



# A FRAMEWORK FOR THE OPERATIONALISATION OF THE COMESA-EAC-SADC JOINT COMPETITION AUTHORITY (JCA)

## FINAL REPORT – PART FOUR BUSINESS PLAN AND BUDGET

CONTRACTING AUTHORITIES  
**COMESA**

BENEFICIARY  
**COMESA, EAC, SADC**

Service Agreement Number TMSA-SC-12-31



Prepared by  
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**Project: COMESA                      A Framework for the Operationalisation of the  
EAC-SADC Joint Competition Authority (JCA)**

**Service Agreement No:                      TMSA-SC-12-31**

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<b>Acronyms</b>	<b>Definition</b>
AA	<b>Aeronautical Authorities</b>
AFCAC	<b>African Civil Aviation Commission</b>
AFRAA	<b>African Airline Association</b>
ASA	<b>Air Service Agreement</b>
ATC	<b>Air Traffic Control</b>
ATM	<b>Air Traffic Management</b>
AU	<b>African Union</b>
AUC	<b>African Union Commission</b>
BASA	<b>Bilateral Air Service Agreement</b>
CAA	<b>Civil Aviation Authority</b>
CAC	<b>Civil Aviation Committee (of SADC)</b>
DCA	<b>Directors of Civil Aviation</b>
Doc.	<b>Document</b>
EA	<b>Executing Agency</b>
EASA	<b>European Aviation Safety Agency</b>
EAYD	<b>Executing Agency of the Yamoussoukro Decision</b>
e-bulletin	Electronic news letter
ECA or UNECA	<b>United National Economic Commission for Africa</b>
EU	<b>European Union</b>
FAA	<b>Federal Aviation Administration</b>
FE	<b>Financial Expert</b>
GHC	<b>Ground Handling Company</b>
H/Q	<b>Headquarters</b>
HR	<b>Human Resources Expert</b>
IATA	<b>International Air Transporters Association</b>
ICAO	<b>International Civil Aviation Association</b>

Acronyms	Definition
IT	Information <b>T</b> echnology
JCA	Joint <b>C</b> ompetition <b>A</b> uthority
MASA	<b>M</b> ultilateral <b>A</b> ir <b>S</b> ervice <b>A</b> greement
MIDT	<b>M</b> arketing <b>I</b> nformation <b>D</b> ata <b>T</b> ransfer
OAG	<b>O</b> fficial <b>A</b> irline <b>G</b> uide
OAU	<b>O</b> rganisation of <b>A</b> frican <b>U</b> nity
PM	<b>P</b> roject <b>M</b> anager
POL	<b>P</b> olicy <b>A</b> nalyst
RECs	<b>R</b> egional <b>E</b> conomic <b>C</b> ommunities
SADC	<b>S</b> outhern <b>A</b> frican <b>D</b> evelopment <b>C</b> ommunity
SC	<b>S</b> teering <b>C</b> ommittee
SG	<b>S</b> ecretary <b>G</b> eneral
TE	<b>T</b> ransport <b>E</b> conomist
TL	<b>T</b> eam <b>L</b> eaders
TOR	<b>T</b> erms <b>o</b> f <b>R</b> eference
WASA	<b>W</b> orld <b>A</b> ir <b>S</b> ervice <b>A</b> greements
YD	<b>Y</b> amoussoukro <b>D</b> ecision

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## ***THE MARKET, BUSINESS PLAN & BUDGET***

### **0 EXECUTIVE SUMMARY AND CONCLUSIONS**

**Three draft business plan scenarios** for the Joint Competition Authority (JCA) over the 2013-2018 period are presented, representing low-, mid- and high-cost situations. The differences arise largely from different approaches to remuneration of the Board, responsibility for advocacy costs, and payment for accommodation. The results are presented in 2013 constant prices in US\$ at a constant 2012/13 US\$/Pula exchange rate.

These business plan scenarios are postulated as **bases for discussion** with the authorities of the tripartite regional economic communities (RECs), COMESA, EAC and SADC, as part of a wider study of the operationalisation of the JCA. They are therefore open to amendment to ensure local legal compliance and cost levels.

For each scenario, an estimated **organisational plan** is presented appropriate to the assumed purpose, functions and duties of the JCA. The JCA is seen as an agency of the tripartite REC grouping, with the essential aim of ensuring the implementation of the Yamoussoukro Decision throughout its area. It is assumed to have administrative, pro-active investigatory, and arbitration dispute management roles and authority.

Estimated cost rates are applied to the organisational plans, giving a set of three draft **business plans** or budgets, with total capital spending of \$0.4 million over the 2013-2018 period added to the current account spending to give the total cash outflow.

The estimated **total cash expenditure** (in constant US\$) of the three scenarios at the middle year of the five-year planning period (2016) are:

- **Low Cost**, with unpaid (seconded) Members of the Board, free hosted accommodation, and recharged legal costs, **\$2 million**;
- **Mid Cost**, some fee-paid Members of the Board, rented accommodation, and legal costs absorbed, **\$2.6 million**; and
- **High Cost**, some fee-paid and some salaried Members of the Board, rented accommodation, and legal costs absorbed, **\$3 million**.

**Revenue** to cover these total cash outgoings could be accessed by recharging them to Tripartite Member States proportionately to their African international traffic, the JCA's main concern. This would result in a charge equivalent to between \$0.14 and \$0.28 (according to scenario and year) per relevant departing airline passenger.

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### **1 The Tripartite Air Transport Market**

The Joint Competition Authority (JCA) will be responsible for the implementation of the Guidelines, Provisions and Procedures for the Implementation of the Regulations for Competition in Air Transport Services within the tripartite grouping of the overlapping regional economic communities (RECs) of the:

- Common Market for Eastern and Southern Africa (COMESA);
- East African Community (EAC); and the
- Southern Africa Development Community (SADC);

all constituent bodies within the African Economic Community, established by the Abuja Treaty. Their membership, together with a list of their major airports, is at Appendix A for ease of reference.

The Regulations in turn derive from the application of the articles of the Yamoussoukro Decision<sup>1</sup> (YD). The YD is not only specific in its articles and commitments, and is backed by the authority of the African Union itself, but :

- it “has precedence over any multilateral or bilateral agreements on air services” between states; and
- it is to be implemented through a regulatory body in an established regional organisation context.

#### **1.1 Yamoussoukro Decision (YD)**

The YD’s broad definition of fifth freedom traffic rights (Article 1) is traditional and quite broad, embracing the detailed “sub-sets” of the sixth and seventh freedoms as well, as it seems to cover carriage of all traffic between States other than the airline’s domicile, irrespective of whether the flight includes the home State.

Its scope of application (Article 2) is “intra-Africa air transport services”, on which the inability to legally refuse first, second, third, fourth and fifth freedoms became fully effective after two years (Article 3).

Airlines are free to set tariffs (Article 4), and to choose what frequency and capacity to offer (Article 5) subject to “environmental, safety, technical or other special consideration”, provided competition is “fair” (Article 7). The designation of airlines by States according to eligibility criteria (Article 6) is to be recognised by other States provided ICAO safety standards are maintained. There is provision for dispute resolution (Articles 8 and 9).

Non-discrimination is assured (Article 10), which also excludes the obligation for a State to grant cabotage rights, for ninth freedom operations, where an airline can operate domestically in another State, without the flight originating in or transiting its home State.

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<sup>1</sup> United Nations : Economic and Social Council : Economic Commission for Africa : ECA/RCID?CM.CIVAC/99/RPT : Annex I : Decision relating to the implementation of the Yamoussoukro Declaration concerning the liberalisation of access to air transport markets in Africa.

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Flexibility, perhaps including domestic service in another State as long as the flight starts in an airline's home State, is guaranteed ( Article 11).

The final provisions (Article 12) encourage "sub regional and regional organizations .....to pursue and to intensify their efforts in the implementation" of the YD; hence the role of the JCA. An important objective of this report is therefore to ret to establish how far the actual state of the intra-African market reflects the practical implementation of the YD.

### **1.2 Definition of the Market**

The main concern of this report is the market for passenger air transport between States in the tripartite REC area<sup>2</sup>. However, air transport is not an industry comprising self-contained market areas; it is truly a global business with as high degree of connectivity between its different segments. Within Africa, both the physical and the service aspects of basic airport and air traffic management and navigation infrastructures are shared by all elements of the industry. And a single passenger journey can involve intercontinental, African international (inter-REC and/or intra-REC), and domestic sectors; while the ticket might have been sold anywhere in the world, not necessarily by an African airline.

Thus to understand the geographical area of operations with which the JCA will be mainly concerned, it is necessary to distinguish:

- the intercontinental market - air transport between Africa and the rest of the world;
- the African international market :
  - intra-JCA services, between the tripartite JCA States;
  - services between the tripartite JCA States and "Other Africa"; and
  - services between States in "Other Africa"; and.
- domestic markets within States.

With particular attention to intra-JCA international air transport, the characteristics of each market will be identified, analysed, and (so far as practicable) quantified, described and analysed in a YD context on a "snapshot" basis - the contemporary scene in 2012 or as close thereto as timely data availability permits. We shall, however, take cognisance of the experience of recent years and prospects for the future.

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<sup>2</sup> It is beyond the scope of this market study to consider the legal position of any non-signatory or non-ratifying State. Neither is any account taken of any reported temporary suspensions from RECs.

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### **1.3 Metrics**

#### **1.3.1 Airline and Route Statistics**

Airline statistics are often quoted in:

- available seat-kilometres (ask) and available tonne-kilometres (atk) as measures of capacity; and
- revenue passenger-kilometres (rpk) and revenue tonne kilometres (rtk) as measures of performance.

These metrics are useful, particularly on global and comparative scales, as common metrics and a means of expressing fares and revenue rates, but by their very nature they do not sufficiently differentiate between different market conditions - a busy short haul route can generate the same rpk as a low frequency long-haul route.

Thus in the present context our preference is for:

- in airline terms, frequency of service between pairs of points, seats and sector passengers between pairs of points, and tonnes of freight and mail (cargo) between pairs of points; and
- in airport terms, air transport movements (landings plus take-offs), passengers (arrivals plus departures) and cargo (unloaded plus loaded).

We use airline measures in analysing routes and airline performance, but individual route data is very rarely published in Africa (or elsewhere for that matter, unless there are at least two carriers on a route so that the commercial confidentiality of individual airline performance is protected - except, perversely, by deduction, from competitors on the route). Thus most studies on African air transport rely upon analyses of airline timetables to estimate route traffic from calculated capacity available. That would be an impracticable task to renew in total for this overview paper, covering the schedules of all the airlines at (at least<sup>3</sup>) 70 airports within the States of the RECs in the JCA area, plus intermediate points on multi-sector routes. Nonetheless this task has been undertaken for sample airports and routes in order to examine assess market characteristics, airline strengths and weaknesses, and the prevalence of 5<sup>th</sup> freedom and code-sharing operations; and specifically for African international routes between the four main hub airports of the JCA area and “other Africa”.

It is important to note the adjectival “sector” term in counting passengers on an airline route. When considering a person flying between points B and C in the JCA area, they may well have connected at point B from point A on another continent, and may connect at B onto another flight or even another airline to go to point C in “other Africa”. Thus one person on a journey becomes 3 sector passengers, It is sometimes necessary to further refine definitions to distinguish passenger movements between city pairs, where multi-sector routes are operated, or connecting flights (for instance through deliberate “hubbing” by airlines) compete effectively with, or replace, direct flights.

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<sup>3</sup> Those with more than about 1000 departing seats per week

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Capacity is particularly difficult to quantify on multi-sector routes, sometimes but not always with fifth freedom rights between the city pairs involved. Such operations are closely watched by the airlines operating them, as traffic demand between particular sectors can block sales of more lucrative through traffic. This can be a particularly difficult problem with “triangular” routings serving two points, often quite close together, in an A-B-C-A pattern<sup>4</sup>. Fifth freedom local traffic between B and C may be welcome, but can restrict outbound traffic from A to C and inbound traffic from B to A. Similarly, unrestricted demand between any one of the four (or five with fifth freedom) directional city pairs can restrict traffic on the others. Since virtually all traffic makes return trips, the potential reciprocal city pair traffic is also lost - if a passenger cannot make a reservation to come back, he may not go at all. The beneficial obverse of these operational and sales difficulties is that once it is evident that traffic is being constrained, direct services to both points (initially with smaller aircraft) can be mounted.

Multi-sector routes can impose even more complex capacity management problems on reservations systems, as in A-B-C-D flights potentially serving six city pairs, if traffic rights are available throughout.

Care is needed to avoid double counting when adding route statistics from different countries, or when deriving them from airport-based airline schedules.

### **1.3.2 Airport Statistics**

An aircraft movement (we are particularly concerned with air transport [aircraft] movements) is a landing or a take-off. Thus an aircraft turnaround, setting down and picking up passengers and/or cargo, is two movements.

Similarly a passenger movement is an arrival or a departure, so a person arriving and departing (returning “home” or travelling onwards) on a different flight number is two passenger movements, often abbreviated to “passengers”. They may be a “terminal” passenger who passes through the terminal airside to landside or vice versa, or a “transfer” passenger<sup>5</sup> connecting from one flight to another, but in each case that is an arrival plus a departure, two passenger/movements (or two passengers).

A “transit” passenger who arrives and departs on the same flight number, merely passing through on a multi-sector flight because their flight from X to Z is routed through Y by the airline for technical or commercial reasons, is conventionally counted as only one passenger movement<sup>6</sup>.

Again, care is needed when adding airport statistics. One airline sector passenger from A to B is one departure passenger movement at airport A plus one arrival passenger movement at airport B. If A is in the JCA area, but B is outside Africa, any sum of African

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<sup>4</sup> Consultant’s personal experience in liberalised regional airline operations.

<sup>5</sup> A pedantic distinction is sometimes made between passengers “connecting” between the flights of two different airlines and those “transferring” between two flights of the same airline, but in these days of code-sharing and alliances such a distinction is somewhat blurred, and we are content to use both or either.

<sup>6</sup> Confusingly, some national border control regulations and/or tourism statistics define a “transit” as someone staying less than 24 hours in a country.

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airport statistics will include that passenger only once. If B is in “other Africa” (outside JCA area), a JCA summation will also show only one passenger, but a “total Africa” summation shows that passenger twice. If B is in the JCA area, the passenger counts twice in any summation.

These are all obvious and elementary points, but given the dearth of regionally aggregated published data and sometimes imprecisely defined aggregations in news items and even leaned literature it is as well to keep them in mind.

