Study on the Effect of Maritime Insecurity on Shipping Businesswithin the Gulf of Guinea in Africa

By
Jatau, Solomon Usman, Imrana, Abdurrahman&Shagbo, Luka
Nigerian Institute of Transport Technology (NITT), Zaria
solojatau2002@yahoo.com, 08033938210: imrannitt2018@gmail.com, 08037798472.
speak2lukashagbo@gmail.com, 07067683535

Abstract

This research was conducted in order to expose the extent to which activities of Maritime Piracy and armed robbery (MPAR) affects the movement of ships between the Gulf of Guinea and the other parts of the world. Secondary data were collected from websites of International Maritime Bureau and The World Bank from 2007 to 2018. Data obtained were analysed using descriptive statistics, tables and graphs with the aid of Microsoft Office Excel and Minitab statistical software. Results of the analysis indicated that, the number of vessels, cargo throughput and LSCI showed no fluctuations across the 12 years under study. However, 2014 has the highest record in each of the three variables and that can be seen to have a direct relationship with the drop in MPAR and preparation of the 2015 general elections in the country. Again, 2018 has the lowest record of 2,008 vessels, 35.9 million cargo throughput, while having the highest frequency of MPAR. That MPAR affects largely the Number of Ships and Cargo Throughput into the region seaports as compared to the lesser effect it has on LSCI. On the other hand, strong positive correlations were found between Number of Vessels, Cargo Throughput and LSCI within the Gulf of Guinea. It is therefore, recommended that all countries within the region should put in effective measures that would reduce to the barest minimum cases of maritime piracy and armed robbery, thus encourage more ships to come into the region to load or discharge cargoes, hence raising the standard of living of the people.

Keyword: Maritime, Insecurity, Shipping, Business, Gulf of Guinea

Background of the Study

Shipping activities affect the economy of every country around the world as well as the lives of their citizens, as almost 90% of the world's trade depends solely on maritime transport (Abdurrahman, 2018; UNCTAD, 2019). The GoG consist of twelve countries namely; Ghana, Togo, Benin, Nigeria, Cote D'ivoire, Cameroon, Gabon, Equatorial Guinea, Congo, São Tomé and Príncipe, Congo DRC and Angola, with a population of over 500 million people. The region is one of the World's richest and under exploited place holding about 35 % of the World's total petroleum reserve and blessed with many minerals and other natural resources as well as a very rich rain forests accounting for 20% of the world's total rainforest and serves as one of the major oxygen-generating source of the globe, while keeps providing shelter and protection to a large portion of the World's biodiversity including the pygmies, animals, microorganisms, among others (Adelina, 2017).

However, MPAR attacks in the Gulf of Guinea have become increasingly pervasive in recent years. According to the International Maritime Bureau (2015, 2017 and 2018), Nigeria has been the most affected country in the Gulf of Guinea (Kamal-Deen, 2015; Nana, 2018). As a

result, MPAR have a negative impact on maritime transportation and maritime security, particularly in relation to the development of oil production in the area (Bowden, 2010; Sullivan, 2010).

The works of Rosenberg & Chung (2008), outside the shores of Nigerian, in the south East Asia, commercial ship owners are complaining that robbery by pirates is becoming more frequent and alarming. This is due to the cuts in spending on naval patrols following the economic slump.
They want their governments to take more effective and coordinated action if not pirate attacks could cause a major disaster in a crowded international sea-lane, such as straits of Malacca or the strait of Singapore, which are among the world's busiest shipping channel (Hansen, 2012; Coggins, 2012).

According to Bento (2011), two other pirate ships rendezvous with the ship at sea and siphoned off half of the estimated $2.3, million dollar cargo.The vast majority of pirate attacks against energy vessels occur against oil tankers, with attacks on LPG vessels a distant second (Doyle, 2013). A disturbing trend occurs in 2007 with pirate demonstrating the ability to attack mobile drilling unit (MDU) and LNG carriers successfully. Two Indonesian and other in the Singapore Strait, additionally, three offshore drilling platforms were attacked; two in Nigeria, one where a worker was kidnapped for ransom and one in India.

