In particular, the following approaches are recommended:

- **South African – intra-African and South African – SADC air transport markets**
  - Priority focus should be accorded to countries that have substantial services trade flows with South Africa or to those that show the potential to generate increased services trade flows, as well as to those with a sizeable economic growth potential as reflected through their GDPs.
  - Liberalisation initiatives should be focused on the following features: *grant of fifth freedom traffic rights, capacity and cooperative arrangements* as they were found to be the most traffic-enhancing provisions in the two markets. *Cooperative arrangements* were found to have the most significant impact on air passenger traffic flows both in the South African – intra-African (36 – 45% traffic increase) and South African – SADC air transport markets (21 – 25% traffic increase). *Cooperative arrangements* can be regarded as an interim measure in counteracting market access restrictions in relation to capacity and foreign ownership.
- **South African – East African regional air transport market**
  - Priority focus should be given to countries that have substantial services trade flows with South Africa or to those that demonstrate the potential to generate increased services trade flows, to those with a considerable economic growth potential as reflected through their GDPs, as well as to those with a sizeable population, while taking into account the impact of their status as low income East African countries.

- Liberalisation initiatives should in particular be focused on the *designation* feature as the most traffic-enhancing one in this market.
- The coexistence of different market regimes in the South African – intra-African and the regional air transport markets may create an environment in which traffic is diverted from the regulated routes to the liberalised ones. In this scenario, the third country will benefit from the restrictive market regime governing air transport between South Africa and its bilateral air counterpart. It is therefore recommended that the threat of increased traffic diversion is accounted for by the policy-makers. The best strategy for South Africa in counteracting the diversion effect is to remove, where feasible, the regulatory restrictions;
- As the influence of the six predictors was found to exert a simultaneously significant impact on air passenger traffic flows in the five markets, it is recommended that the net economic benefits of liberalisation are used as a negotiating tool for a pro-YD approach. South African negotiators and air transport officials could be instrumental in making the bilateral policy-makers more aware of the benefits and costs expected from further liberalisation in line with the YD, given that the losses in the airline industry may be outweighed by gains in other industries, such as services trade flows and tourism;
- As South Africa and its bilateral air service counterparts move forward in the pursuit of the YD implementation, it is recommended that a consistent and reliable database on air transport is developed in the five markets. This will guide the airlines in identifying priority markets, as well as assist policy-makers in their evaluation of the impact of further liberalisation;
- Those countries that inhibit air transport market liberalisation in line with the YD may at a later stage find themselves in an uncompetitive situation. A mechanism should be established to assist countries with less developed air transport sectors to better integrate themselves into the liberalised air transport market. In addition, there should be regulatory measures designed to create a healthy and fair

competition environment in which strong and less strong carriers can coexist on a sustainable basis;

- Further air transport liberalisation in line with the YD is recommended as a means of improving air accessibility and fostering trade and business activity as well as tourism in the South African – intra-African and regional contexts, as well as on a continent-wide basis.

#### **8.4 LIMITATIONS**

The quantitative research required air traffic data for 45 African country-pairs over the selected period. The air traffic data that were available for a fee from ICAO, IATA, MIDT or Travelport was not suitable for the following reasons: 1) incomplete set of data; 2) exorbitant data costs; and 3) the data did not cover the given period. The data sources consulted and their main limitations were discussed in section 6.6.6.

The study used yearly data published by Statistics South Africa, as the only consistent and reliable source of statistics available for the given country-pairs over the 11 year period. The greatest limitation of these data was that the information on the total number of arrivals and departures of South African residents was collected through the scanning of their passports. Thus, data on country of final destination were not available.

The air passenger traffic in this study was thus perforce limited to the number of foreign tourists arriving by air. This data source was chosen due to the consistency of its methodology and the fact that the focus of the study fell on the relationship between air passenger traffic and aviation policy. Taking into account the data availability and limitation issues, this was the best source to represent a trend over the 11 year period.

In addition, the statistical departments of the 45 states were researched online but no air traffic data were available on a country-pair level over the 11 year time period. The exercise proved that accurate statistics on air passengers between country-pairs in Africa are practically non-existent as the statistical capacity of the African countries was limited.

Schlumberger (2010) confirms that on several missions to Africa between 2002 and 2008 the data on actual passenger counts were often maintained on paper ledgers with no computerisation. In many cases these data were never submitted to the relevant authorities, such as the ICAO, leaving exceptionally large gaps in the time-series. Many states also believe that they only need to report data on international traffic and that data on intra-African traffic is not a priority.

The lack of consistent and reliable statistical data on intra-African air passenger traffic flows by country-pairs is therefore highlighted as an important area requiring urgent attention at country level. The full impact of air services liberalisation in Africa on flows of this nature can only be accurately assessed provided that such a database is established and closely monitored.

