



**ASSESSING THE COMMERCIAL
AVIATION IMPACTS OF THE
US-AFRICA OPEN SKIES
AGREEMENTS**

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OVERVIEW

- Background
- Introduction to Open Skies
- Literature Review
- Methodology
- Results
- Conclusions
- Future Studies

BACKGROUND

- **Preceding end of WWII** – Global recognition of need to standardize aviation development
- **Chicago Conference** – 1944 – 52 Nations
 - International Air Service Transit Agreements
 - International Air Transport Agreement
 - Independent of the Chicago Convention

BACKGROUND

- Disparity in approach between strong aviation States (the US) vs strong market access States (the UK)
 - Market protectionism by strong market access countries
 - Birth of bi/multi-lateral agreements
- Agreements
 - Air Transport Service Agreements
 - Code Shares
 - Specific bilateral flight agreements to specific city destinations

OPEN SKY AGREEMENTS (OSA)

- An agreement to eliminate or significantly reduce governments' regulatory restrictions to civil aviation activities between two or more countries
 - Capacity
 - Market access/routes
 - Frequency of flights
 - Pricing
- Championed by the US
 - First OSA with the Netherlands in 1992
 - Supported by airlines and government officials
 - Expected reductions in regulatory burdens on carriers
 - Expected to strengthen relationships positively between countries (Los Angeles Times, 1992)
 - Worldwide comprehensive OSA campaign beginning in 2000
 - Currently over 100 OSA with two multilateral agreements

KEY LITERATURE REVIEWS OF THE EFFECTS OF OSA EFFECTS

- Sampson, 1984
 - The US benefits more from bilateral OSAs than multilateral OSAs
- Serebirsky & Micco, 2006
 - For developed and middle-income developing countries: OSAs reduces air transport cost by 9%, increases air transport imports by 7%
 - No cost reduction for lower-middle-income and low-income developing countries
- Cosmas, Belobaba, & Swelbar, 2010
 - Evaluation of 22 European Union carriers in US-EU OSA indicate that OSAs alone do not increase service levels between nations' partner carriers
- Ismaila, Warnock-Smith, & Hubbard, 2014
 - Study of Nigeria's 10-year old OSA policy indicates a potential increase of passenger traffic by 65%
- Conflicting understandings of OSAs effects exist among analyses

RESEARCH LIMITATIONS

- Limited literature on US-Africa civil aviation traffic (and Africa's aviation status in general)
- Emerging nations lag behind developed nations in infrastructure and technological developments
- Individual Sovereignty and security concerns create tensions over release of data

RESEARCH QUESTIONS

1. Do trends exist among passenger volumes and cargo volumes in the US-Africa aviation activities in the post Open Sky era?
2. Do the year 2000 US-Africa OSA initiatives have an effect on passengers and cargo services to the US?
3. Are there noticeable differences in the trends in US-Africa civil aviation traffic between countries with and those without OSA with the US?

METHODOLOGY

- Exploratory Study
- Primary Data collected using the Department of Transportation- Bureau of Transportation Statistics (BTS)
- Department of State Office of Aviation Negotiations Open Sky Data
- Focused on African Nations with commercial aviation services to and from the US
- Analyzed US-Africa departures, passenger volumes and cargo volumes from 1990 – 2013
- Comparison between OSA and non-OSA countries with flights to and from the US