### **1.4 Source Data**

No “official” State-produced regional aggregations of traffic statistics distinguishing between non-intercontinental international traffic within the JCA region, that within “other Africa”, and that between the two, have been located. Indeed, the detail and timeliness of airport statistics vary considerably between States. Non-domestic traffic is generally identified as an international total by each State. For some countries where there are no direct intercontinental routes (e.g. Botswana), “international” is by default synonymous with “intra-Africa”. No State appears to publish route traffic data.

Others have faced these data shortages, but have managed to make invaluable contributions to the study of the liberalisation of air transport in Africa. Particular credit must be given to H C Bofinger’s papers for the World Bank’s Africa Infrastructure Country Diagnostic project<sup>7</sup>, and the work of C E Schlumberger, principal air transport specialist at the World Bank in Washington<sup>8</sup>. Both their main works use data which are for the most part now about five years old, and while the trends they identify remain valid, quantitative changes can rapidly take place as a result of extraneous (non-aviation) factors - the events of the “Arab Spring” for instance.

We have therefore perforce supplemented this limited data with :

- an exhaustive search of the literature, particularly Bofinger and Schlumberger noted above;
- WWW websites of the RECs, the JCA States, airlines, airports, international air transport and economic organisations, and others;
- commercial data-bases, particularly FlightGlobal (Proflight), compiled and maintained by the professional journal ‘Flight International’;
- the current and historic global and regional baselines to Airbus and Boeing annual forecasts, particularly Boeing’s ‘Current Market Outlook’;
- analyses of the schedules of airlines and airports, notably current and historic editions of the OAG Flight Guide; and, ultimately

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<sup>7</sup> H C Bofinger, Challenges to growth in Africa’s air transport industry. World Bank : IBRD : Africa Infrastructure Country Diagnostic (AICD), 2009

<sup>8</sup> C E Schlumberger, Open skies for Africa : implementing the YD. World Bank IBRD, 2010

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- the application of our professional judgement and experience.

It must therefore be stressed that the resulting quantifications are indeed estimates, except where data are directly quoted from identified authoritative sources in their original metric for the stated periods.

### **1.5 Cargo (Freight and Mail)**

Air cargo is certainly important to the airlines and economies of Africa, for instance in overcoming the continent's long distances and sometimes less than ideal surface transport infrastructure. It also enables intercontinental transport of perishable goods such as agricultural and horticultural produce into European and other world market-places.

Detailed cargo statistics and route information appear, however, to be even more elusive than passenger data, and this overview will be largely restricted to the latter.

It may however be noted, in setting the context of air transport in the JCA area, that cargo identified in published statistics<sup>9</sup> as handled at its airports in 2009, the latest year for which consistent figures were located, totalled:

- COMESA Member States 695,000 tonnes;
- EAC Member States 370,000 tonnes, of which:
  - 343,000 tonnes included in COMESA above;
  - 27,000 tonnes Tanzania;
  - SADC Member States 435,000 tonnes, of which:(Main airports only)
    - 113,000 tonnes included in COMESA above;
- 27,000 tonnes Tanzania included in EAC.

Thus the total tonnage at JCA area airports, without duplication due to overlapping State membership or RECs was about one million tonnes. There may well, however, be doubling up of domestic and intra-JA area cargo (counted in more than one State), but no route information or market breakdown has been found for this overview. The market, which may well be largely intercontinental, was in 2009 dominated by Egypt, 300,000 tonnes, Kenya (281,000 tonnes), South Africa (228,000 tonnes at Johannesburg alone), and Swaziland (137,000 tonnes, although that may include cargo at other airports on Swazi-registered freighters.

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<sup>9</sup> COMESA website 4.2 Air transport : Commercial air freight traffic; EAC Statistics portal : table 2.8c, Access to air transport; and FlightGlobal airport statistics for the main airports in SADC.

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### **2 SIZE OF THE MARKETS**

#### **2.1 Africa**

Of the world passenger air transport market of 5.2 trillion revenue passenger kilometres (RPK) in 2011, Africa accounted for nearly 250 billion, some 4.6%<sup>10</sup>. That equates to approximately 100 million airline passengers to, from and within Africa, on about 150 million seats. It implies rather a high average passenger sector length of 2400 km, but given the importance of intercontinental traffic in the African market, this is not necessarily unreasonable. The JCA area accounts for some 64 million of those airline passengers, about 97 million passenger movements at airports in the JCA area.

The above estimates are compatible with other authoritative sources. For instance, a 2009 World Bank study<sup>11</sup> juxtaposed a 2006 figure of approximately 172 billion RPK for Africa in total with a commercial programme<sup>12</sup> analysis identifying an Africa total market of 122 million seats, implying about 80 million airline passengers at that time, again reasonable. Further World Bank work<sup>13</sup> quoted an African share of World RPKs at 4.1% in 2006; but because world average passenger sector lengths are much lower than the intercontinentally-weighted African average, when the metric is translated to numbers of airline passengers, Africa's 100 million represent a share of only 2% of the world total. A 2005 African Union paper<sup>14</sup> estimated the share at 3% without specifying the metric. Overall, despite inconsistencies over time and metrics, it is clear that Africa has a disproportionately low share of world air traffic.

However, since Africa has about 15% of world population (1.1 bn out of 7.0 bn)<sup>15</sup> contrasting with its 2% to 3% share of world air passengers (or 4% to 5% share of world RPK), the potential for air traffic growth is considerable. Given that long-term economic growth in Africa is forecast at 4.4% per annum despite recent short-term hesitation related to events in North African countries, Boeing's 20-year estimates<sup>16</sup> of passenger traffic growth in RPK are buoyant at 6.2% per annum within Africa, 4.8% between Africa and Europe, and from 6.0% to 6.9% for the currently lower traffic levels of other regions.

In updating the literature's 2007 seat counts and derived 67% load factor passenger estimates to 2011, growth rates used are comparable with Boeing-reported RPK growth over the same period, although not primarily obtained from that source:

- intercontinental 4.6% p/a, (Boeing 4.7% p/a);
- domestic 4.6% p/a, a conservative notional default value; and

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<sup>10</sup> Boeing : Current market outlook 2012

<sup>11</sup> H C Bofinger, op cit

<sup>12</sup> OAG : Diio SRS Analyser

<sup>13</sup> C E Schlumberger, op cit

<sup>14</sup> African Union Meeting of Ministers, Sun City, May 2005 : AU/AT/2(I) Overview of the state of air transport in Africa

<sup>15</sup> World Bank & IMF

<sup>16</sup> Boeing, op cit.

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- international within Africa 8.9% p/a, (Boeing 8.4% p/a for all traffic within Africa).

### **2.2 Intercontinental**

Intercontinental traffic accounted for up to 83% of African RPK in 2006, and about 55% of the passengers<sup>17</sup>, confirmed by Boeing<sup>18</sup> for 2011 as a 79% RPK share implying about 54 million airline passengers. Since all these passengers arrive from and depart outside Africa, that also accounts for some 54 million passenger movements at African airports. Of these, about 31 million fly to or from JCA area airports.

Of the 54 million total, most (38 million in our estimation) are on European routes, traffic having increased by a third in the last decade. We estimate around 11 million passengers on Middle Eastern routes, traffic which has trebled in the last decade, particularly by Middle Eastern carriers serving the JCA area. Traffic between Africa and North America plus Asia is growing at similar rates, but still probably only accounts for only five million or so airline passengers per annum. Our estimates are based upon Boeing RPK data for 2011<sup>19</sup>

Much of Africa's European traffic is on routes serving Francophone west/central Africa and Mahgreb States, but it would appear that roughly 31 million intercontinental passengers per annum are currently flying in and out of JCA area airports, with those of Egypt, South Africa, the Indian Ocean Islands, the EAC, and Ethiopia prominent<sup>20</sup>. Intercontinental routes are not normally directly relevant to the implementation of the YD in the tripartite RECs (although there is a South African Airways routing between Johannesburg and Washington via Dakar, apparently open for sale on all sectors), but intercontinental traffic is important to the economy, the airports, and the African airlines in the RECs. For instance, Ethiopian Airlines reports<sup>21</sup> that 28% of its revenue is earned in Europe and the Americas, and 34% in the Middle East and Asia. Further, Middle Eastern growth is bringing the influence of airlines from that region to Africa.

### **2.3 Domestic**

The YD specifically excludes any insistence on cabotage rights, although there is nothing to preclude them being mutually granted in a liberal ASA. However, the tripartite JCA is unlikely to be involved in domestic traffic rights. They are normally restricted to domiciled airlines of the State in question, but other airlines may gain an interest through investment in a local carrier. Nonetheless, effective control of a designated airline in any State must rest with parties in that State.

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<sup>17</sup> Bofinger, op cit.

<sup>18</sup> Boeing, op cit

<sup>19</sup> Boeing, op cit

<sup>20</sup> Consultant's estimates based on analysis and updating of Bofinger, op cit, Cross country annex, showing States' scheduled service capacity by broad route group. It appears to ignore predominantly inclusive-tour Red Sea resort traffic, but this discrepancy is not pursued, given the limited relevance of such traffic to the JCA.

<sup>21</sup> Ethiopian Airlines Enterprise Annual performance report 2010/2011

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It is therefore simply noted here that the intra-African domestic traffic estimate<sup>22</sup> for 2007 was about 24 million airline passengers, that is 48 million African airport passenger movements. We would expect that to have increased to about 29 million airline passengers, 58 million airport passenger movements, by 2011, about a third of them at South African airports. Some 21 million (42 million airport passenger movements) are estimated to be in the JCA area.

### **2.4 Intra-Africa International**

#### **2.4.1 Africa**

By deduction of the 2011 estimates of 54 million intercontinental and 29 million domestic airline passenger numbers from the African total of just over 100 million, nearly 18 million intra-Africa international airline passengers remain, travelling between African States. Since they use African airports at each end of their flights, they represent over 35 million airport passenger movements.

In the absence of origin/destination data, these 17.7 million passengers have been “assigned “ to States pro-rate to the proportions of rather dated capacity calculations in the authoritative literature, and to more recent airport movement metrics where available. Such assignment to States is not as straightforward as it might initially appear. Broadly traffic can be considered:

- between States in the JCA area, on an airline route basis, where the routes do not serve States in “other Africa”, i.e.outside the tripartite REC unduplicated areas;
- between States in “other Africa”, on the same basis, insofar as this helps to complete the statistical picture for Africa; and
- between JCA States and “other Africa” States.

Note that in matching the estimated totals in this overview, (which are checked “top-down” from ASK and RTK data), to the “bottom-up” numbers in the literature, the addition of intra-African and domestic totals in the latter result in a “doubling up” of cumulated capacity (and thus passenger estimates based on load factors) due to reciprocal counting. Furthermore, in summing between RECs, States’ overlapping membership has also to be taken into account. Thus, while these individual passenger movement totals by State and by REC are valid, they can not be summed without adjustment to remove the double counting and overlaps. Intercontinental totals can be added together, as (generally) the route capacity and traffic for only one African State or airport is counted.

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<sup>22</sup> Derived from Bofinger, op cit

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As a check, capacity-derived traffic numbers (updated to 2011) have been compared with airport statistics<sup>23</sup>, which also deal in passenger movements, and there are discrepancies in individual cases. Sometimes these are clearly the result of limited airport information, or limited route information (such as the exclusion of inclusive tour charters and other unscheduled flights to Egypt). In individual instances discrepancies could be due to the blanket application of global updating trends to individual countries, but overall for the tripartite JCA area these factors tend to cancel each other out and give a cumulative margin of error of about 7%<sup>24</sup>. However, airport statistics do not distinguish intercontinental from intra-African traffic, so only total international (and domestic) numbers can be compared, and there is no readily available check on the intra-African international estimates. Moreover, airport statistics treat transit traffic separately, which capacity-derived traffic estimates do not identify.

For consistency, the capacity-derived estimates have been retained, but it is clear that the lack of precision in establishing up-to-date traffic data thus increases with each level of detail. In considering traffic-related funding sources for the JCA the individual State intra-African numbers are best regarded as a scenario guide open to challenge by States able to furnish accurate detail. Indeed any funding source arrangements based on traffic share would need to provide for periodic review, since as noted such shares can change almost overnight in the light of airline failures or extraneous influences..

### **2.4.2 JCA African International Traffic**

Of the estimated 17.7 million airline passengers flying internationally within Africa in 2011 (13 million in 2007), some 70%, 12.2 million, are on flights within, or to/from the JCA area<sup>25</sup>. This total is for the JCA as a whole, and excludes duplication due to overlapping State memberships between the three constituent RECs, for which the individual totals are:

- COMESA 7.5 million (5.2 million in 2007);
- EAC 2.9 million (2.1 million in 2007); and
- SADC 6.9 million (5.9 million in 2007).

Passengers may be flying between States within a REC in the JCA area, between RECs, or between the JCA area and “other Africa”. The largest contributors (in effectively airport passenger movement terms, which can not meaningfully be added together) are, as is to be expected given their based airlines’ dominance of the market:

- South Africa, with a possibly generous 2011 African international estimate of nearly six million airport passenger movements (4.2 million in 2007), 43% of the SADC total and 24% of the JCA area total of African international traffic;

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<sup>23</sup> COMESA website, Commercial air passenger traffic (country totals to 2009), EAC website, Statistics portal : Access to air transport (country totals to 2006); FlightGlobal Airport Statistics; and published individual State and airport data where available

<sup>24</sup> Against the consistent JCA-wide figures of FlightGlobal, for instance, although they in turn are not always wholly compatible with airport authority figures.

<sup>25</sup> Derived from Bofinger, op cit, Cross country annex

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- Kenya, nearly three million African international (airport) passenger movements (2.1 million in 2007), 51% of the EAC total, 20% of the COMESA total, and 12% of the JCA area total of such traffic;
- Ethiopia, approaching two million African international passenger movements (1.3 million in 2007), 12% of COMESA and 7% of the JCA area total.,

In 2007, Egypt reportedly<sup>26</sup> had the same order of African international traffic as Ethiopia, although not necessarily mainly on Egyptian carriers, and while (in the absence of up to date details) for cumulative purposes it has been assumed to maintain average growth to retain its position nowadays, in practice it may be a further example of extraneous events resulting in a sharp, if temporary, downturn. The overwhelming majority of Egypt's international frequencies are intercontinental<sup>27</sup>, most (18) of the destinations being in the Middle East, although ten JCA area cities are served, as well as eight in "other Africa".

Airports in Zambia, Tanzania, Uganda, Sudan, Namibia, Mozambique and Mauritius are also among the more significant contributors to intra-African international traffic, as Libya and Zimbabwe may still be (as they were in 2007)<sup>28</sup>.