The work of Percy &Shortland (2013); suggested that pirates may be acquiring more sophisticated maritime skill, significant number of attacks on ships in Nigeria, some of which occurred over 31nmiles from shore represent not only a geographical expansion of threats to maritime energy assets but also perhaps an increasing ocean going ability on the part of pirate in the area.While most of the world's maritime piracy (including attacks on energy vessels) has occurred in Indonesia and Strait of Malacca by 2007, Nigeria had emerged as an important local terrain for pirate attacks (Katsouris& Aaron, 2013).

Review of Related Literature

Piracy activities in the GoG can be traced to the boom in the price of oil in the 1970s (De Montclos, 2012); a position further corroborated by Murphy (2013) in his discussion of the 'cement armada' episode in Nigeria, which followed the oil boom of the 1970s. That said, Onuoha (2013b) contend that much of what is termed piracy in the GoG is ''armed robbery against ships, because the attacks occur inside the twelve-mile boundary that lies within the coastal state's area of responsibility''. Contrarily, Ikoh (2013, p. 6) maintained that though the conditions that breed these attacks can be found onshore, most of the pirate attacks take place on the high sea. Indeed vessels and tankers at sea have come under attack. The controversy notwithstanding, the obvious reality is that both the coastal waters (especially those of the Niger Delta of Nigeria, Togo, and Benin) and sea of the GoG offer a comfortable operational zone for piracy operations.
However, in piracy operation, there are eight layers of activities, between target selection and disposal of cargo (Onuoha 2012). The eight-layered process is indicative of a complex interaction of actors, and anchored on or job specialization among gang members.Onuoha (2013).Alli (2015a)'s categorization also highlights the sophistication and networked nature of interaction that has attended the growth and development of maritime piracy in the Gulf of

Guinea. These attributes further reinforce the nature of maritime security in the GoG, and justifies a consideration of the phenomenon as an organised crime (Yang et al, 2009; WB, 2019).

On the modus operandi of the illicit enterprise, Onuoha (2013b) observes that, from targeting fishing vessels and general cargo ships off the Nigerian coast, pirates have evolved new tactics by using motherships to launch attacks on oil vessels offshore and, most notably, sophisticated gangs, have expanded their recruitment base to include other nationalities in and outside of the region as a strategy for dealing with language and communication barriers and geography when carrying out trans-boundary maritime operations. The primary targets are oil tankers, which are robbed, after which the oil is transferred into smaller ships, and then goes through ship-to-ship transfer until it goes off maritime surveillance radar, and subsequently accesses the legal international crude oil market (Onuoha, 2012).

This is about the time of dramatic increase in attacks in Somalia, with some 111 attacks being reported in the media. The International Maritime Bureau estimates that transport vessels losses between $13 and 15$ billion a year to maritime piracy on the waters in 2006 (IMB, 2007). Economist have even estimated the annual global figure at approximately $16 billion on stolen cargo, theft of vessels, delays in portsand from increased in insurance rates as well (Akerlof&Kranton, 2000; Fu et al, 2010; Katsouris& Aaron, 2013).

According to Mohammed, (2017); Maritime piracy and energy security attacks on energy vessels equally represent a significant percentage of overall maritime piracy attacks ranging from a low of 12% of total attacks in 2006 to a high of just over 24% in 2007. Most prates attack including those on energy vessels are cases of robbery at sea, with pirates boarding and robbing the ship while in port or from small speed boats while the vessel in underway (Murphy, 2009).

Increasingly, we have seen a disturbing trend in hijacking and kidnapping from ransom. While there has been little evidence until very recently that energy vessels are targeted per se for hijacking there have been a few notable cases where tankers have been hijacked and the crews held for ransom. For example, in August 2013 pirates boarded the Malaysian-registered fuel tanker pen rider near the Aceh province of Indonesia and demand $100,000 in ransom for release of the ship and the crew (Burgis, 2015; IMB, 2013, 2014).