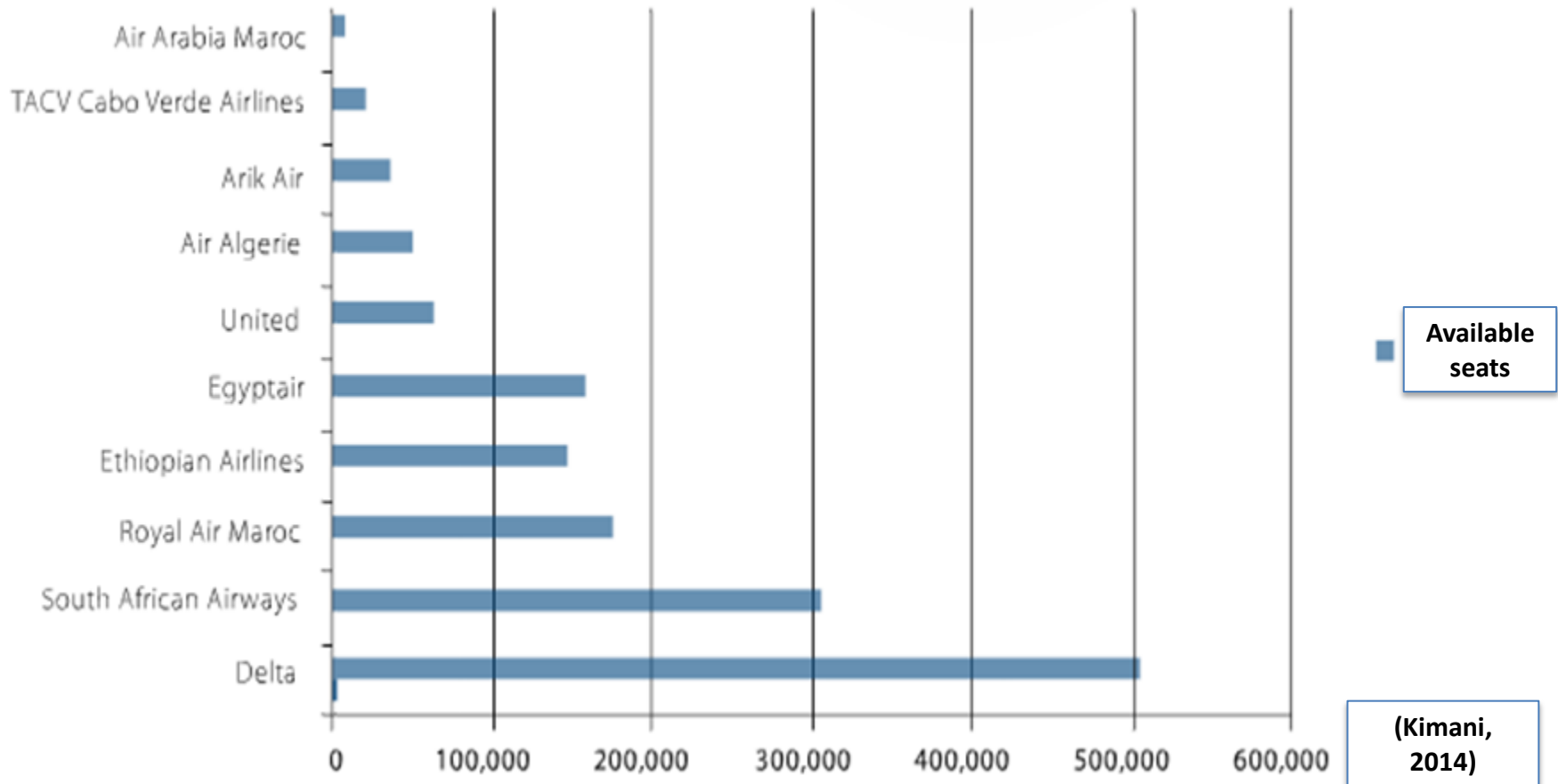
RESULTS

- As of 2013, 26 of the 54 African countries have OSAs with the US
 - Tanzania - first to sign OSA with US, 1999
 - Equatorial Guinea signed OSA in 2014
 - Rwanda and Chad have OSAs, but no flight history
- Only 8 African carriers have direct Africa-US flights
- 2 US carriers have direct US-Africa flights

RESULTS

- Since 1990, 43 African countries with passenger and freight operations
 - 14 countries with only freight operations and 3 with only passenger operations
- Since 2000, 41 African countries with passenger and freight operations
 - 13 countries with only freight operations and 3 with only passenger operations
 - 11 similar countries between two periods with only freight and 2 similar countries with only passengers
 - 15 countries operated flights with only bilateral agreements (no official OSA)

US – AFRICA AIRLINE OPERATOR MARKET SHARE, 2013



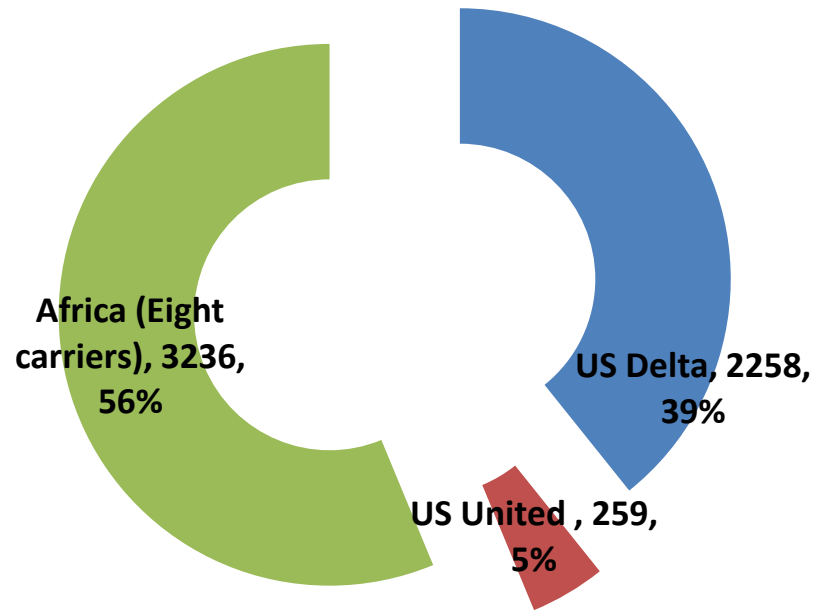
NUMBER OF US-AFRICA FLIGHTS:, 2013

Operating Carrier	Flights in 2013	Seats in 2013	% share (seats)
Delta	2258	503783	39.25%
South African Airways	1118	304774	19.43%
Royal Air Maroc	678	174890	11.79%
Ethiopian Airlines	494	146259	8.59%
EgyptAir	454	157084	7.89%
United	259	62818	4.50%
Air Algérie	199	50705	3.46%
Arik Air	152	36024	2.64%
TACV Cabo Verde Airlines	109	19575	1.89%
TOTAL	5753	1461096	

(Kimani, 2014)