### **2.4.3 "Other Africa" International Traffic within the Continent**

The balance of intra-African international traffic, on flights to and from "other Africa", is estimated to be about 5.5 million airline passengers (some 4 million in 2007). About 1.2 million of those passengers (actually 2.4 million city-pair passenger trips, when counted as arriving and departing in "other Africa") were on flights to/from the JCA area (see below). No further breakdown by RECs in "other Africa" has been undertaken for this exercise. Morocco, Nigeria and Senegal were the main contributors in 2007.

### **2.4.4 Inter-REC International Traffic**

Subsumed in the JCA and "Other Africa" markets above are passengers travelling between RECs in the JCA area, and between the JCA area and "other Africa". All three major operators ( Kenya Airways, Ethiopian Airlines and South African Airways) serve west and central Africa as well as the JCA area comprising three RECs. So does Egyptair, but with emphasis on its unique services to the western Mahgreb.

Although somewhat dated, World Bank estimates<sup>29</sup> of inter-REC passenger seats in 2007 offer an authoritative basis for estimated quantification of inter-REC traffic, being derived from the analysis of a very large volume of capacity data. No matrix is presented, so that the direction of such inter-REC traffic can not be specified in this way, and given the nature of the summary published data it is again inappropriate to cumulate REC totals due to overlapping State memberships. There are some discrepancies with the other major relevant World Bank study<sup>30</sup> using 2007 capacity data, which has been used as a capacity baseline throughout this overview, but the totals approximately agree. Thus for consistency,

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<sup>26</sup> Bofinger, op cit

<sup>27</sup> OAG Official Airline Guide, October 2012

<sup>28</sup> Bofinger, op cit, Cross country annex

<sup>29</sup> Schlumberger, op cit, p121 table 5.2

<sup>30</sup> Bofinger, op cit, Cross country annex

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the Schlumberger intra-REC and inter-REC capacity breakdown is applied pro-rata to the Bofinger 2007 capacity baseline, and the results converted to 2011 passenger estimates at the estimated across-the-board growth rates and load factors employed throughout.

Further pro-rata estimation suggests that in the JCA area as a whole, about 65% of the JCA area's unduplicated 12.2 million African international passengers flew within the individual RECs, that is to say some 7.9 million airline passengers (16 million airport passenger movements). By definition, that traffic was firmly within the JCA area.

That leaves 4.3 million airline passengers travelling between RECs - but the methodology adapted from the literature does not permit that to be split between inter-REC traffic within the JCA area, and traffic between the JCA area and "other Africa". To estimate that, an analysis of all October 2012 flights between the four major JCA area hubs and "other African" (non-JCA) airports has been undertaken<sup>31</sup>.

Noticeably, very few reciprocal flights appear to be undertaken by airlines outside the JCA (except in the special case of Somalia, not served by the main JCA area carriers, and the north-west African coastal States uniquely served by Egyptair from the JCA area).

Capacity has been calculated for some 63 outbound flight numbers covering 92 sectors and 227 weekly frequencies, giving a total of 3.7 million seats (out plus return) in the year<sup>32</sup>. Applying a 67% load factor, this produces an estimated 2.4 million airline passengers on routes between the JCA area and "other Africa", who will also count as 2.4 airport passenger movements at airports in the JCA area (and at their destinations in "other African" airports).

This traffic between the JCA area and "other Africa" comprises passengers from and to:

- Addis Ababa, 0.9 million airline passengers;
- Nairobi, 0.6 million airline passengers;
- Johannesburg, 0.5 million airline passengers; and
- Cairo, 0.5 million airline passengers;

adding to a rounded 2.4 million. For presentation purposes, so that totals match, this is "allocated" half to the JCA area and half to "other Africa"; and perhaps this is how it might be viewed in terms of JCA's potential workload (and, implicitly, funding), although it is nearly all carried on airlines based in the JCA area.

It may thus be noted in conclusion that this 'allocation' of (half the shared) traffic between the JCA area and "other Africa"<sup>33</sup> in turn leaves 3.1 million airline passengers (of the 4.3 million total "inter-REC" passengers calculated from the literature-based methodology), who by definition are travelling between the RECs within the JCA area, and making up 6.4 million airport passenger movements there. Adding these 3.2 million to the already established 7.9 million airline passengers flying internationally within the RECs in the JCA area, gives a total

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<sup>31</sup> OAG, op cit. Some direct traffic between other JCA area airports and "other Africa" may well have been unintentionally excluded, but to check every JCA area airport's schedules was impracticable.

<sup>32</sup> Weekly frequency x seats per aircraft type x 2 (outbound plus return) x 50 weeks (allowing for holidays and other operational issues)

<sup>33</sup> i.e. allocating the 2.4 million JCA/"other Africa" total equally to each end of the routes.

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of 11 million airline passengers (22 million airport passenger movements) flying internationally within the JCA.

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### **3 MARKET CHARACTERISTICS**

#### **3.1 Hub Polarisation and Dominance**

According to AFRAA, foreign airlines, particularly those of former colonial powers, but increasingly also relatively new Middle Eastern entrants, still carry most intercontinental traffic to and from Africa<sup>34</sup>, some 70% of European traffic for instance, largely due to their historic political, technical and worldwide marketing strengths. Furthermore, foreign airlines are said<sup>35</sup> to have more fifth freedom rights in Africa than indigenous airlines. They may well include north-south sectors such as Nairobi/Johannesburg, dating from when aircraft range required en route stops, but few are in evidence today (apart from some SN “twinning” of West African destinations) as direct nonstop service has become a long-haul imperative.

Three African airlines (plus Egyptair, something of a special case due to the north African emphasis of its traffic and the unusual context of recent events in the country) have now become the dominant forces in the intra-African international market in the JCA area (and indeed, since some airline failures in the West, across Africa), and are much more likely than European airlines to be exercising fifth freedom rights, concentrating traffic at their hubs:

- Ethiopian Airways (ET), hubbing at Addis Ababa (ADD);
- Kenya Airways (KQ), hubbing at Nairobi (NBO); and
- SouthAfrican Airways, hubbing at Johannesburg (JNB).

Such hubbing, particularly in feeding regional traffic to/from more lucrative intercontinental routes at attractive through fares, may be viewed as effectively sixth freedom traffic. It has been credited, for instance, with the historical loss of intercontinental traffic to and from Namibia and Mozambique due to leakage on connections to and from SAA’s extensive Johannesburg-based intercontinental network<sup>36</sup>. The obverse of this critical view is not only that it can give passengers effectively higher (albeit indirect) frequencies and potentially lower fares, and can perversely support the existence of carriers with relatively small home populations, such as Ethiopian in Africa, KLM in Europe, and the UAE carriers who are applying the practice on a long-haul scale, with fast-growing presence in Africa.

Polarisation to large hubs dominated by a few airlines is not necessarily an inevitable result caused by liberalisation, or of the grant of fifth freedom rights, but they are certainly enabling factors. However, the withdrawal of State protection from inefficient (or even merely small) airlines does tend to encourage strong and enterprising carriers to make the most of the opportunities for expansion thus created.

For instance, Ethiopian were historically pioneering cross-country “bus stop” routes where traffic volumes did not support direct services by equipment of the requisite size for the

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<sup>34</sup> AFRAA interview with The (Ethiopian) Reporter, 10 September 2011, and AFRAA presentation, Harare, c.2011: State of the airline industry.

<sup>35</sup> Ibid

<sup>36</sup> Schlumberger, op cit, p143

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length of haul, at least two decades ago, but moving to direct service once traffic had developed sufficiently to support it. Up to October 2006<sup>37</sup>, Ethiopia had negotiated 46 air service agreements (BASAs) with African States, not all in total conformity with the YD, but 39 of them including (sometimes albeit limited) fifth freedom rights. However, by no means all these rights are utilised, sometimes as market conditions change as illustrated by the following example.

In 1993 on the Addis-Abidjan route the westbound ET951 operated Addis Ababa-Nairobi-Lome-Abidjan, with the eastbound ET970 routing Abidjan-Accra-Lome-Nairobi-Addis<sup>38</sup>. Ten years later, in 2003, Addis Ababa and Abidjan were linked by ET with one stop, at Lagos, with 5<sup>th</sup> freedom rights between Lagos and Abidjan. At that time ET were operating 17 multi-sector African international routes outbound from Addis Ababa, three of them comprising three sectors, with fifth freedom rights on 15 of the city pairs<sup>39</sup>. Nowadays (October 2012, traditionally a “typical” month reliably representing annualised operations and traffic data<sup>40</sup>), ET serves Abidjan (ABJ) thrice weekly via Cotonou (COO), with 5<sup>th</sup> freedom rights on the second sector<sup>41</sup>, and operates only 18 two-sector African international routes from Addis Ababa, with fifth freedom rights on ten of them<sup>42</sup>.

Kenya Airways has also been building up its hub operations also by tending to operate on routes where it is the only carrier, but more recently emphasising multi-sector routes with fifth freedom operations. In 2003 KQ were scheduling only nine two-sector African routes out of Nairobi (NBO), 18 sectors, with 5<sup>th</sup> freedom rights on only four of them<sup>43</sup>. Today, however, (October 2012) KQ flies 24 two-sector routes from NBO with fifth freedom rights on 14 of them<sup>44</sup>.

Both ET and KQ used to have fifth freedom rights between Khartoum and Cairo, but are no longer selling the sector. On the other hand KQ was (until 30 October 2012)<sup>45</sup> selling fifth freedom seats between Lusaka and Lilongwe, and has fifth freedom between competing hub Addis Ababa and Djibouti, which ET also serves. However, by and large it is on West African routes (between JCA area and “other Africa”) that these East African carriers are exercising the most fifth freedom rights.

South African Airways (SAA) has a particularly strong domestic and intercontinental traffic and resource base (to and from which it can offer connections for intra-African international traffic). However, it does have to share some of its African international routes outside the JCA area with Arik Air of Lagos, South African Inter Air, and Air Namibia.

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<sup>37</sup> Schlumberger, op cit, A

<sup>38</sup> Consultant’s personal experience

<sup>39</sup> OAG : Consultant’s analysis of Official Airline Guides.

<sup>40</sup> Ibid

<sup>41</sup> ET also code-shares on the COO-ABJ route with Lome-based ASKY, another 5<sup>th</sup> freedom carrier on the sector, in which ET has a financial interest.

<sup>42</sup> ET has several fifth freedom sectors overseas on its intercontinental routes, and, unusually, one daily Addis-originating flight open to eighth freedom local traffic between Rome and Milan.

<sup>43</sup> OAG, op cit

<sup>44</sup> Ibid

<sup>45</sup> According to the Post Newspaper, Zambia, 30 October 2012, the Malawi CAA stopped KQ from selling seats on the sector because the airline had, in 2009, cancelled a 2008 agreement with Air Malawi to fly the route but had continued to do so.

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SAA has not historically sought to build multi-sector routes seeking fifth freedom rights on the Ethiopian model, and its associates SA Express or SA Airlink operate thinner routes with generally smaller aircraft. There are only five three-sector routes by SA departing from JNB but three of those include a fifth freedom sector, as does the one four-sector route flown by Johannesburg-based competitor Inter Air<sup>46</sup>. One of the most important routes in this category is the Washington (IAD) trans-Atlantic route, via Dakar<sup>47</sup>. SA has traffic rights on all sectors including intercontinental fifth freedom between Dakar and Washington, and hosts a United Airlines codeshare (see below) on both sectors.

### **3.2 Alliances and Code Sharing**

#### **3.2.1 Alliances**

Most of the developed world's major airlines are members of alliances, the three major ones controlling some 70% of global seat capacity<sup>48</sup>. Sometimes attacked as anti-competitive, they are agreements between airlines to share common facilities such as sales offices and airport handling, to co-ordinate timetables and ensure smooth inter-carrier transfers, compatible reservations systems, and in many instances sharing capacity so that one flight carries two or more flight numbers (code sharing), potentially greatly widening the range of destinations sold as an airline's perceived product - although a different airline might physically provide it. Seamless flexibility is thus the blanket benefit offered to the potential traveller.

There are substantial, less publicised, benefits for airlines too<sup>49</sup>:

- cost reduction through sharing of infrastructure and systems facilities, and bulk buying of goods and services;
- optimized capacity/demand management through co-ordinated schedules and prices;
- opportunities to control industry structure in a market and deter new entrants;
- potential market access (presumably through selling a partner's flight) to overcome restrictions on traffic rights and operator ownership.

The three major alliances<sup>50</sup> are, in descending order of size:

- Star Alliance, 671 million passengers in 2012; whose African members are Egyptair, Ethiopian, and South African Airways; other prominent members

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<sup>46</sup> OAG, op cit (The sector on which Inter Air does not have rights is domestic in Congo. Linhas Aereas de Moçambique and Precision Air of Tanzania both fly three-sector routes from JNB, but their second sectors are domestic in their own States.)

<sup>47</sup> The New York service is nonstop, with SA hosting a United Airlines codeshare

<sup>48</sup> Economist, 10 October 2012

<sup>49</sup> Claimed by Messrs Goh and Uncles, University of New South Wales, School of Marketing Working Paper 01/5: Benefits of airline global alliances : 'From the operator's perspective'.

<sup>50</sup> Alliance websites

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being Lufthansa, Brussels Airlines, Singapore Airlines, United, and US Airways, but no Gulf-based carrier;

- Sky Team, 552 million passengers in 2012; of which Kenya Airways is a member; as are Air France (who co-ordinate ticket sales with non-member Etihad), KLM, Aeroflot, Delta, Saudia and others;
- One World, 324 million passengers in 2012; in which BA South African franchisee Comair is a member; with others including British Airways, Iberia, American, and recent addition Qatar Airways.

The dominant JCA intra-African international carriers are thus all allied to overseas partners.

### **3.2.2 Code Sharing**

This practice is typical of but not necessarily restricted to alliance partners. A flight carries the flight number of the operator, but can also carry the flight number of other airlines who sell seats on that flight. This gives the impression of a larger network or higher frequencies on the part of the “guest” carrier, but the passenger who buys a ticket on airline A can find themselves on an aircraft operated by airline B.

It is often a reciprocal arrangement. For instance<sup>51</sup>, an Egyptair (MS) aircraft shares the early morning (MS852) Addis Ababa to Cairo flight with Ethiopian (ET1450); while an Ethiopian (ET) aircraft shares the late evening service (ET714) with Egyptair (MS9463) - and with their Star Alliance partner SAS Scandinavian Airlines (SK8951) as well. The flight continues to Stockholm as an ET/SK codeshare.