In the second round of the Delphi the dichotomous approach was used for reasons of simplicity to reach consensus from the experts over two rounds. This could be seen as a limitation from a Delphi study point of view; the researcher therefore recommends the use of a 5 or 7 point Likert scale for the two rounds of Delphi studies so that the strength of the agreement or disagreement of each statement can be measured. However, given that the purpose of the qualitative research was the identification of those factors which the experts regarded as having an impact on air passenger traffic flows, and that these factors were then assessed for their applicability in the quantitative analysis, the depth of the agreements or disagreements on each of the statements was not of great value for the purposes of this study.

Despite these limitations, the study generated significant findings and provides a solid foundation for future studies.

## **8.5 CONTRIBUTION OF THE THESIS**

This study makes a significant contribution towards the limited academic literature available on the subject of air transport policy liberalisation in Africa. At the same time, it

contributed by generating empirical evidence on the relationship between aviation policy and air passenger traffic flows in relation to the South African – intra-African and the four regional air transport markets over the 11 year period. To the knowledge of the researcher no such research has been previously carried out.

From an aviation policy point of view, the study closed the existing gap in the limited empirical research available which dealt with the impact of the aviation policy and air services liberalisation on air passenger traffic flows in the African context. It also confirmed the lack of evidence in relation to South Africa's aviation policy in Africa. The findings of the study could assist the relevant decision- and policy-makers in assessing the impact of the gradual liberalisation in line with the YD key principles from a South African – bilateral air services partners' perspective, as well as in evaluating the effectiveness of the Airlift Strategy and the Airlift Implementation Plan in the South African – intra-African and the four regional air transport markets at any point in time over the given period.

While previous studies relied on a predominantly cross-sectional analysis of the impact of aviation policy and liberalisation on traffic flows, in this study panel data, comprising 42 panels, together with the ALI weighting system, was used to quantify the degree of restrictiveness or openness of the respective BASAs. In addition, the panel data approach allowed for testing the simultaneous impact of the six key predictors on air passenger traffic flows, which can be considered a methodological contribution.

In summary, the study contributes to the body of knowledge of secondary research and the industry in the following ways, by:

- Providing a comprehensive overview of the developments in the South African aviation policy as a whole and particularly with reference to Africa;
- Furnishing empirical evidence of the impact of the aviation policy, as measured by the ALI, as well as the individual provisions of market access features of the ALI, on air passenger traffic flows in the five markets. The quantitative results should

effectively fill the gap in the existing literature, pertaining to the empirical evidence of air services liberalisation in the South African – African context using a panel data technique instead of a cross-sectional approach;

- Creating a conceptual framework of factors, viewed by the experts as having an impact on the flows investigated;
- Expanding on the cross-sectional 2005 QUASAR database, pertaining to the South African – intra-African bilaterals. This valuable information could be used by the decision- and policy-makers, particularly at the Department of Transport, to establish what progress has been achieved in terms of the liberalisation of air services agreements in line with the YD and the Airlift liberalisation targets;
- Evaluating BASAs among South Africa and 45 African countries to provide an overview of the degree of liberalisation at any point in time over the 11 year period and the types of agreements in place in the intra-African market, as well as in each of the four regions;
- Offering new insights about how passenger traffic flows relate to the changes in key predictors, one of which is the aviation policy. The results could be used in further decision-making.

## **8.6 DIRECTIONS FOR FURTHER RESEARCH**

Further research could be directed at assessing the impact of the aviation policy in Africa of any of the YD-member states or assessing the impact of the South African aviation policy in any of other regions, such as the Asia-Pacific, European, North American, South American and the Middle Eastern regions. Such research might be further directed at evaluating the overall impact of the South African aviation policy on air passenger traffic flows between the country's bilateral counterparts worldwide over the five year time period,

coinciding with the five year liberalisation plan as guided by the Airlift Strategy and the Airlift Plan.

The methodological approach of testing the simultaneous impact of predictors, one of which is the aviation policy, measured by the ALI index, over a number of years on air passenger traffic flows is one specific area which could be used in other regions of the world.

## 8.7 CONCLUDING REMARKS

The researcher argues that the results and findings should be carefully considered, while taking into account the limitations and the scope of the study. The objectives of the study were successfully achieved and the research problem addressed. The intra-African and the regional approach of evaluating the simultaneous impact of the six predictors, led to the identification of factors, other than the aviation policy, that significantly impacted on air passenger traffic flows. The relevant decision- and policy-makers in further bilateral air services negotiations should take account of these.

The findings also confirmed that artificially restricting key air policy levers hampers air passenger traffic growth in the South African – intra-African, South African – SADC and the South African – East African air transport markets. From an aviation policy point of view, the most traffic-enhancing features of the BASAs were identified in those regions where the impact of the aviation policy on air passenger traffic flows was found to be statistically significant. In particular in the South African – intra-African and the South African – SADC air transport markets the most traffic-enhancing features or provisions were found to be the *grant of fifth freedom traffic rights, capacity and cooperative arrangements*, while in the South African – East-African region *designation* was found to be the most significant traffic-enhancing feature. The identification of individual BASA features in the relevant markets will assist with informed and factual decision-making and provide direction for further air transport negotiations.