FLIGHTS BY AIRLINE, 2013

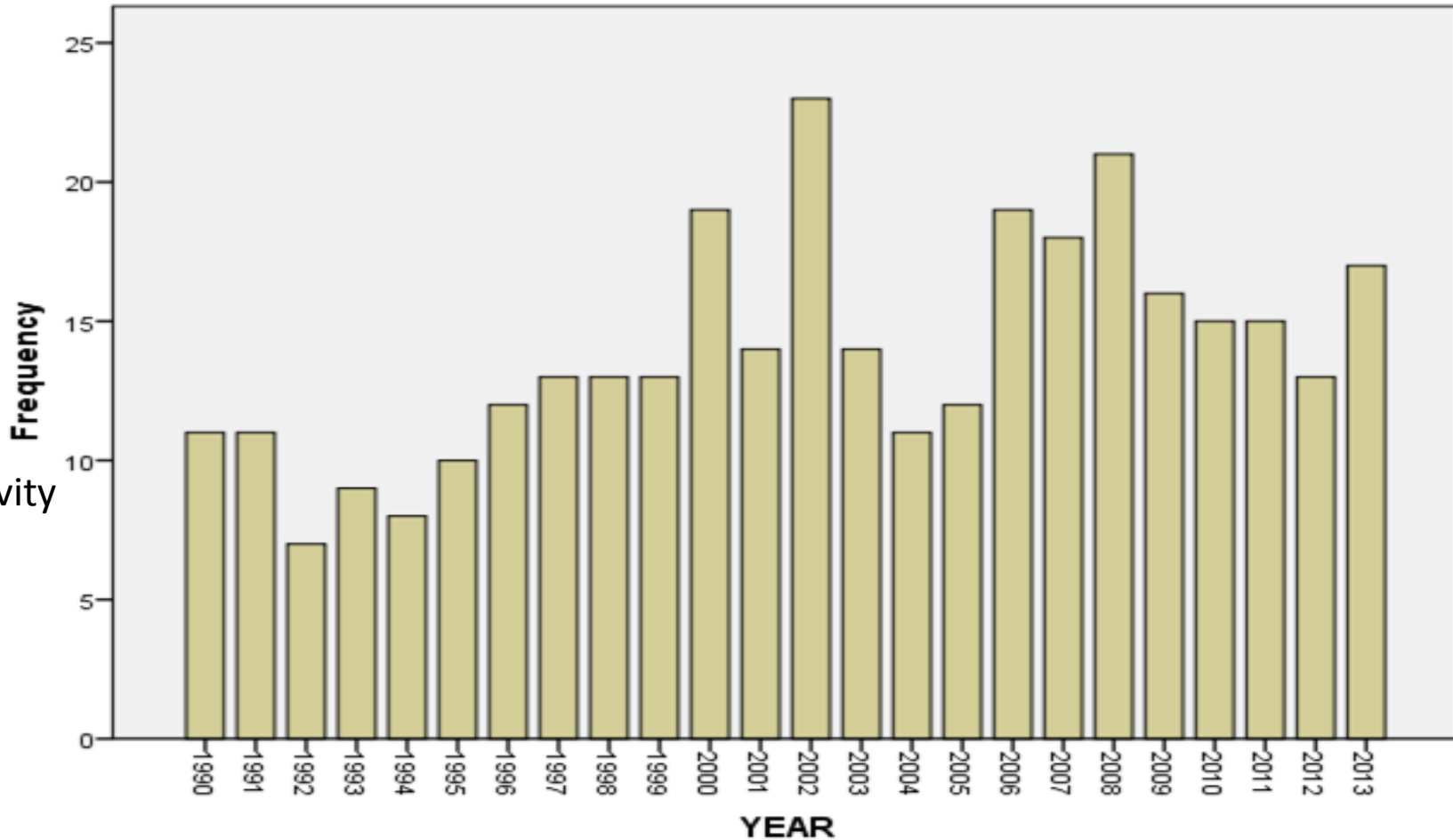
Share of Airline Operations between United States and Africa



YEARLY AFRICAN COUNTRY COUNTS

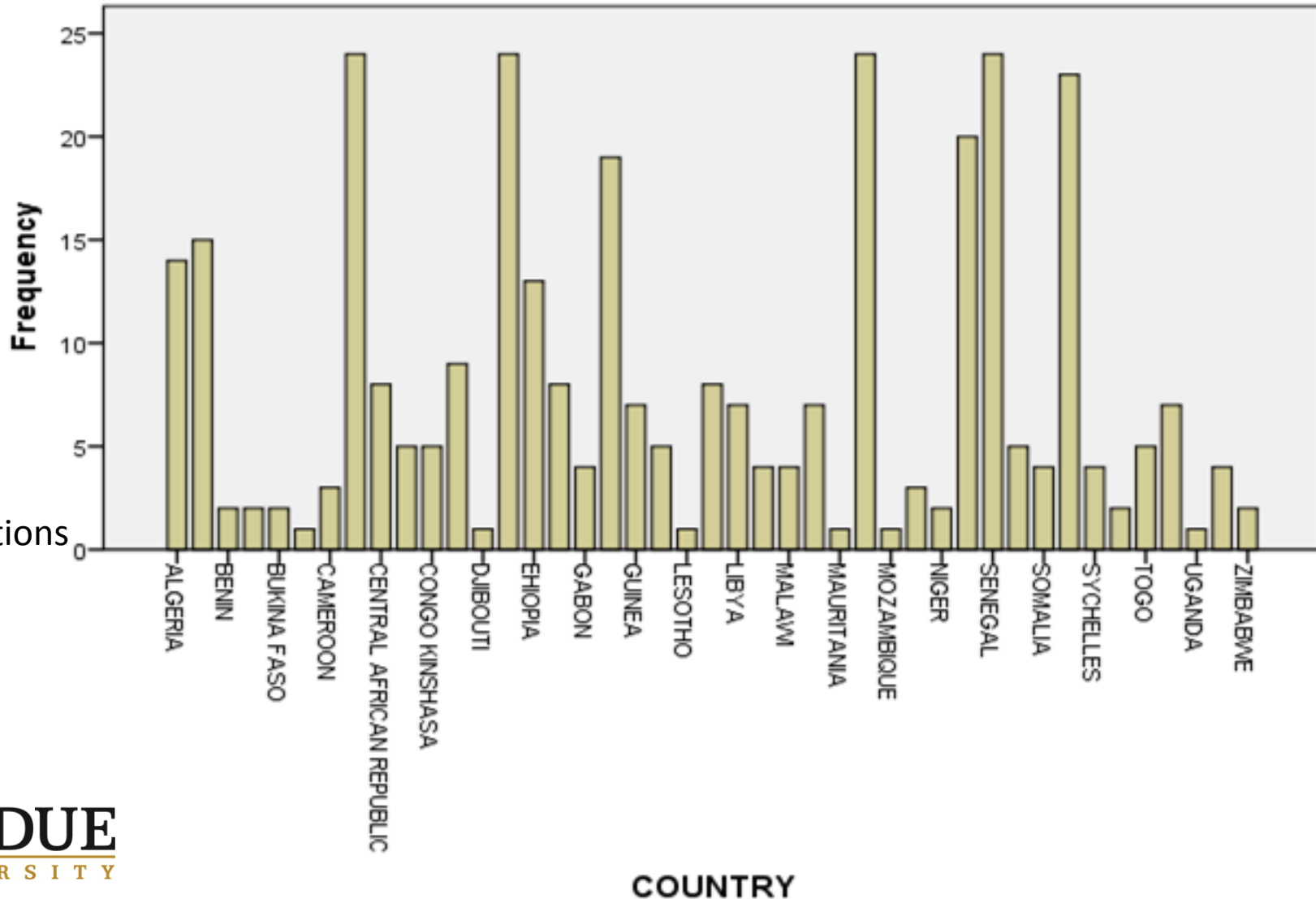
African Countries with Commercial Passenger or Cargo Activity