The practice of code sharing is extremely prevalent. Nearly 8,000 flight numbers code-shared worldwide in October 2012<sup>52</sup>, representing perhaps 40,000 frequencies per week (assuming an average weekly frequency of five per flight number). Analysis of all flights scheduled outbound from Addis Ababa in that month shows<sup>53</sup>:

- ET “hosted” code-shares for other airlines on a total of 50 frequencies per week to 11 destinations in Africa, plus 56 intercontinental frequencies per week to 8 destinations overseas; and
- ET was the “guest” code-sharer on other airlines on 7 frequencies per week to one destination in Africa (the Cairo example above) and 13 frequencies per week to two destinations overseas.

That is over 6,000 flights per year, from Addis Ababa alone. Clearly the liberalisation of traffic rights within Africa has to take account of this practice - the YD is about African States exchanging traffic rights for their designated airlines, but many of the flights they operate are not simply in their own name.

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<sup>51</sup> OAG flight guide worldwide, October 2012

<sup>52</sup> Ibid

<sup>53</sup> Ibid, Consultants’ analysis

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### **3.3 Globalisation**

In the past, as noted above European airlines and their local associates dominated African skies, linking colonies with Europe and flying between towns in African territories with relatively short range aircraft<sup>54</sup>. These route patterns tended to persist after African States gained independence, and fifth freedom rights (e.g. between Nairobi and Johannesburg) were exercised even by new entrants like KLM as well as ex-colonial flag carriers. Such practices are rare nowadays (as aircraft range and point-to-point traffic between Europe and Africa has increased), but the European carriers' fifth freedom rights presumably still exist. European airlines still carry most intercontinental African traffic<sup>55</sup>.

Overseas influences persist within Africa however, more subtly. Financial participation in African airlines is one element, although it must normally remain below 50% for the African airline to qualify for YD designation (and domestic approval). Examples in the JCA area include:

- Comair, the South African carrier, whose website shows a 13% holding by BA's Britair Holdings Ltd, and 2% by other foreign investors. The airline operates one of only two remaining BA franchises, under the terms of which it is supposed to maintain recognisably BA standards - although its Chief Executive indicated in a media interview that in the South African market they felt they had to adapt and improve on that<sup>56</sup>. It would therefore appear that overseas influence on Comair is minimal.
- Kenya Airways (KQ), founded 1977, privatised 1995, 55.24% of whose capital is held by Government (29.80%) and private Kenyan parties (25.44%); while KLM (now Air France/KLM Group) owns 26.73%, and IFC with other foreign investors (18.03%)<sup>57</sup>. The airline does reciprocally codeshare with KLM to Amsterdam, and 'hosts' an Air France codeshare on the Paris route, but as Sky Team partners that is not unusual. Possibly KQ's choice of that alliance rather than Star Alliance (or One World) might have been influenced by the relationship, but equally KQ might well have deliberately avoided partnering Egyptair, Ethiopian and SAA in the Star grouping.
- Apparently at the other end of the scale for influence is the case of Korongo Airlines, based at Lubumbashi in the D R Congo<sup>58</sup>. The airline is effectively 80% owned, through a holding company, by Groupe Forrest International (39.6%) and 40.4% by Brussels Airlines (SN). GFI and SN have their roots essentially in Belgium, and the airline has Belgian registered aircraft. Consideration of the company's Congolese credentials in a legal sense is beyond the scope of this overview - in operational practice it seems to be a localised airline operating with Belgian expertise, domestically and to

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<sup>54</sup> For example, the 1946 BOAC twice weekly London-Castel Benito-Cairo-Khartoum-Nairobi-Johannesburg service, which took three days with two nightsops included in the fare (ABC air guide no. 146, June 1946)

<sup>55</sup> AFRAA, op cit

<sup>56</sup> Media interview 04 October 2012 by Earl Venter, CEO of Comair.

<sup>57</sup> Kenya Airways : Business & financial review : Full year ended 31 March 2012

<sup>58</sup> GFI SA press release, and web sites.,

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Johannesburg (perhaps paralleling the way Ethiopian started under TWA tutelage) in welcome contrast to the image presented by the 2012 European Union ban on European operations by all airlines certified in D R Congo.

A different aspect of global influences on Africa's air transport markets is that presented by the growing presence of Middle Eastern (particularly UAE) airlines in the African intercontinental market, mirroring the historic European domination, and in at least one instance going further than that. State owned Air Seychelles (HM) was unprofitable in early 2012, and severe retrenchment was necessary as Government could not continue with unlimited financial support<sup>59</sup>. At one point HM was operating fewer seats from the national Mahe airport (SEZ) than Dubai-based Emirates, one of the Middle East carriers moving in to the African market. Another was Etihad, the Abu Dhabi airline, which in an effective recapitalisation bought a 40% share in MH, matched by Government, for US\$20 million. Etihad also lent MH US\$25 million (thus maintaining local ownership rules) for working capital. Air Seychelles was rejuvenated, and began to rebuild its route network, with an Etihad sales and code share partnership potentially giving Etihad access to Asian markets on MH flights. In order for MH to fly the growing network, it is wet-leasing (i.e. broadly, rented aircraft and crew) two Airbus A330-200 aircraft from Etihad, (as well as a smaller A320 presumably for African international services), which it hopes to convert to dry lease (i.e. operate under its own Air Operator's Certificate) by mid 2013. Etihad also has a publicly-announced<sup>60</sup> special pro-rate agreement (SPA) with Air Seychelles, as it had with 98 other airlines. This tends to mean that a premium is paid for feeder traffic on through fares, long-haul tariffs being generally cheaper per km than short-haul for good reasons, otherwise when the fare is pro-rated (split strictly pro-rata to distance), the short-sector carrier receives a lot less than it would have earned for using the seat for point-to-point traffic. That sounds equitable, but whether it is fair competition when it encourages feeding a particular partner might be debatable.

Overall this was considerable, but welcome overseas involvement enabling a COMESA/SADC carrier to survive and prosper, to mutual advantage. As well as their presence at SEZ, Emirates, Etihad, Doha-based Qatar Airways, and Saudia from the Kingdom, are all developing African networks<sup>61</sup>.

Schedules show growing numbers of direct flights between African airports and the Middle East, but apart from local traffic these carriers' market strategies are to offer attractively priced worldwide connections through their Middle Eastern hubs (effective sixth freedom operations), although traffic data, published or schedule-derived, discloses only the flights' origins/destinations in the Gulf States. Turkish Airlines are also pursuing this policy as part of considerable expansion over recent years. There are some complaints that these airlines are poaching<sup>62</sup> African airline management talent, and experienced pilots; what is certain is that they are threatening European airlines' historically quasi-monopolistic position in intercontinental markets.

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<sup>59</sup> Air Seychelles, Etihad, CAPA Centre for Aviation, and Flightglobal websites.

<sup>60</sup> Etihad : Special business report, Q2, 2012.

<sup>61</sup> Les Afriques, no. 221, October 2012, 'Les compagnies aériennes arabes se placent en Afrique', and other media news stories

<sup>62</sup> AFRAA interviews, op cit

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An example of the obverse of this overseas pressure on the JCA area may conveniently be noted here. Ethiopian Airlines has, with a 25% shareholding and a five-year management contract, has been instrumental in setting up ASKY Airlines in Lome, Togo, from which it operates a west and central African international network. Other shareholders include two development banks, and minority South African interests. Although this venture is within the continent of Africa, it does show that so far as the JASR area is concerned, globalisation can have outward as well as inward effects.

### **3.4 Tourism and Leisure Travel**

#### **3.4.1 Examples and their Significance**

Compared with Europe and North America in particular, broadly as a function of GDP per head, relatively few people in Africa fly. There is as yet no mass indigenous leisure market on the scale of northern Europe's Mediterranean and long-haul holidays. As incomes develop, so will discretionary demand for air travel, and this process will be accelerated if fares fall. At present, however, much leisure travel in Africa is by foreign visitors, tourism being an important contributor to GDP including airline revenues.

The most striking examples in the JCA area are the holiday reception airports of Hurgada (HGH) and Sharm el-Sheik (SSH) in Egypt. Until the sharp falls in visitor numbers in 2011, the airports for these resorts each handled some 7 million international passenger movements (3.5 million tourist visitors) per annum - almost on a par with Johannesburg (JNB) and nearly double the throughput of Addis Ababa (ADD) or Nairobi (NBO). Hurgada is particularly popular with Russian and East European visitors, Sharm el-Sheik caters mainly to West Europe. Yet neither HGH nor SSH have any intra-African international scheduled services, and at present their traffic is irrelevant to the JCA, but it does illustrate the potential distortion of the market picture by reliance upon raw agglomerated data, often the only statistical information available without further research.

Intercontinental tourism is also particularly significant for Mauritius and the Seychelles, but their geographical insularity (like Comoros) makes air transport links with their European and Asian visitor-generating markets, their nearest island neighbours, and the African mainland (particularly South Africa as a tourism generator) economically and socially vital in any case. High frequency air services between Mauritius (MRU) and nearby Réunion (St Denis RUN), and flights between Comoros (Moroni HAH) and close neighbour Mayotte (Dzaoudzi DZA), are technically intercontinental, as both the non-JCA islands are Euro-zone overseas *départements* of metropolitan France.

The wildlife-oriented tourism which is so important to Kenya, Tanzania, South Africa, Botswana and others relies upon intercontinental and local domestic (not always scheduled service) air transport. It does tend to aim at a more discerning and relatively high-income market than the traditional European packaged beach holiday. Serving such a clientele may offer potential for the development of African international routes linking tourist destinations such as Kilimanjaro (with its own intercontinental services), Livingstone, Victoria Falls, Maun, Mpumalanga and others not only with intercontinental gateways as now, but with each other, in a liberalised environment.

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### **3.4.2 Low Cost Carriers LCCs**

The emergence of low cost carriers LCCs as major players in an air transport market, of which they are key drivers in its growth, needs at least three preconditions (at least in the US/European model):

- a large potential market population with financial and time freedom to travel;
- widespread access to electronic reservations and payment systems; and, crucially,
- liberalisation of market entry and traffic rights.

Given such an environment, the explosive growth of such operations in Europe and other areas has led to the emergence of such LCCs as Ryanair of Ireland, 79.6 million passengers across Europe in 2012<sup>63</sup>; closely followed by EasyJet, serving 600 city pairs in 30 countries and carrying 58.75 million passengers in 2012<sup>64</sup>. That put each of them ahead of British Airways on a passenger count basis, and together they carried more passengers than the total number of airline passengers to, from and within Africa.

In Africa, without a mass market with incomes allowing discretionary spending, and without universal pc ownership and personal credit/debit card use (although the Kenyan Mpesa mobile phone payment system is a substitute), the low cost model - like liberalisation - has been slow to develop. When it does - when and if African LCCs reach the potential size of Ryanair and EasyJet, the significance to the JCA will clearly be immense.

The situation can change quickly - as recently as November 2012 one LCC (South African domestic operator "1time") went out of business and another (Fastjet in Tanzania) started operations. Creation and liquidation of small single airlines might not seem significant in Europe, but in the African context they are relatively major events in this sector of the market.

Only eight airlines<sup>65</sup> describing themselves as LCCs have been identified as currently flying in Africa:

- Air Arabia Egypt, Alexandria-based, with links to a UAE-headquartered group, flying only to Middle Eastern points;
- Fastjet, recently established in Tanzania but with ambitions to move to Kenya, financially backed by Lonrho and with the management expertise of the founder of EasyJet, flying only Tanzanian domestic routes at present;
- Five Forty Aviation Ltd ("Fly540"), with its main base at Nairobi, Kenya, and a sub-hub at Dar es Salaam, with two quite extensive hub-and-spoke networks ranging from Juba in the north to Zanzibar in the south, taken over by

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<sup>63</sup> Flightglobal website.

<sup>64</sup> Ibid

<sup>65</sup> Data from the airlines' websites

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Rubican to form the basis of Fastjet, but still offering flights for sale on the internet<sup>66</sup>;

- Kulula<sup>67</sup>, Johannesburg (using both O R Tambo and Lanseria airports), the low cost “fun” brand of BA franchisee Comair, flying domestic routes in South Africa, ;
- Mango Airline, also Johannesburg-based, 100% owned by SAA and flying domestic services in South Africa, having recently (like Kulula) taken over some “1time” routes;
- There are also two LCCs in Morocco (one being the sister company of Air Arabia Egypt), and one in Tunisia, but these are perhaps unlikely to enter JCA territory in the near future at least.

As noted above, the LCC situation seems to be quite fluid, and can change quickly.

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<sup>66</sup> There are also Fly540 companies in Angola and Ghana

<sup>67</sup> The World Intellectual Property Organization (WIPO) : Arbitration & Mediation Centre : Administrative Panel, in domain name case no. D2012-1107 (brought by Comair) noted that “kulula” may be translated from the mutually intelligible Xhosa and Zulu languages as “It’s easy” - cf. “EasyJet” in Europe.

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### **4 YD PROGRESS**

#### **4.1 Liberalisation and/or Privatisation**

##### **4.1.1 Free and Fair Competition**

The YD “operationalises” the Yamoussoukro Declaration’s advocacy of liberalisation as a spur to the development of a strong and viable air transport industry in Africa. It is interdependent with the establishment of RECs, in various degrees paralleling the European Common Market’s evolution into the European Community (and latterly the European Union). The basic principle is one of free and fair trade and competition within the REC. In the case of air transport, it is free and fair competition between the airlines domiciled in the JCA member States, with free and fair access to non-domestic markets.

That does not necessarily imply a “free-for-all” *laissez-faire* approach. Because air transport market access must be restricted to airlines whose safety standards are acceptable to the regulatory authorities in their State of domicile, the YD requires that airlines be “designated” by the governments of such States to be included on their air service agreements (ASAs) between States. Once so designated, their access to routes between States should be free and fair - that is to say it should include all five freedoms, and States should not unilaterally restrict service frequency or capacity, or the tariffs charged, broadly unless competition is unfair. It is specifically noted (Article 6.3) that State ownership of an airline is no bar to designation on an ASA.

##### **4.1.2 State Ownership and State Aid**

Clearly the YD is about liberalisation, not privatisation, although the two have tended to go hand-in-hand during the liberalisation process in Europe, and has often been the case in Africa. Nonetheless some important examples of State ownership remain, notably those of Ethiopian Airlines, Kenya Airways, and South African Airways (SAA) - three dominant carriers in the JTA area. According to the African Development Bank (ADB)<sup>68</sup> in 2011, while 17 more countries in Sub-Saharan Africa retain State-owned flag carriers, 28 countries no longer have State-owned airlines.

Thus, following the parallels with the European development of a liberalised free and fair market for air transport within an Economic Community, it is perhaps surprising that there has not apparently been so much public emphasis on questions of State aid. The governing principle here is that if an enterprise is State-owned, its owners may give it financial support only to the same degree that a private owner might reasonably do. Thus in South Africa it has been suggested<sup>69</sup> that the US\$560mn guarantee granted by the State to SAA following the airline’s US\$142 mn loss in the 2012 financial year was unfair State aid (despite its being conditional upon preparation of a turnaround strategy, and followed by replacement of the company’s Board). Significantly, no such publicised complaints have been seen from the many States with which South Africa has Bilateral ASA’s, or their designated airlines.

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<sup>68</sup> Africa Infrastructure Knowledge Program statement, 2011.

<sup>69</sup> Panapress news item, 08 October 2012)

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The other two dominant airlines, ET (wholly government owned) and KQ (partly government owned), are commercially profitable, and issues of unfair competition do not seem to have arisen.

Privatisation, or at least commercialisation, is also becoming a feature of airport operations in the JCA region and elsewhere in Africa. The three international and seven major domestic (national) airports in South Africa have been “privatised” in that their ownership and operation has been taken over by the Airports Company South Africa SOC Ltd, and the company certainly operates as a commercial entity. However, it is registered as a “State owned company”<sup>70</sup>. Ethiopian Airports Enterprise also operates commercially operating the country’s airports; while Cairo<sup>71</sup> is privately managed as a BOT concession. ACI Africa also cites Kenya as having privately managed airports, but Kenya Airports Authority appears still to operate them. In Tanzania the Airports Authority sees public/private partnership as the way forward, while Zambia’s National Airports Corporation Ltd is a parastatal enterprise.

Commercially driven airports are perhaps more likely to actively seek to develop new business, and this trend should augur well for the encouragement of the grant of more liberal traffic rights to attract carriers.

### **4.1.3 Examples**

The development of new routes by Ethiopian Airlines and Kenya Airways by the use of fifth freedom traffic to support multi-sector operations, particularly linking east and west Africa, has been described above. Although fifth freedom rights may have been exchanged between Ethiopia and other States, it is noticeable that on routes from Addis Ababa only one fifth freedom sector actually seems to be operated - by Kenya Airways to/from Djibouti (although KQ also used to fly between Addis Ababa and Cairo).

On the negative side, the recent exclusion of Kenya Airways from the Lusaka-Lilongwe route has also been mentioned above, in the context of the exercise of fifth freedom rights by the dominant JCA area carriers. There is, however, a further example in the literature<sup>72</sup> of reluctance to implement the YD by insisting on capacity limitations or to grant fifth freedom rights. This is the case of Zambia, who put a capacity limitation on five nominated city pairs between Zambia and South Africa, notably the Lusaka/Johannesburg route, and refused fifth freedom rights to Libya, Ethiopia, Nigeria and Kenya between 2001 and 2005. While this might well be ascribed to a determination to protect the ability of Zambia to reconstruct a flag carrier so that it could operate its own share of those seats, the result has been that SAA has had a monopoly on the route (until the arrival of Kulula). That in turn could explain why South Africa also refused fifth freedom between Lusaka and Johannesburg to Egypt in 2001. It is not necessarily the case that the airlines of those countries still operating to Johannesburg and/or Lusaka would nowadays want to risk introducing an en route stop on the Johannesburg route given the current option of nonstop service either co-operatively through an SAA codeshare (Egyptair and Ethiopian) or (for Arik Air, Lagos, with a Boeing 737-800) an SAA Airbus 340 competitor.

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<sup>70</sup> Kruger Mpumalanga International airport, with its distinctive thatched terminal, is however a commercially private enterprise built and operated by Primkop Airport Management Pty Ltd.

<sup>71</sup> As well as El Alamein and Marsa Alan airports in Egypt, according to Airports Council International - Africa, 2012 website

<sup>72</sup> Schlumberger, op cit, p 38 *et seq*

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A more positive outcome contrasted<sup>73</sup> is that of Uganda. After the demise of its flag carrier in 2001, Uganda opened its skies and airport to fifth freedom traffic in order to maintain the country's air links and tourism. While this overview has not investigated what rights may have been it has secured in return, it is clear that Entebbe's international passenger traffic more than doubled between 2004 and 2011, to over one million passenger movements.

### **4.2 Other Factors**

#### **4.2.1 Infrastructure : Airports**

A brief review is necessary to see whether there are airport capacity constraints which could hinder the process of liberalisation and expected attendant traffic growth. Airport capacity can be limited by :

- the number and condition of runways appropriate to the size of aircraft using them, and the efficiency of air traffic control and aids permit, (a safety constraint);
- the size and layout of the terminal, limiting the passenger, and often critically the baggage, flow through it, (questions of service standards and the economics of delay);
- characteristics of the aircraft/terminal interface, for example apron space, number of gates, and ground handling services, (generally physical limitations)

In Europe, at least 35 of the busiest 50 airports have reached or are close to their declared annual capacity<sup>74</sup>, determined by one or more of the above constraints. At London-Heathrow for example, there are virtually no additional runway 'slots' available for the whole 17½ hour operating day (night flights being restricted), and terminal gates are also fully occupied<sup>75</sup>.

According to the literature<sup>76</sup> there does not seem to be a comparable scale of problem in Africa at present.

It is estimated that there are about 70 airports<sup>77</sup> in the JCA area with scheduled service traffic on paved runways, handling an estimated 1.6 million air transport (aircraft) movements<sup>78</sup>, and nearly 100 million passenger movements. Although the literature

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<sup>73</sup> Ibid

<sup>74</sup> European Commission staff working paper, 2005

<sup>75</sup> Interview, Airport Co-ordination Ltd, responsible for managing slot allocation at LHR and other busy UK airports

<sup>76</sup> V Foster & C Briceño-Garmendia (editors), Africa's infrastructure, a time for transformation, Agence Française de Développement and World Bank, Chapter 13, Airports & air transport, which being written by H Bofinger and KN Gwilliam, unsurprisingly leans heavily upon Bofinger's other World Bank study, op cit

<sup>77</sup> Those with over 1000 departing seats per week scheduled, as counted by Bofinger, op cit

<sup>78</sup> The Airports Council International (ACI) Africa website shows a 2011 average of 61.2 passengers per aircraft movement (153 million airport passenger movements, on 2.5 million aircraft movements). Our 2011 unduplicated JCA area estimate is 99 million airport passenger movements (65 million airline passengers, 34 million of them on domestic or African international routes, although there is a slight margin of error here as some JCA area African international passengers fly to/from "other

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indicates that they have adequate capacity at modest hourly runway movement rates, that does not take account of traffic peaks.

Point to point traffic tends to peak, and competing airlines in a liberalised environment will want to meet that demand. For connecting traffic at hub airports like Addis Ababa, Nairobi and Johannesburg, the essence of airline strategy is to attract passengers with short transfer times, in a terminal environment which makes passenger and baggage transfers reliable within those short time limits. Aircraft scheduling must also take account of this, as peaks, or at least 'bands' 'waves' of arrivals and departures, are inevitable. Furthermore, aircraft scheduling at one airport has to take account of arrival and departure times at the other airport(s) served, at varying distances, which may be in different time zones, and have environmental curfews.

All in all, it appears that the literature's assumptions are somewhat facile. Runway and terminal capacity assessment and planning (as well as in situ condition reporting) is a complex business, beyond the scope of this overview. The airport capacity situation deserves further study taking authoritative traffic forecasts (or at least scenarios) into account, before deciding that it will not impact on liberalisation. Any apparent investment needs will then require financial and economic evaluation.

As airports with two parallel runways<sup>79</sup>, Addis Ababa, Cairo and Johannesburg potentially have a great advantage in hub development, and Nairobi has done well to compete with a single runway. That may well still be a luxury for other capital city African airports at present, but the literature is to be praised for advocating parallel taxiways, as a safety measure and capacity enhancer at single runway airports.

### **4.2.2 Air Traffic Control and Management**

The same main literature commentaries as for airports<sup>80</sup> are rather critical of ATM and ATC standards in most of Africa outside of South Africa. They are particularly concerned with the lack of radar or more modern surveillance systems, and recommend the installation of satellite-based automatic dependent surveillance-broadcast (ADS-B) technology. Absence of modern ground-based radio navigation aids<sup>81</sup> (such as NDB, VOR, DME) is also noted.

It must be borne in mind that the commentaries were published three years ago, and probably largely written earlier. They mention global positioning systems (GPS), but three or four years is a long time in the technological world these days, and it would seem appropriate to consider a specialised inventory project, as it is clear that air traffic growth,

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Africa" and should not be double counted like domestic passengers inside the JCA area). Broadly, however, 99 million JCA airport passenger movements at 61.2 per aircraft implies 1.6 million aircraft movements. As a check, applying the same average aircraft load of 61.2 to our 149 million (ACI 153 million) total Africa airport passenger movements (101 million of whom 48 million are domestic or international within Africa, including JCA"other africa" travel) brings an air transport (aircraft) movements total of 2.438 million, reassuringly close to ACI's rounded 2.5 million.

<sup>79</sup> Flightglobal, op cit

<sup>80</sup> Foster & Briceño-Garmendia, and Bofinger, op cit

<sup>81</sup> Rather dated non-directional beacons (NDB), very high frequency omni-directional radio range (VOR), and distance measuring equipment (DME)

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encouraged or induced by YD implementation, will call for increasingly safe and efficient use of airspace en route as well as at and around airports.

There seems to be a need updated detailed inventory investigation in co-operation with appropriate technical bodies<sup>82</sup> to ensure that the continent can identify and provide for the technological as well as the traffic implications of YD implementation. Infrastructure should be optimised to fit the traffic pattern, rather than the traffic be constrained by lack of infrastructure - management, personnel, training, and systems, as well as equipment.

### **4.2.3 Safety**

On a world scale, air travel is becoming safer, in terms of numbers of fatal accidents by commercial airlines with aircraft over 12 seats<sup>83</sup>. Worldwide, 2012 was a comparatively safe year for numbers of fatal airline accidents and numbers of passenger fatalities, with 21 such accidents, with 425 fatalities, against 32 in 2011 (514 fatalities), and 26 in 2010. These numbers compare with an average of 35 major fatal accidents per annum in the 1980s, when there was only about one third the number of airline flights.

That 2012 total included only one major passenger aircraft accident in Africa<sup>84</sup>, but that was the year's worst, the Nigerian Dana Airways MD83 crash onto a residential area of Lagos, killing 163 people, 38% of the world total fatalities. In 2011, two major African accidents have been identified - a Hewa Bora Airways Boeing B-727 crash at Bangoka in DR Congo (74 fatalities), and a Trans Air Congo Antonov AN12 crash at Point Noire with 23 fatalities. It is however long term trends which are most significant.

More significant reasoning behind the continent's reputation as it being "commonly accepted that Africa is the least-safe region"<sup>85</sup> is the relatively high rate of total hull loss fatal accidents per million sectors flown<sup>86</sup>, recording between four and six accidents per million sectors flown in 2004 and 2006 respectively, compared with world averages of less than one per million sectors flown. By such a measure, flying in Africa is, statistically speaking, several times more dangerous than flying in Europe or North America for instance. However, the absolute figures per million sectors are low, and give credence to the general belief that the most dangerous part of any air journey is the drive to the airport, in Africa as elsewhere.

One consequence of the perceived lack of safety among some African and some other countries' operators (backed by inspections of aircraft at European airports<sup>87</sup>) has been the European Union's regularly updated 'blacklist' of non-European (not only African) carriers

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<sup>82</sup> E.g. ASECNA (Agence pour la Sécurité de la Navigation Aérienne en Afrique et à Madagascar, ICAO ESAF (International Civil Aviation Organisation, East and Southern Africa Office), and/or other programmes as appropriate.

<sup>83</sup> Flightglobal : Interviews, David Learmount, editor, Flight International, January 2013 and 2012

<sup>84</sup> Flight Safety Network : Airline Safety Network : Database, is the source of all individual accident data quoted, and accident numbers analysed by country

<sup>85</sup> Bofinger, op cit

<sup>86</sup> Schumberger, op cit

<sup>87</sup> Directive 2004/36/CE of 21 April 2004 on the safety of third-country aircraft using Community airports, establishing the SAFA (Safety Assessment of Foreign Aircraft) programme, and Regulation (EC) No 351/2008 of 16 April 2008 ...as regards the prioritisation of ramp inspections on aircraft using Community airports

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who are not permitted to use European (all ECAC) airports<sup>88</sup>. This 'EU safety list' currently includes<sup>89</sup>, in the JCA area, all air carriers certified by the authority for regulatory oversight of Angola (with the exception of TAAG Angola Airlines, which is subject to operating restrictions), Democratic Republic of Congo<sup>90</sup>, Djibouti, Eritrea, Mozambique, Sudan, Swaziland, and Zambia. Rwanda was however removed from the list in December 2012.

The EC 'blacklist' has been criticised by AFRAA<sup>91</sup> as achieving "nothing in terms of improving safety" and serving "to further the commercial interests of EU carriers", and stated by the International Air Transport Association (IATA) that "IATA does not believe that banning airlines improves safety". However, it should be borne in mind that the EU's primary aim in introducing its 'air safety list' was to improve safety in Europe, with only an incentive effect on countries and airlines listed to improve their standards.

In Africa and elsewhere, the rate of air transport accidents by region has been shown<sup>92</sup> to correlate significantly with the number of findings of "lack of effective implementation" of safety oversight criteria by State certificating authorities, by the regular investigations of the of ICAO's Universal Safety Oversight Audit Program (USOAP)<sup>93</sup>. As well as determining the State's level of implementation of safety-relevant ICAO Standards and Recommended Practices (SARPs), associated procedures, guidance material and practices, these investigations cover eight aspects of the implementation of safety oversight. These are primary legislation, organisation, licensing, operations, airworthiness, accident investigation, air navigation services and aerodromes. Each is scored on a scale of one to ten, from "effectively not implemented" to "fully implemented" respectively, with various degrees of partial implementation in between. The world averages are of course below ten in all categories, real concern arises when a State's scores fall significantly below that.

At its 2008 audit France, for instance, scored above the world average on all eight criteria, with two nines and six tens (slightly better than the UK, Canada, or the United States, although all were above world average on all counts, and none fell below eight on any aspect. By contrast, at its 2006 audit, despite a score of 5 for legislation, D R Congo for example was below the world average on all aspects, scoring two zeros (accident investigation and aerodromes), four ones (organisation, licensing, operations, and airworthiness) and a two for air navigation services. Swaziland was another State with noticeably low scores at its 2007 audit, it is however an example of an ongoing ICAO presence addressing the detailed shortfalls identified<sup>94</sup>

As for the four most prominent air traffic States in the JCA region:

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<sup>88</sup> Regulation (EC) No 2111/2005 of 14 December 2005 on the establishment of a Community list of air carriers subject to an operating ban within the Community....