Y = number of African countries with commercial aviation activity



COUNTRY ACTIVITY BY YEARS SINCE 1990

Active Commercial Aviation Passenger and Cargo Operations in Years by African Country



TOP 10 COUNTRIES

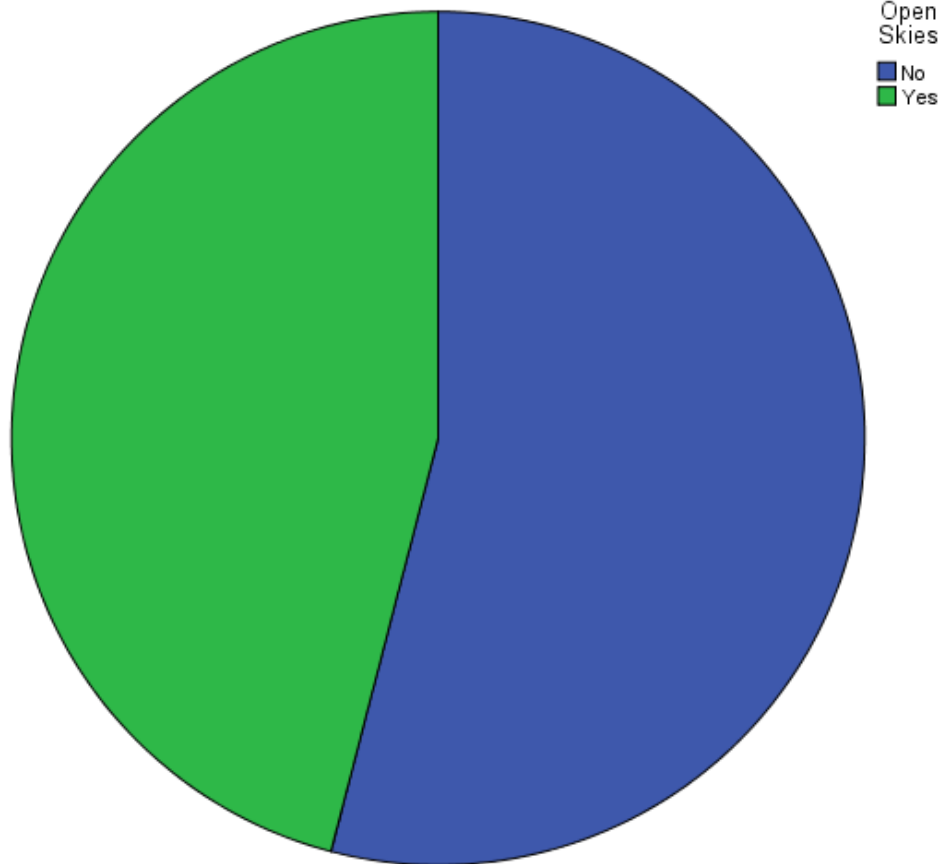
Country	Freight (lbs.)	Country	Pax	Country	Departures
South Africa	211687763	Egypt	3499031	Senegal	17969
Senegal	194449912	Senegal	3216650	Egypt	16896
Cape Verde	148650473	South Africa	3216285	South Africa	14417
Egypt	132342290	Morocco	2374146	Morocco	11411
Morocco	97651062	Cape Verde	1998118	Cape Verde	10083
Nigeria	53489246	Nigeria	1378615	Nigeria	8423
Ghana	50406546	Ghana	1291816	Ghana	8310
Angola	45173018	Ethiopia	847044	Ethiopia	3851
Ethiopia	13117394	Angola	286991	Angola	3383
Gambia	2421216	Gambia	90164	Gambia	523

TOP 10 COUNTRIES SINCE 2000

Country	Freight (lbs.)	Country	Pax	Country	Departures
Senegal	138609949	Senegal	2598268	Senegal	13524
Egypt	106595910	Egypt	2398455	South Africa	10708
South Africa	89458467	South Africa	2287842	Egypt	9806
Morocco	51958347	Morocco	1558352	Morocco	8242
Nigeria	49231239	Cape Verde	1361544	Nigeria	7373
Ghana	45497868	Nigeria	1226169	Ghana	7171
Cape Verde	45048937	Ghana	1114170	Angola	6745
Angola	12768537	Ethiopia	847044	Ethiopia	4004
Ethiopia	7758122	Angola	286991	Cape Verde	3845
Gambia	2233163	Gambia	78398	Malawi	434