<sup>89</sup> (EC) Legal notice dated 04/12/2012, List of air carriers of which all operations are subject to a ban within the EU, Appendices A and B

<sup>90</sup> Including Korongo Airlines (Air Operator's Certificate number 409/CAB/MIN/TVC/001/2011), aircraft in whose livery have been photographed at Brussels Airport with Belgian registrations.

<sup>91</sup> Statements at the 43<sup>rd</sup> annual AFRAA General Assembly 2011, quoted by Flightglobal

<sup>92</sup> Bofinger, op cit

<sup>93</sup> ICAO : USOAP : Safety Oversight Audit Section : Flight Safety Information Exchange (FSIX)

Website

<sup>94</sup> Swaziland CAA Website.

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- Egypt is above the world average on all criteria, with five scores of ten (fully implemented), a score not achieved on any aspect by the other three States below;
- Ethiopia is below the world average as regards operations and air navigation services;
- Kenya falls below the world average in operations and accident investigation; and
- South Africa was below world average in legislation, and organisation.

Swaziland was another State with noticeably low scores at its 2007 audit, it is however an example of an ongoing ICAO presence addressing the detailed shortfalls identified<sup>95</sup>.

Safety in air transport is of course a vital issue in its own right, and the perceived lack of it is a constraint upon growth. The specific importance of airlines and their personnel being certificated and overseen by authorities to ensure that they meet ICAO standards in the YD context, is that Article 6.9<sup>96</sup> specifies such compliance as a condition of the eligibility of an airline to be designated to operate within the YD framework. Failure to comply by the designated airline of one State gives the other the opportunity to unilaterally revoke, suspend or limit its operations (Article 6.10), and States are only required to recognize Air Operator's and Airworthiness Certificates, as well as professional personnel licensing, as long as the standards for issuing them meet ICAO requirements.

Indeed compliance with ICAO standards is a recurring fundamental condition of the successful implementation of the YD between States.

### **4.2.4 Environmental Issues**

Tunisia is the only African State to nominate a representative to the ICAO Committee for Aviation Environmental Protection (CAEP). Unless African States have chosen to incorporate limitations on the operation of aircraft not meeting requirements to comply with particular aircraft noise and emission standards (stringency) into their legislation, it is the inability to operate non-compliant aircraft into the developed countries which have such legislation<sup>97</sup> which ultimately ensures their effective adherence. Constantly updated 'Chapters' of Annex 16 to the ICAO Civil Aviation Convention Annex "Chapter" designate standards of noise and emissions measurements which new aircraft must meet. It has been national (and supra-national such as EC) legislation which sets deadlines on when older aircraft not meeting the new standards can no longer operate in their territory, generally with temporary exemptions for operators in developing countries. Nowadays there is a "balanced approach" compromise whereby stringency standards apply to new aircraft but cessation of operation and enforced fleet retirement is replaced by a range of initiatives to reduce the production and impact of aircraft noise, and in Europe there is an emissions trading scheme.

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<sup>95</sup> Swaziland CAA Website.

<sup>96</sup> United Nations : Economic and Social Council : Economic Commission for Africa : ECA/RCID?CM.CIVAC/99/RPT : Annex I : Decision, op cit

<sup>97</sup> Generally North America, Europe, Australasia, Japan and Brazil

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Thus in theory almost all African States can use old, noisy, “dirty”(emitting smoke, carbon dioxide [CO<sub>2</sub>], oxides of nitrogen [NO<sub>x</sub>], etc) aircraft with impunity as long as they stay in African skies and airports. In practice, old aircraft tend to be expensive to maintain, are inefficient fuel users, and unattractive to passengers where they have a choice. Since fuel can be the largest single item of expenditure in an airline’s operating costs<sup>98</sup> of even an airline with a modern fleet, the economic imperative tends to be at least as effective as the regulatory approach in encouraging re-equipment.

Newer aircraft and engines also try to reduce emissions (although there are inter-actions between reducing NO<sub>x</sub> and reducing CO<sub>2</sub> due to often higher internal operating temperatures), but they are a global rather than a localised problem. At present it is the North Atlantic which sees the most high level emissions (which is where they cause the most problems), but they are not static. African air traffic not yet a major contributor to world emissions inventories, and any extent of its negative impacts on Kyoto-like targets is beyond the scope of this YD overview. Suffice it to say that anything which enhances the growth of air transport and its socio-economic benefits ) has an environmental cost which is likely to come under increasing scrutiny in the future. .

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<sup>98</sup> 41% in 2010/2011 for Ethiopian Airways, according to their Annual Performance Review

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### **4.3 Conclusions and Recommendations**

Where States have embraced application of the Yamoussoukro Declaration and Decision, air traffic has tended to flourish with liberalisation. Where they have been slow to implement the YD, and there are examples of reluctance to grant traffic rights, this may be due to:

- differences in perceived implementation of perceived safety deficiencies - their elimination is an integral YD necessity; or
- 'protectionism', perhaps better expressed as States' fear that their strategic air links will fall under the control of a dominant foreign carrier - this is understandable, as there has been a high degree of polarisation at powerful hubs in the JCA area.

It seems not to be necessarily proven whether route development would have happened anyway without such liberalisation as has occurred on an African international scale - if not due to actual competition and privatisation, then to the 'internationally commercial' rather than 'national asset' philosophy of successful State-owned airlines' managements.

Competition spurred growth in South Africa for a time, domestically and on intercontinental and African international routes, but the airline has reportedly been unprofitable recently.

- In Kenya, where the designated airline is (just) profitable, perhaps foreign investment in the airline (as in the Seychelles) and/or its choice of alliance were the catalysts for expansion and hub development.
- Ethiopia (also profitable despite inroads of high fuel costs), with its airline's long history of cumulating third, fourth and fifth freedom traffic to develop thin multi-sector routes, shows a clear example of the practical application of YD principles.
- Paradoxically, Egypt, the biggest player in the JCA, has the lowest number of African routes, and is a special case at present for non-aviation reasons.

The total passenger market in the JCA area is estimated at 63.8 million in 2011 airline passengers (96.9 million airport passenger movements):

- 30.7 million intercontinental airline passengers (30.7 million airport passenger movements in the JCA area), with JCA generally involved only when multiple African points are served;
- 12.2 million African international airline passengers (24.4 million airport passenger movements in the JCA area), of which:
  - 7.9 million fly within the one or other of the three JECs;
  - 3.1 million fly between the three JECs; and

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- 1.2 million are the JCA area “share” of 2.4 million passengers between the JCA area and “other Africa”; and
- 20.9 million domestic airline passengers (41.8 million passenger movements at airports in the JCA area).

Those markets are expected to continue to grow long term by between 4.8% and 6.9% per annum, including 6.2% for traffic within Africa.

To enable the JCA to operate effectively in this environment, and to make accurate quantitative as well as qualitative judgements (in its funding as well as its operations), it is strongly recommended that the REC Member States be persuaded to collect, analyse and publish comprehensive, and accurate traffic statistics for airports and airlines, in a timely and consistent manner.

Further study than is appropriate to this overview is required into the organisation and implementation of this requirement; as it is into the collation of declared airport facility capacities and condition reports, as well as navigation/surveillance equipment inventories.

## **OVERVIEW OF THE AIR TRANSPORT MARKET IN THE TRIPARTITE REGION**

### APPENDIX A

#### JCA STATES, THEIR MAJOR AIRPORTS, AND PASSENGER TRAFFIC

Table 2 : DETAILED PASSENGER TRAFFIC ESTIMATES 2011 (Thousands of Airport Passenger Movements and Total Airline Passengers)

States	REC Membership		2011		2011		2011	2011
			Intercontinental	Africa International		Domestic	Totals	
AIRPORT PASSENGER MOVEMENTS		International Within JCA		International JCA/"Other Africa"				
Angola		SADC	472	456		962	1,890	
Botswana		SADC	-	411		194	604	
Burundi	COMESA	EAC	5	248		-	254	
Comoros	COMESA		270	117		89	476	
D R Congo	COMESA	SADC	155	441		263	859	
Djibouti	COMESA		218	286		-	504	
Egypt	COMESA		12,652	1,274	503	4,781	19,210	
Eritrea	COMESA		215	84		76	374	
Ethiopia	COMESA		1,606	802	929	585	3,922	
Kenya	COMESA	EAC	2,207	2,406	558	1,680	6,850	
Lesotho		SADC	-	81		-	81	
Libya	COMESA		1,443	1,212		1,968	4,624	
Madagascar	COMESA	SADC	460	265		1,036	1,761	
Malawi	COMESA	SADC	3	410		134	547	
Mauritius	COMESA	SADC	1,791	513		403	2,707	
Mozambique		SADC	73	549		918	1,541	
Namibia		SADC	194	827		68	1,089	
Rwanda	COMESA	EAC	15	440		-	455	
Seychelles	COMESA	SADC	340	133		572	1,044	
South Africa		SADC	6,174	5,463	488	25,489	37,613	
Sudan & S Sudan	COMESA		1,259	864		490	2,613	
Swaziland	COMESA	SADC	-	133		-	133	
Tanzania		EAC SADC	469	1,198		1,501	3,168	
Uganda	COMESA	EAC	396	922		57	1,374	
Zambia	COMESA	SADC	91	1,376		351	1,817	
Zimbabwe	COMESA	SADC	146	1,046		191	1,383	
<b>COMESA TOTAL</b>			23,273	12,971	1,991	12,675	50,910	
<b>EAC TOTAL</b>			3,092	5,214	558	3,238	12,102	
<b>SADC TOTAL</b>			10,369	13,301	488	32,083	56,240	
<b>JCA AREA TOTAL</b>			30,656	21,956	2,478	41,808	96,897	
<b>OTHER AFRICA TOTAL</b>			23,037	8,488	2,478	15,845	49,848	
<b>ALL AFRICA TOTAL</b>			53,693	30,444	4,956	57,652	146,746	
<b>AIRLINE PASSENGER TOTALS</b>								
COMESA TOTAL	(Airline)		23,273	6,486	995	6,338	37,091	
EAC TOTAL	(Airline)		3,092	2,607	279	1,619	7,597	
SADC TOTAL	(Airline)		10,369	6,651	244	16,041	33,305	
<b>JCA AREA (Airline)</b>			30,656	10,978	1,239	20,904	63,777	
<b>OTHER AFRICA (Airline)</b>	(Airline)		23,037	4,244	1,239	7,922	36,443	
<b>ALL AFRICA (Airline)</b>			53,693	15,222	2,478	28,826	100,219	

Notes:

- (a) Totals may differ slightly from text and summaries due to rounding, and from each other due to treatment of African international traffic .  
 (b) Unduplicated JCA area totals (shaded) eliminate overlaps in States' membership of RECs; thus Individual REC totals do NOT add to them.  
 (c) Available historic baseline data for South Sudan is merged with Sudan, there is no political significance in cumulative statistical updating.

Source : Consultant's estimates based on literature search and OAG schedules analysis

## *Draft Outline Business Plan for the JCA*

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### **5 DRAFT BUSINESS PLAN**

#### **5.1 Purpose and Limitations**

To become operational, anybody or agency, in this case the JCA and its secretariat, needs pre-planning in terms of defining its tasks, matching resources to those tasks, establishing the cost of those resources, and determining the source of its revenues to meet those costs - i.e. a business plan. This draft business plan, postulating a set of JCA tasks required in order to perform its function, is submitted to the appropriate authorities as a basis for discussion, and is of course subject to revision by those authorities.

The organisational framework, its costs, and the sources of its revenues, are all dependant upon those functions, and their levels are dependant upon local conditions. Thus the functions, staffing and other organisational issues, and in particular the rates of pay and levels of other costs, must be regarded as working assumptions - not unrealistic as they are based upon data from other regional organisations, but very much starting points for finalisation, rather than firm recommendations at this stage. There are of course many alternative views on scenario definition, and JCA organisation, staffing and payscales.

#### **5.2 Description**

##### **5.2.1 Principles and Sources**

The plan or budget covers a start-up phase, assumed to cover the latter half of 2013, and a five calendar year period from 2014 to 2018 inclusive. It is presented in constant current (2013) prices, expressed as US\$ at a constant exchange rate of the order of 7.6 Botswana Pula (BWP) to one US Dollar (US\$)<sup>99</sup>.

For pay and other cost levels, guidance has been sought in other regional organisation literature, notably:

- Regional Tourism Organisation of Southern Africa (RETOSA)<sup>100</sup>; and
- EAC Civil Aviation Safety and Security Oversight Agency (CASSOA)<sup>101</sup>.

The RETOSA pay scale recommendations by level of job function are higher than current scales at the time (2009), and present a minimum/midpoint/maximum for each level. In order to reflect approximate current 2013 levels in an organisation which requires staff to live and work away from their home country, the recommended 2009 maxima (about 20% above mid-points) have been applied as typical current starting pay in this organisation for qualified experienced staff in each estimated appropriate level of job function. No assumptions or adjustments for tax status have been applied, but a “total package” (or total guaranteed

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<sup>99</sup> One BWP is worth about 13 US\$ cents.

<sup>100</sup> P3, Job evaluation and salary grading : Report for RETOSA, January 2009.

<sup>101</sup> East African Community CASSOA : Organisation development plan; and First 5-year strategic plan, 2010/11-2014/15.

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remuneration) approach has been applied. That is to say, all pay scales are assumed to subsume all allowances, benefits and gratuities<sup>102</sup>, on an average basis for this exercise.

However, “On-costs” to the employer are assumed, at 15% of pay, to cover training, pensions, insurance, recruitment, and other normal employer pay-related expenditure. Further, although pay and other costs are expressed in constant prices, at approximate mid-scale salaries at the inception of the operationalised JCA, annual (real) increments of 5% p/a have been built in with effect from 2015, i.e. after the first full calendar year of operation.

The CASSOA documentation has been used primarily for:

- office running expenses, where their forecast 2013/14 levels have been applied to the similar-sized JCA organisation, with judgemental adjustment where necessary; and
- capital expenditure (and depreciation rates), where pre-2012/13 expenditure has been updated at 10% p/a, except for ITY-related items, which have been left as is in view of trends for such equipment and program costs to fall in real terms.

It has also been useful organisationally, although undertaking a more technically inspectorate role, and employing a team of technician inspectors, apparently taking up post as functional responsibility is developed..