OPEN SKIES YEARS SINCE 2000

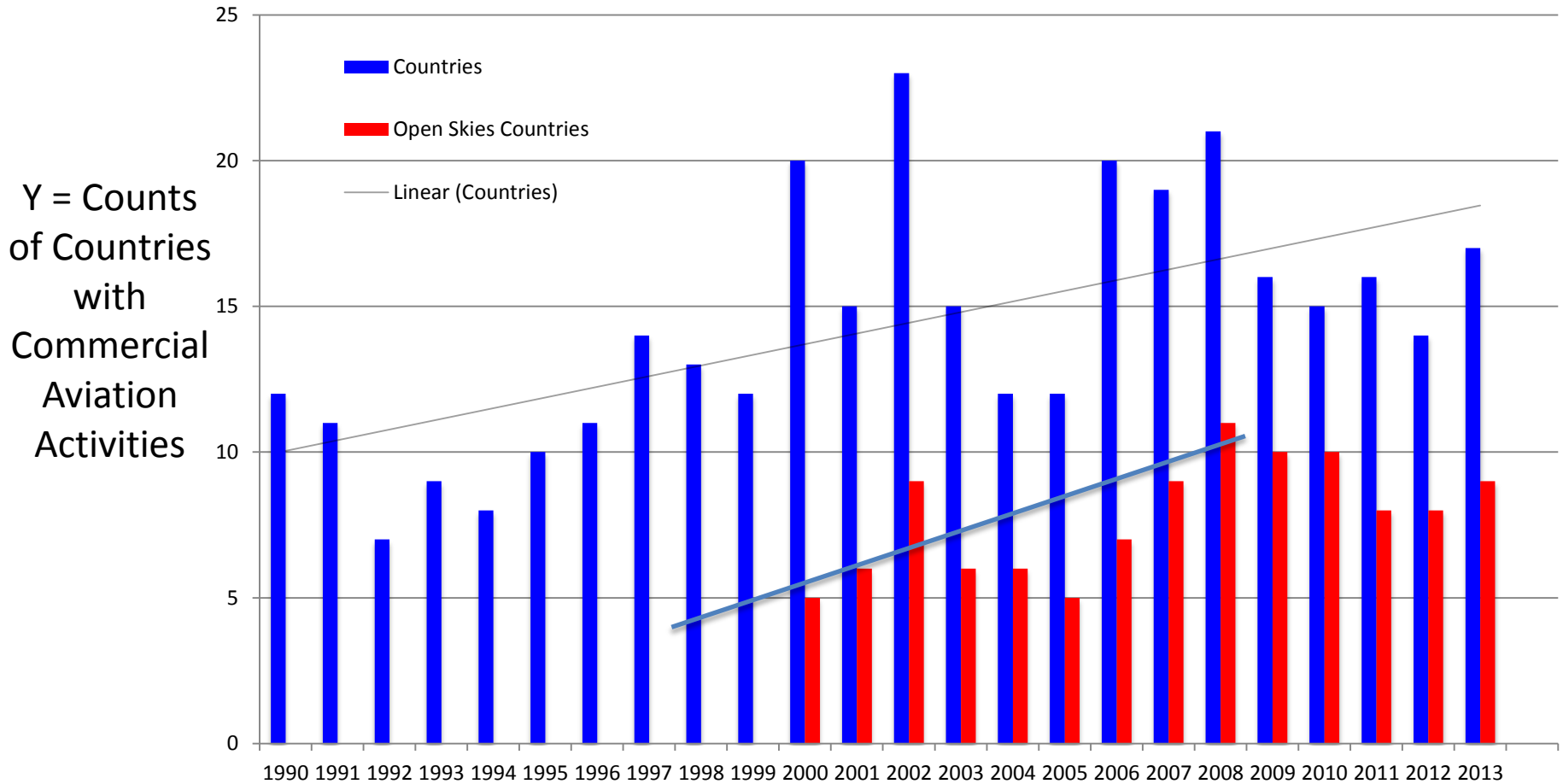
Percentages of Total Active Aviation Country Occurrences in Africa with OSAs and Non-OSAs



Open Skies	Frequency	Percent
No	127	54
Yes	108	46

OPEN SKY COMPARISON

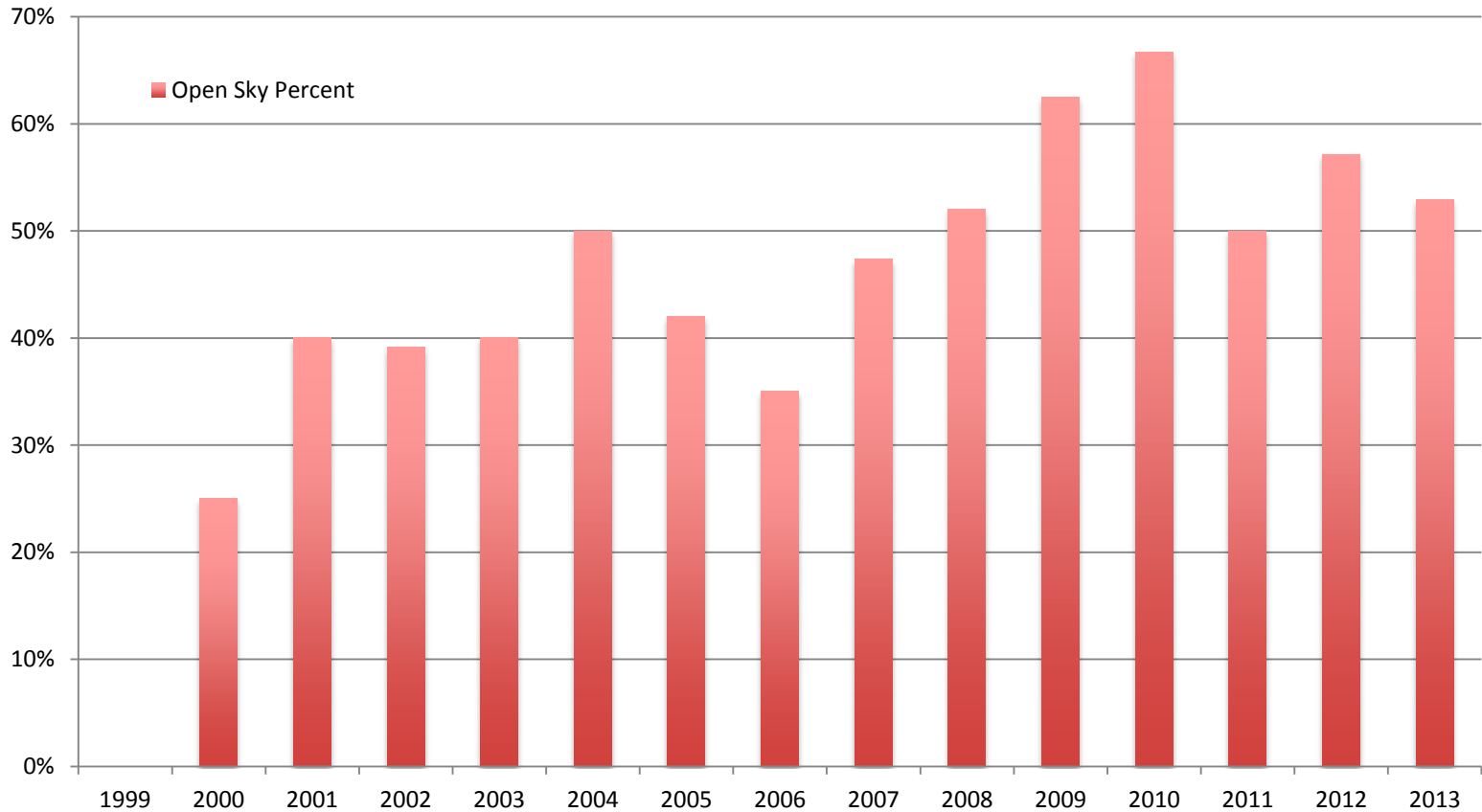
Total Numbers of African Countries with Commercial Activity between US and Africa



YEARLY OSA OPERATIONS

Percent of African Countries with Commercial Activity and OSA with the US

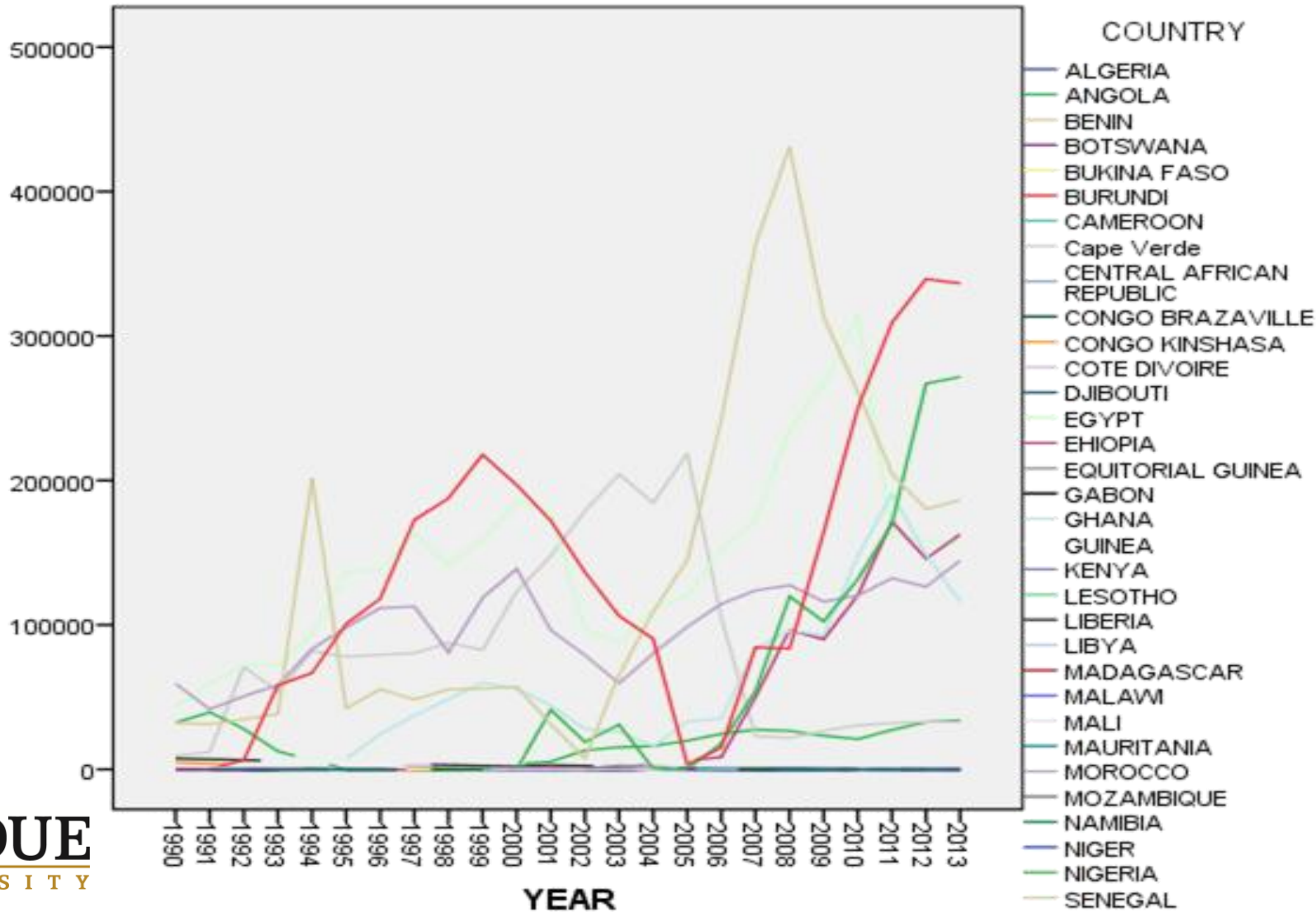
Y = Percent
of Active
Countries
with OSAs



TOTAL PASSENGERS PER COUNTRY

Yearly Total Passengers between the United States and Individual African Countries