### 5.2.2 Composition

The draft plan, or budget, comprises:

- Organisational Plan - each element of the organisation (the Authority, Executive Office, and Administration) has numbers of people linked to appropriate functions. Since, at least during its first five years, the volume of the JCA’s work is not necessarily going to increase proportionately to traffic growth, a fixed complement of Members of the Authority and staff numbers is maintained throughout (for each of the scenarios described below), after the 2013 start-up phase. It may need revision in the light of practical experience, and mid-term reviews are to be expected. This is a plan, a reasonable basis for future action based on current knowledge, not a prediction.
- Expenditure Budget - in turn comprising
- Fees & Employment for the Members of the Authority, Executive Office, Administration, and provision for subcontract expenditure on legal representation and consultancy studies;
- Administrative “housekeeping” expenses, such as accommodation costs, vehicle leases, office supplies and communications, etc.
- Capital Expenditure - office furniture and equipment, as well as computer hardware and software; no ownership of real estate or vehicles being assumed, A depreciation

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<sup>102</sup> In practice, variations between individuals may occur due to paid home country leave travel, for instance, or other measures to avoid geographical discrimination.

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schedule is also provided, but used only for dating of expenditure on replacements, as it is a non-cash item.

- Revenue - revenue is assumed to balance net<sup>103</sup> cash expenditure. Contributions required are allocated to States pro-rata to their estimated 2011 African international airport passenger movements traffic, whether intra-REC, inter-REC within the JCA area, or between the JCA area and “other Africa”. Such contributions are also expressed as the cost per 2011 departing African international airline passenger, as a guide in case States decide to collect it in this way, from airlines or as a form of ‘ticket tax’.

### **5.3 Baselines and Scenarios**

The JCA is assumed ‘operational’ from about the middle of 2013, with the start-up and recruitment phase being represented by the application of between one third and one half of normal annual staff and other costs being applied to that year.

The Authority is assumed to meet formally on an average of three days per month, subsuming arbitration and/or dispute settlement, (significantly incurring legal costs charged for an assumed 20 days per annum).

A basic organisational and staffing “core” comprising the Authority (seven people), Executive Office (14 to 17 people) and Administrative (11 to 13 people) elements, is maintained throughout. Three scenarios are presented, differing only in:

- the way the Authority is professionally composed and remunerated;
- how the costs of office accommodation and associated services are treated; and
- who bears the cost of any subcontracted legal representation in cases of arbitration and/or dispute.

The overall mid-term (2016) total costs range from a low-cost scenario of two million US\$ to a high-cost scenario of three million US\$, with a mid-cost scenario of some US\$2.6 million. These estimates represent around 20 US\$ cents<sup>104</sup>, per 2011 departing ‘African International’ airline passenger, whether flying within the JCA area or between the JCA area and “other Africa”.

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<sup>103</sup> In some scenarios this excludes secondment of Members of the Authority retaining their home State positions and pay, and legal representation in arbitration situations assumed paid directly by, or recharged to, the parties concerned.

<sup>104</sup> About 1 Pula 50 Thebe

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## **6 ORGANISATIONAL PLAN**

### **6.1 The Board**

#### **6.1.1 Corporate Governance**

As noted above, the Board comprises seven members, two members each from EAC, COMESA and SADC plus a chairperson on a rotational basis<sup>105</sup>. In order to ensure representation from all States over the long term, at least some of the other six Members may also rotate, perhaps one at a time on a rolling quinquennial basis to protect continuity and collective experience.

#### **6.1.2 Low Cost Scenario**

In the low-cost scenario, all seven members are assumed seconded, on 36 formal meeting days p/a, from their posts (which they retain) in their home countries. They are therefore paid by their home countries and there is no fee cost to the JCA.

The chairperson is supported by, for example:

- three CAA chief executives, as in CASSOA, but in this case each from a country in a different REC, with representation rotating; and
- three air transport experts from the industry, each from a different REC, again rotating.

The JCA is thus responsible only for the out-of-pocket expenses of meetings. An average travel cost of \$1000 is assumed, plus subsistence and meeting arrangements at an average \$300 per meeting day per Board Member, totalling \$159,600 p/a in the middle year 2016.

#### **6.1.3 Mid Cost Scenario**

In this scenario the chairperson and three Board members experienced in air transport regulation (possibly CAA chief executives) are seconded for 36 formal meeting days p/a, with no cost to JCA other than meeting expenses, as in the Low Cost Scenario.

The three experts from the air transport industry, each from a different REC, would however be paid a fee rate estimated at \$1,500 each per meeting day plus expenses, thus formally demonstrating their commitment to the JCA independently of home country origin or other interests.

Thus the total JCA cost for the Board is estimated at \$338,000 in the middle year 2016.

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<sup>105</sup> COMESA-EAC-SADC Tripartite : Report of the first meeting, Op cit.

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### **6.1.4 High Cost Scenario**

It is assumed that the chairperson and REC-nominated three supporting members are paid fees, \$2,000 per meeting day for the chairperson and \$1,500 each for the others, plus expenses.

In this scenario, however, the remaining three members (from different RECs) are experts selected and employed full time by the JCA, one of their duties being attendance at Board meetings. One would in effect be a managing director (chief executive grade), the other two (senior manager grades) would be the general manager for legal affairs and chief economist/finance expert<sup>106</sup>. The full-time executive Board members would attract on-costs, and day-to-day travel/subsistence expenses as well as those for meeting days at various locations. This arrangement could strengthen the links between the Board and its Executive Office support, and increase the perceived expertise of the Board as a whole. It could however make the even representation of States over time more complex.

The JCA's total Board cost rises to \$1.2 million for the 2016 middle year in this scenario, but three posts are effectively transferred from the executive Office to the JCA, so there are offsetting savings there.

## **6.2 Executive Office**

### **6.2.1 Professional Core**

The Executive Office provides professional full-time support to the Board, comprising a director/chief executive, a senior manager for legal affairs, a management level aviation economist/financial analyst, and an investigations manager, assisted by a junior manager level statistician and eight inspectors at junior management level. Provision is made for four clerical level secretaries or personal assistants.

These 17 key jobs are common to all three scenarios, but the costs (including appropriate grade-related salaries, 15% on-costs to cover pensions, training, insurance etc, and travel/subsistence/expenses) vary according to how they are assigned.

### **6.2.2 Low Cost Scenario**

The key 17 posts are all filled full time, at a 2016 middle year cost of \$1.2 million.

### **6.2.3 Mid Cost Scenario**

The staffing and cost mirrors that of the low cost scenario.

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<sup>106</sup> At a higher pay grade than used in other scenarios for the post, by virtue of its higher seniority in this scenario, and to keep parity with other full-time Authority members

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### **6.2.4 High Cost Scenario**

Because the three most senior posts, of chief executive, legal, and economics/finance managers have been given seats on the Board and charged to that heading, the JCA 2016 middle year cost for the Executive Office falls to \$782,000 in this scenario.

## **6.3 Administration Unit**

### **6.3.1 'Housekeeping'**

Between 11 and 13 people perform these functions, including an office (junior) manager. They cover reception, accounts, personnel (HR), pay & records, training and IT support, with three junior clerical assistants, as well as one security and one maintenance person, if required.

### **6.3.2 Low Cost Scenario**

In the low cost scenario, as it is assumed that the JCA's 'host', SADCC, provides office accommodation free of charge to the JCA. It is therefore logical to assume that office security and maintenance functions are also provided by the 'host', SADC, from their existing resources and without cost to the JCA.

In these circumstances, the staff costs of the 11-strong Administration unit, including on-costs and minimal out-of-pocket expenses, total some \$419,000 in the middle year of 2012.

### **6.3.3 Mid Cost Scenario**

Here, as the JCA is assumed to pay for its office accommodation and services, the security and maintenance persons bring the unit's staff total to 13. The 2016 middle year cost thus goes up to \$467,000.

### **6.3.4 High Cost Scenario**

The circumstances, staff strength and middle year cost are the same as in the mid cost scenario.

## **6.4 Sub-contractors**

### **6.4.1 Lawyers and Consultants**

Particularly in cases involving States outside the JCA area, or in any 'appeal' situation before the YD Executing Agency (and/or any Courts or Tribunal involved), legal representation may be required. Although the JCA will have a senior legally trained and experienced manager on its staff, advocacy is another matter, which tends to be very expensive, but it seems wise to assume that there will be legal costs in some cases.

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It is also expected that independent reviews of the JCA's performance will be undertaken regularly, and that professional air transport and other consultants will be called upon as required to carry out special studies on issues from time to time.

### **6.4.2 Low Cost Scenario**

In the low-cost scenario, any outside legal representation costs are assumed met directly by (or recharged to) the Tripartite States concerned, who may well recharge them to their designated airline(s). There is thus no net cost to the JCA.

However, provision is made at incremental rates for the employment of consultants and other professionals, and payment of their expenses. In the middle year of 2016 this totals \$138,000.

### **6.4.3 Mid Cost Scenario**

An assumed 20 case days for senior advocates (at \$2,000 per day) and a further 20 case days for juniors (at \$1,500 per day) are provided for in JCA's costs.

The same consultancy charges as in the low cost scenario are also included, to give a total subcontract expenditure budgeted in the 2016 middle year of \$233,000.

### **6.4.4 High Cost Scenario**

The same assumptions and estimated costs apply as in the mid cost scenario,

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## **7 ADMINISTRATIVE OPERATING COSTS**

### **7.1 Recruitment and Training**

These costs are significant because they reflect the importance of these functions in an efficient organisation which ensures that it selects the right candidates for vital jobs, and keeps its knowledge and skills bases up to date.

In this report they are subsumed in the on-costs, at 15% of the total guaranteed remuneration pay scales for all grades of staff.

### **7.2 Office Accommodation**

#### **7.2.1 Requirements and Costs**

As noted above, the JCA is to be ‘hosted’ at the SADC’s premises in Gaborone. It is clearly not therefore proposed that the JCA should embark upon the purchase of real estate for its offices. However, the implications of ‘hosting’ were not detailed by the JCA’s Gaborone meeting<sup>107</sup>.

The free use of surplus facilities would save money for the JCA, but its independence of any particular REC might be less clearly perceived. Assumptions of free accommodation on the one hand, and payment of full commercial rents on the other, together with treatment of the cost of associated services such as security and maintenance, are thus varied between scenarios.

Space requirements (including allowance for conference and meeting rooms, reception, office equipment, and circulation, as well as basic ‘work stations’) and any advertised Gaborone office rental levels have been researched on the Internet.

The resultant base year 2013 levels (which are maintained, without increments, in this constant price presentation), which have been applied as working assumptions are:

- a requirement for 10 square metres of floor space per person (including Members of the Board);

- an annual rental of \$250 per square metre, to include some associated parking spaces, in the Mall area, in scenarios when it is shared to the budget.

In practice, some compromise might well be decided upon, whereby (for instance) some space and services are recharged to JCA but others (such as *ad hoc* conference facilities are not.

#### **7.2.2 Low Cost Scenario**

With its total Board and Secretariat complement of 35 people, this scenario needs 350 square metres of office floor space. In this scenario it is assumed provided free of charge, together with security, cleaning and maintenance, by SADC as the host.

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<sup>107</sup> COMESA-EAC-SADC Tripartite : Report of the first meeting, Op cit.

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### **7.2.3 Mid Cost Scenario**

The Authority plus Secretariat headcount of 37 calls for 370 square metres of office space, charged to the JCA budget at a constant price \$92,500 p/a, plus external subcontracted security, maintenance and cleaning at \$44,000 p/a. In this scenario an in-house security person and minor maintenance operative are also included on the Administrative Unit staff and costs.

### **7.2.4 High Cost Scenario**

Since three Members of the Board are employed full time in this scenario, there is an effective floor space-count reduction to 34 persons, implying 340 square meters of office space at a constant cost of \$129,000 p/a including external subcontracted security, maintenance and cleaning. The two relevant in-house staff are again included in Administration unit costs.

## **7.3 Motor Vehicles**

Leases, subsuming maintenance and insurance, are assumed for simplicity. Fuel is assumed subsumed in the “miscellaneous and rounding” cost category (see below).

The apparently very high CASSOA 2013/14 maintenance and insurance rate of some \$25,000 p/a has been assumed to cover the total lease cost of each vehicle in a Gaborone context. The number of vehicles and annual cost varies per scenario:

- Low Cost Scenario : One vehicle, \$25,000 p/a constant price;
- Mid Cost Scenario : Four vehicles, \$101,000 p/a constant price; and
- High Cost Scenario : Five vehicles, \$126,000 p/a constant price.

## **7.4 Other Operating Costs**

Insurances (other than personal employee insurance included in employment on-costs), utilities (heat light power and water), communications (including postage), stationery and printing, subscriptions and promotion, as well as bank and audit fees, have been adopted from CASSOA forecast 2013/14 rates, together with a miscellaneous/rounding figure of around \$11,000 p/a.

This “other operating costs” basket amounts to a constant \$113,000 or so in all scenarios.

## **7.5 Summary**

At the middle year of 2016 (and indeed annually throughout in constant prices), the totals of these administrative operating costs are:

- Low cost Scenario \$138,000

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- Mid cost scenario \$350,500; and
- High cost scenario \$369,000.

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### **8 CAPITAL EXPENDITURE**

#### **8.1 Capital Expenditure Schedule**

The capital budget for the first five years of the African multi-national organisation CASSOA, with similar employee numbers, has been adopted, excluding land and buildings and motor vehicle purchasing, and adjusting IT software to take account of rapid technological advances nowadays. However, since CASSOA covered the period 2010/11 to 2014/15, the early years' costs of office equipment and furniture have been updated to the 2013 constant price baseline by a compound 10% p/a annual increase. The costs of computer equipment and IT software have been left unaltered, as their prices in real terms have tended to remain stable or even fall.

The specified annual depreciation rates of 33% to nil for computer equipment and IT software have been used to assume some replacement at the end of their depreciated life, at one third p/a. The 20% p/a rates for office equipment and furniture do not imply replacement needs within the timescale of this plan.

Total capital expenditure is identical for all scenarios, estimated round figures are:

- 2013 : \$150,000
- 2014 : \$105,000
- 2015 : \$36,000
- 2016 : \$8,000
- 2017 : \$49,000
- 2018 : \$66,000.

Although it is not a current account item, capital expenditure is a cash outgoing for JCA and is therefore included in the necessary revenue requirement.

#### **8.2 Schedule of Depreciation**

Given that 2013 is the start-up year, assumed to begin to be effective about mid-year, with capital purchases doubtless being phased over several months, 2014 is taken as the first full year in which depreciation begins to be charged on capital expenditure for the previous year, and this is followed through year by year. In the context and layout of this presentation of the JCA business plan, depreciation is somewhat academic as it is not a cash outlay for recharging to RECs/Member States. Nonetheless, to complete the picture, the rounded forecast schedule is as follows:

- 2013 : nil;
- 2014 : \$47,000
- 2015 : \$74,000
- 2016 : \$85,000
- 2017 : \$45,000; and

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- 2018 ; \$44,000.