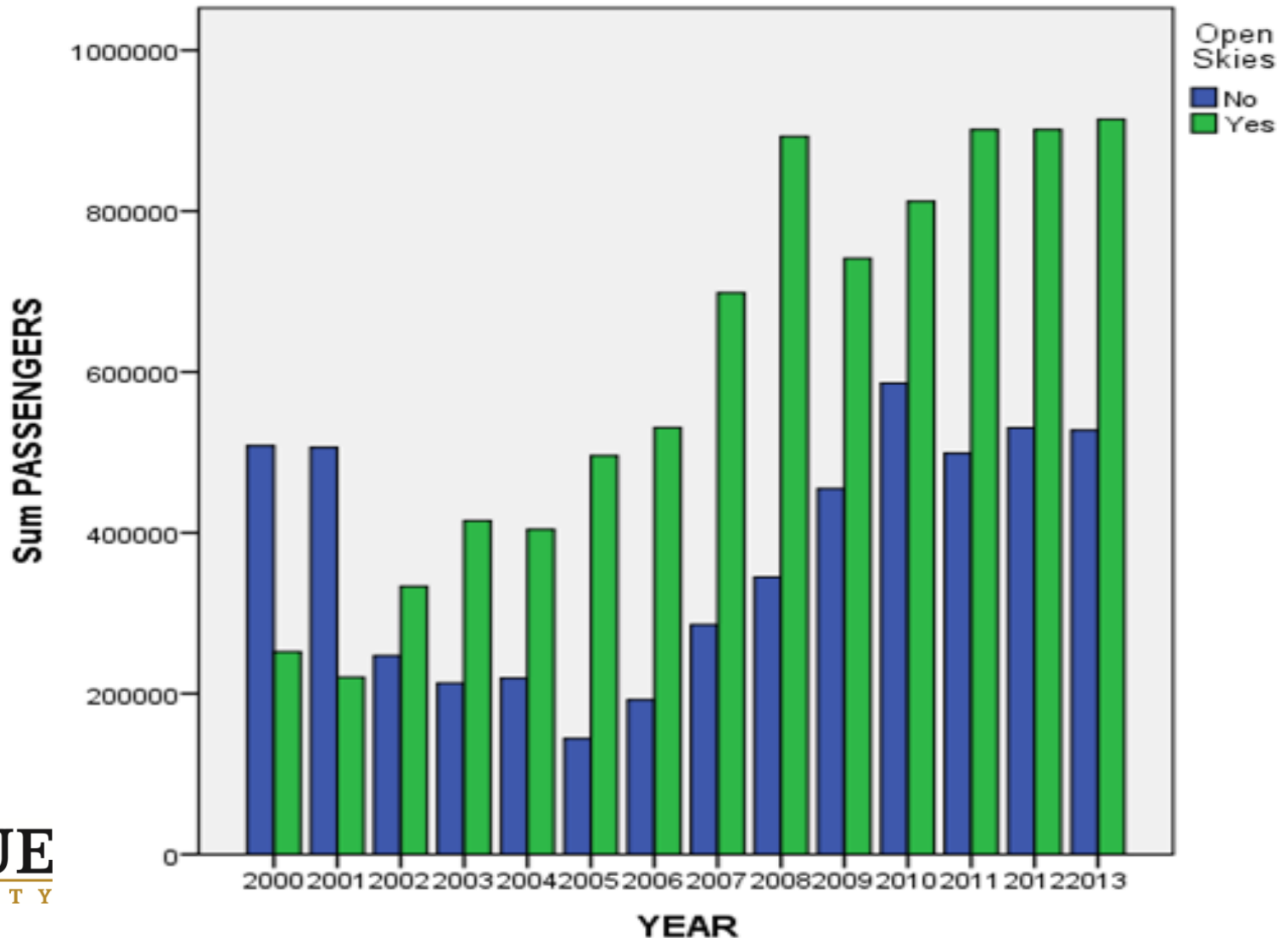
Y = Number of Passengers



TOTAL PASSENGER COMPARISONS

Yearly US-Africa Passenger Comparisons between OSA and Non-OSA African Countries

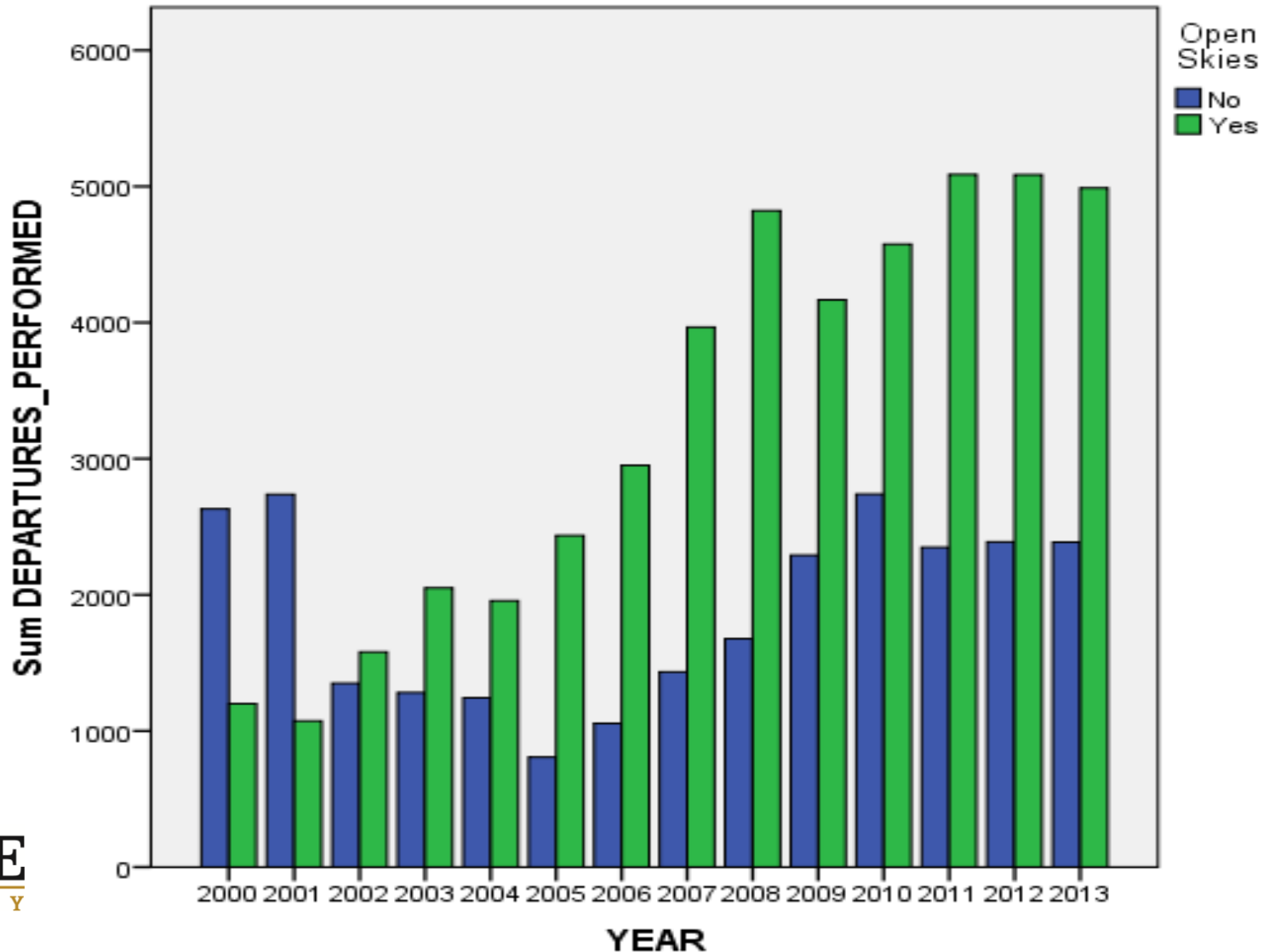
Y = Number
of
Passengers



DEPARTURE COMPARISONS

Yearly US-Africa Airline Departures Comparisons between OSA and Non-OSA African Countries