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**9 REVENUE**

ICAO recommends that member states in a regional organisation “*establish a mechanism to ensure that the funds required for the establishment and management of RSOO*” are clearly identified and secured. ICAO acknowledges that each state has its own level of complex aviation activities which may be recognised in the amount to be contributed by each state. The success of any organisation, in ICAO’s view, depends on the commitment of members towards fulfilling their obligations including financial obligations.

In view of the above recommendation from ICAO, we considered a variety of sustainable funding arrangements for the Tripartite Joint Competition Authority (JCA), and the key objective is to implement an arrangement that is consistent with the statutory mandate of the Yamoussoukro Decision on Air Transport Liberalisation as agreed by the Head of States and Government in 2008. Having reviewed a number of funding and financing options for ensuring sustainability of the JCA, we recommend a combination of funding routes for the organization based on experiences of similar organizations within Europe, Africa and the Tripartite Regions. The following four funding options were considered as potentially suitable revenue sources for the JCA:

- Option 1 – Equal contributions by Member States and fee income from services
- Option 2 - Equal contributions by Member States based on Market Shares
- Option 3 - Proportional Contributions by Member States based Market Share
- Option4 - Funding through grants, donations, fees and loans

It is expected that for the organization to be fully operational, revenue income should be secured and sustainable over a longer period of time hence a couple of the above options were considered to be less suitable for the organization. The JCA is a statutory regulatory institution and should be primarily supported by member states to be institutionalized for the purpose of overseeing the full implementation of the Yamoussoukro Decision within the common territories of the Regional Economic Communities as a single competition regulatory authority. This will protect their anonymity in driving effective competition policies within their regions. A detailed analysis and breakdown of revenues from the above listed options are included in the sustainable funding mechanism report.

The following table provides a summary of the analysis of intra-JCA market share positions of each member states based on 2011 air traffic data. These data have been used to analyse and compute average revenue contributions by member states based on options 2 and 3 of the recommended revenue contributions.

Country Bands Based on % of Market Share		
Intra-JCA Figures	MID COST SCENARIO	

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<b>Band 1 (5.1%+)</b>	<b>2011 Traffic %</b>	<b>Band 3 (1.1% -2.0%)</b>	<b>2011 Traffic%</b>
Egypt	7.30%	Angola	1.90%
Kenya	12%	Rwanda	1.8%
Libya	5.0%	Botswana	1.7%
South Africa	24.4%	DR Congo	1.8%
Zambia	5.6%	Djibouti	1.2%
Ethiopia	7.1%	Madagascar	1.1%
		Malawi	1.7%
<b>Total</b>	<b>61.50%</b>	<b>Total</b>	<b>11.2%</b>
Total countries	6	Total countries	7
<b>Band 2 (2.1%-5%)</b>		<b>Band 4(0.0%-1.0%)</b>	
Mauritius	2.1%	Burundi	1.0%
Mozambique	2.2%	Comoros	0.5%
Namibia	3.4%	Eritrea	0.3%
Sudan	3.3%	Lesotho	0.3%
Uganda	3.8%	Seychelles	0.5%
Zimbabwe	4.3%	Swaziland	0.5%
Tanzania	4.9%	South Sudan (Est.)	0.3%
		<b>Total</b>	<b>3.4%</b>
<b>Total</b>	<b>24.0%</b>	<b>Total</b>	<b>100%</b>
Total countries	7	Total countries	7
		<b>JCA Total</b>	<b>27</b>

Table 1 Intra-JCA Market Share Percentage per Country based on 2011 Air Traffic Data

It is evident that countries in band 1 and 2 above will have to contribute a significant majority of the revenue income for the organization due to the size of their market share of 6.15% and 24% respectively. Please note the figure for South Sudan is estimated and separated from Sudan.

## 9.1 Projected Revenue Income

The following table summarises the projected funding contributions by member states on estimated operating costs of \$2.0 million, \$2.5 million and \$3.0 million budget per annum.

**SUMMARY OF AVERAGE CONTRIBUTION BY MEMBER STATES FOR EACH LEVEL OF OPERATING BUDGET ESTIMATES**

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Figures in US\$			
Funding Options & Contributions	2,000,000.00	2,500,000.00	3,000,000.00
<b>Option 1- Fixed Equal Contributions by Member States</b>	74,000.00	92,593.00	111,000.00

Table 2: Average Revenue Income based on Option 1

Revenue income from option 1 – Equal/Fixed Contributions from member states for core operation and services on an equal level payment per annum is considered to be the most equitable option for all and average contribution by member states will be a minimum of \$74,074 per year depending on a minimum of \$2.0m annual budget.

Alternatively, the JCA can be funded through a combination of core funding from member states (80%) and (20%) from fees, taxes/levies, subsidies and pay as you earn surcharges, remuneration for services, fuel/passenger surcharges and fees for regulatory activities including penalties and levies. This option is only viable in the medium to longer term e.g. after the initial 2 years of operations. The JCA will need approximately USD2.0M per annum minimum to operate effectively. After the second year of operation, the organization will be able to start generating fee income from services, levies, penalties and other charges. However, overall core funding will remain funded by member states as compulsory contributions. The option of generating additional revenue income from fees, levies, surcharges, penalties etc is not sustainable within the first 24 months of operation of the JCA but could be a major source of funding after 24 – 36 months.

SUMMARY OF AVERAGE CONTRIBUTION BY MEMBER STATES FOR EACH LEVEL OF OPERATING BUDGET ESTIMATES			
Figures in US\$			
Option 2 – Equal Contributions by Market Share in separate bands	2,000,000.00	2,500,000.00	3,000,000.00
Band 1     35%	116,666.00	145,833.00	175,000.00
Band 2     30%	85,715.00	107,142.00	128,571.00
Band 3     20%	57,143.00	71,429.00	85,714.00
Band 4     15%	42,857.00	53,571.00	64,285.00

Table 3: Average Revenue Income based on Option 2

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Whilst on the other hand, revenue income through option 2 - equal contributions by member states within the same country band will ensure equitable contributions by member states based on the size of the intra-JCA market share. The potential revenue income by member states is based on a 35%, 30%, 20% and 15% funding model as a percentage of the countries intra-JCA area air traffic market share of the total annual operating budget. Assuming a \$2.0m budget per annum, the following annual revenue will be generated from member states within the 4 country bands:

1. Band 1 – 35% of operating budget – a total of \$700,000 by 6 countries
2. Band 2 – 30% of operating budget – a total of \$600,000 by 7 countries
3. Band 3 – 20% of operating budget – a total of \$400,000 by 7 countries
4. Band 4 – 15% of operating budget - a total of \$300,000 by 7 countries

Member states in band 1 will contribute slightly more than others as an equal proportion of the total annual budget. Average annual revenue income from member states will be \$117,000 for countries in Band 1, \$85,700 for countries in Band 2, \$57,000 for countries in Band 3 and \$42,800 for countries in band 4. (See appendix 1 – revised JCA Financing options & budget -6.2.13)

<b>SUMMARY OF AVERAGE CONTRIBUTION BY MEMBER STATES FOR EACH LEVEL OF OPERATING BUDGET ESTIMATES</b>				
<b>Figures in US\$</b>				
<b>Option 3 – Proportional Contributions by Market Share in same band</b>		<b>2,000,000.00</b>	<b>2,500,000.00</b>	<b>3,000,000.00</b>
Band 1	61.5%	205,000.00	256,250.00	307,500.00
Band 2	24%	68,571.00	85,714.00	102,857.00
Band 3	11.2%	32,000.00	40,000.00	48,000.00
Band 4	3.4%	9,714.00	12,143.00	14,571.00

**Table 4: Average Incomes by Member States as a Proportion of Market Share**

The JCA will generate revenue incomes through proportionate contributions from member states based on total market share of the air passenger traffic within the regions. This model of funding the JCA might be less desirable to all and could be seen as penalising the countries in Band 1 and 2 for their growth and market share as countries in band 4 will only have to pay very little, an average of \$9,700 per annum as a percentage revenue contribution of the total budget per annum.

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This revenue income option will be very attractive to countries with small market share within the JCA and the financial burden of supporting the JCA will be heavily on the 6 countries in Band 1 (61.5%) above. Assuming an operating budget of \$2.0 million per annum the following revenues will be generated as a proportionate share of total operating budget by member states:

1. Band 1 – 61.5% of operating budget – a total of \$1,230,000 by 6 countries
2. Band 2 – 24.0% of operating budget – a total of \$480,000 by 7 countries
3. Band 3 – 11.2% of operating budget – a total of \$224,000 by 7 countries
4. Band 4 – 3.4 % of operating budget - a total of \$68,000 by 7 countries

Revenue income from this option may not be sustainable in the longer term for the JCA as any delays or failure to pay annual contribution by any member states within Band 1 and 2 could cause considerable operational lapses for the organisation. One might argue that we use a formula of compulsory and voluntary contributions similar to how the United Nations is funded by member states regardless of size or activities. Also, richer nations will be encourage to contribute more and to engage in voluntary contributions to projects and JCA activities either in cash or kind.

Lastly, generating revenue income through grants, fees & donations has been considered to be less suitable for the JCA at this early stage of operation. However, this option may be technically viable due to existing arrangements, e.g. the JCA secretariat is currently hosted within SADC offices and the Tripartite Task Force have existing funding and support arrangement with United Kingdom Department for International Development (DFID). The existing MOU with DFID can be fully exploited to cover substantial funding for the establishment of the institution.

This type of revenue stream is desirable and recommended for the medium to longer term basis only. Most organisation of similar composition within Africa and internationally uses a combination of both contributions and revenues from grants, donations and financing options through loans, equity participations and rental incomes on assets. However, since the JCA secretariat is a new statutory regulatory organisation, it is advisable to concentrate on fixed contribution at the commencement of the organisation for sustainability within the initial 24 – 36 months of operations.

## **9.2 Recommended Approach**

Based on the outcome of the analysis in tables 1.2 and 1.3 above, it is recommended that the JCA adopt a variety of funding options to address its financial requirements in line with the operationalisation mandate to fully implement the Yamoussoukro Declaration. However, the preferred funding option for the JCA will be direct funding through contributions from member states on a fixed equal annual basis. We also recommend that member states

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should assume full responsibility for funding the JCA based on contributions through each Regional Economic Community. Other sources of funding, particularly assistance from development partner and international donor agencies should be actively pursued in addition to member states contributions, services fees and charges as supplementary revenue streams.

The financial model of generating revenue income from fixed equal compulsory contribution by member states with a combination of other workable options is required by the JCA to ensure annual operational effectiveness. Of the four options considered, only two options are recommended as sustainable over the next 5 – 10 years of operations. It is expected that the Steering Committee will select the best option or a combination of options that offer the optimal solution for funding the organisation and recommend to the Tripartite Council of Ministers for approval. We will also recommend that the Steering Committee with JCA Management Board considers establishing a Working Capital Fund from commencement of the organisation where surplus cash and defrayed core budgets would be ring-fenced in an interest yielding account.

In conclusion, financial sustainability of the organization can only be assured if core regulatory functions are funded on a longer term basis by member states. The estimated annual budget identified by the consultancy team for the JCA is ranging from the lowest point of USD \$2.0m to USD \$3.0m per annum. Taking into account the rate of inflation and other variables the administrative and employment related operating cost are expected to rise annual by 5% and 25% for other project development, research, capital investment etc costs including consideration for a working capital fund over the initial 5 year period to an average of USD5.0+M.

**Draft Outline Business Plan for the JCA****10 SCENARIO SUMMARY****10.1 Low Cost Scenario**

The Board, 7 members, unpaid.	2016 costs \$0.160 million.
Executive Office, 17 staff, avge 2013 salary \$48k.	2016 costs \$1.197 million.
Administration, 11 staff, avge 2013 salary \$30k.	2016 costs \$0.419 million.
Subcontract (Legal costs recharged).	2016 costs \$0.130 million.
Admin Operating Costs (Office free, 1 vehicle).	2016 costs \$0.138 million.
Recurrent Expenditure Total	2016 costs \$2.044 million.

<b>Low</b> Constant \$ mn.	½ 2013	2014	2015	2016	2017	2018
Recurrent Costs	0.719	1.898	1.969	2.044	2.122	2.204
Capital Costs	0.151	0.105	0.036	0.007	0.049	0.066
Total Cash Costs	0.870	2.003	2.005	2.051	2.171	2.270
Cost per Africa International Dep Pax \$¢	14¢	16¢	16¢	17¢	18¢	19¢

Source: Consultant's estimates

**10.2 Mid Cost Scenario**

The Board, 7 members, 4 unpaid, 3 paid fees.	2016 costs \$0.338 million.
Executive Office, 17 staff, avge 2013 salary \$48k.	2016 costs \$1.197 million.
Administration, 13 staff, avge 2013 salary \$28k.	2016 costs \$0.467 million.
Subcontract (Legal costs absorbed).	2016 costs \$0.233 million.
Admin Operating Costs (Office rented, 4 vehicles).	2016 costs \$0.351 million.
Recurrent Expenditure Total	2016 costs \$2.586 million.

<b>Mid</b> Constant \$ mn.	½ 2013	2014	2015	2016	2017	2018
Recurrent Costs	0.885	2.412	2.497	2.586	2.679	2.777
Capital Costs	0.151	0.105	0.036	0.007	0.049	0.066
Total Cash Costs	1.036	2.517	2.533	2.593	2.728	2.843
Cost per Africa International Dep Pax \$¢	17¢	21¢	21¢	21¢	22¢	23¢

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Source : Consultant's estimates

### 10.3 High Cost Scenario

The Board, 7 members, 4 paid fees, 3 salaried<sup>108</sup>. 2016 costs \$1.216 million.

Executive Office, 14 staff, avge 2013 salary \$38k. 2016 costs \$0.782 million.

Administration, 13 staff avge 2013 salary \$28k. 2016 costs \$0.467 million.

Subcontract (Legal costs absorbed). 2016 costs \$0.233 million.

Admin Operating Costs (Office rented, 5 vehicles). 2016 costs \$0.369 million.

Recurrent Expenditure Total 2016 costs \$3.067 million.

<b>High</b> Constant \$ mn	½ 2013	2014	2015	2016	2017	2018
Recurrent Costs	1.164	2.848	2.955	3.067	3.185	3.309
Capital Costs	0.151	0.105	0.036	0.007	0.049	0.066
Total Cash Costs	1.315	2.953	2.991	3.074	3.234	3.375
Cost per Africa Inter-national Dep Pax \$¢	22¢	24¢	24¢	25¢	26¢	28¢

Source : Consultant's estimates

<sup>108</sup> Average 2011 salary of these three executive Board members \$108,000.