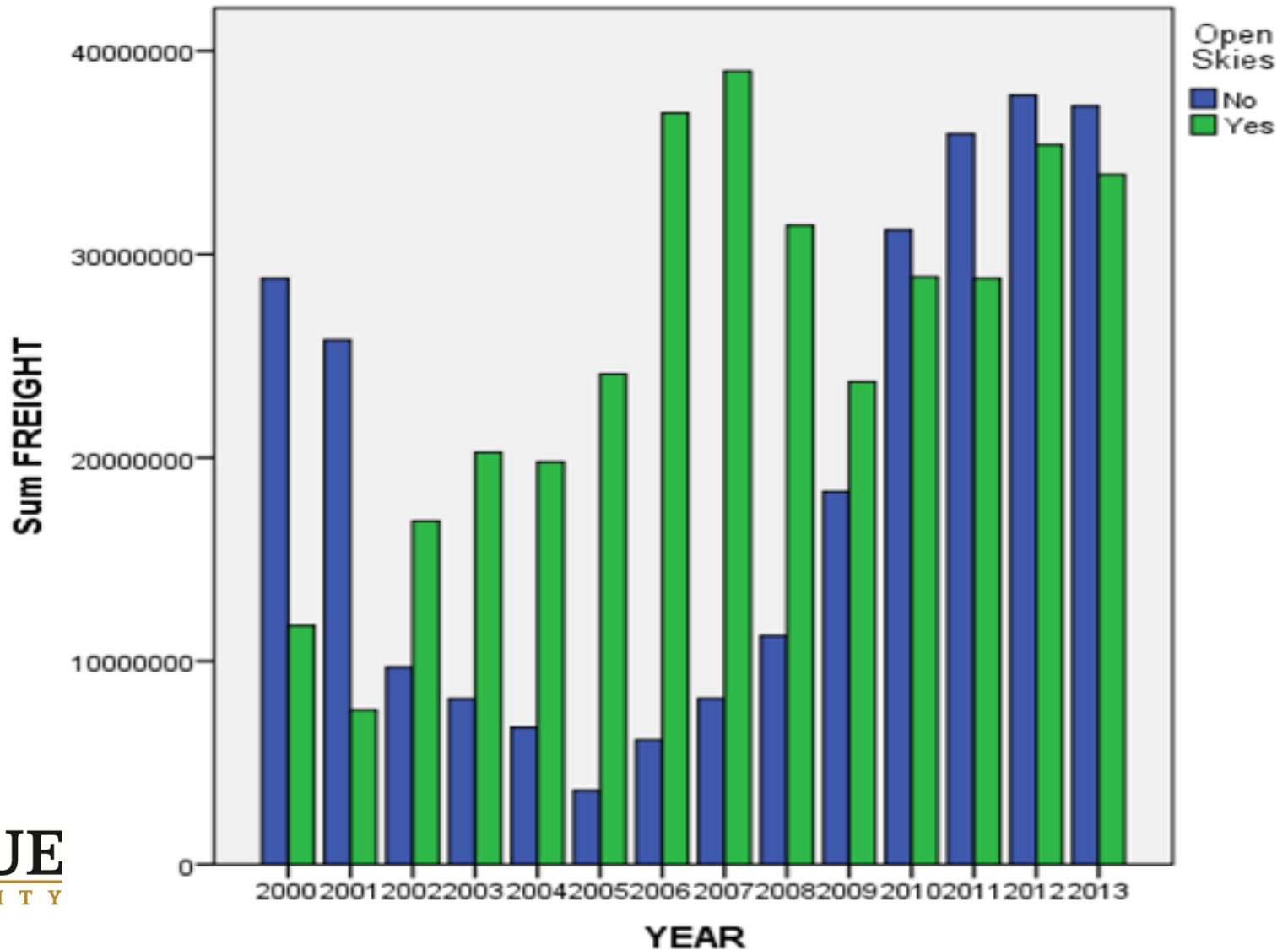
Y = Number
of
Departures



FREIGHT COMPARISONS

Yearly US-Africa Freight Comparisons between OSA and Non-OSA African Countries

Y = Freight
(lbs)



CONCLUSIONS

- OSA negotiations appear to be on the rise between US and Africa
- Motivations for Open Skies policies may extend beyond economic incentives
- There is substantial and continuous travel to and from two partners without OSA: South Africa and Egypt
- Air freight operations appear to be similar among OS countries and non-OS countries

CONCLUSIONS

- Open Skies partners outperformed non Open Skies partners in total passengers and total departures
- Aviation growth appears to continue to enhance global aviation standing in Africa
- Open Skies allow easier access to more destinations for business and tourist activity between US and Africa

FUTURE STUDIES

- More studies on the aviation status of African countries are necessary for understanding the global scale
- Continued monitoring of Open Skies status between the US and Africa, as well as other aviation hubs in Europe and Asia
- Better understanding of what drives incentives for Open Skies agreements as compared to specific bilateral agreements
- More focus on causes of temporal growth and decline of aviation in Africa
 - May be influenced by terror, regional violence
 - Global economic swings and political alignments may affect abilities for cooperation as well
- What existing features in South Africa and Egypt allow for successful aviation growth without OSAs as compared to other similarly situated countries?

QUESTIONS



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