There have also been cases where the cargo was clearly the main objective of the pirate. For example, in April 1998 pirate seized from ranger outside single port territorial waters. The Malaysian-registered vessel was carrying 9600 tons of diesels of about 200 tons of A-1 Jet fuel (Chalk, 2009; Bradford, 2005).

Research Methodology

The researcher used a documentary method of data collection to collect the data analysed in this study.The data used was collected from website of International Maritime Bureau, while the data of Liner Shipping Connectivity Index was collected from World Bank via electronic system from their websites: (www.icc-css.org) and (www.worldbank.org).

The researchesrused the available data on shipping activities, piracy and armed robbery in the GoG from 2007 to 2018. Descriptive Statistics, tables and graphs were used to analyse the data. The analysis was performed with the aid of Microsoft Office Excel and Minitab statistical software.

The study area of this research work cut across fourteen countries based on water connectivity and it lies between latitudes 1^0 0′ N to 4^0 0′ E of the Equator and longitudes 1^0 0′ E $4^0$0′ E of the Greenwich Meridian. The Gulf of Guinea (GoG) covers a surface area of 2,350,000 km^2 (910,000 sq. mi) with basin in the borders of Liberia, Ivory Coast, Ghana, Togo, Benin, Nigeria, Cameroon, Equatorial Guinea, Guinea, Gabon, Sao Tome and Principe, Congo Republic, Democratic Republic of Congo, and Angola.
This study has limited its scope to only the Gulf of Guinea (GoG) among the various regions affected by the problem. GoG comprises of twelve countries: Ghana, Togo, Benin, Nigeria, Cote D'ivoire, Cameroon, Gabon, Equatorial Guinea, Congo, São Tomé and Príncipe, Congo DRC and Angola. Also the study only considers the IMB data of maritime piracy and armed robbery occurrences in the region alongside liner shipping connectivity index, gross domestic product growth rate, imports growth rate, exports as a per cent of gross domestic product, and oil production of the various countries involved. The data spanned from 2008 to 2018.

Result and Discussion

Table 1: Data of Maritime Piracy and Armed Robbery (MPAR) Attacks and Liner Shipping Connectivity Index (LSCI) within the GoG

Years	MPAR		Number of Vessels into Ports		Cargo Throughput		LSCI	
	Actual	%	Actual	%	Actual	%	Actual	%
2007	42	**12.2**	4,849	**8.7**	57,473,350	**6.8**	13.7	**5.8**
2008	40	**11.6**	4,623	**8.3**	64,372,749	**7.6**	18.3	**7.7**
2009	28	**8.1**	4,721	**8.5**	65,775,509	**7.8**	19.9	**8.4**
2010	19	**5.5**	4,881	**8.8**	76,744,727	**9.1**	18.3	**7.7**
2011	10	**2.9**	5,232	**9.4**	83,461,697	**9.9**	19.9	**8.4**
2012	27	**7.8**	4,837	**8.7**	77,092,625	**9.1**	21.8	**9.2**
2013	29	**8.4**	5,369	**9.7**	78,281,634	**9.3**	21.4	**9.0**
2014	18	**5.2**	5,333	**9.6**	84,951,927	**10.1**	22.9	**9.6**
2015	14	**4.1**	5,014	**9.0**	77,387,638	**9.2**	21.4	**9.0**
2016	36	**10.5**	4,373	**7.9**	70,365,036	**8.3**	20.9	**8.8**
2017	33	**9.6**	4,292	**7.7**	71,535,636	**8.5**	20.5	**8.6**
2018	48	**14.0**	2,008	**3.6**	35,909,125	**4.3**	19.0	**8.0**
Total	**344**	**100.0**	**55,532**	**100.0**	**843,351,653**	**100.0**	**238.0**	**100.0**
Average	**29**		**4628**		**70,279,304**		**19.8**	

Source: IMB, UNCTAD (2018)

The data of MPAR, Number of Vessels that came into Nigerian seaports, Cargo Throughput, and LSCI as presented in Table 1 above, shows a clear reduction in MPAR cases around Nigeria from 2007 up to 2011, but increased values were recorded in 2012 and 2013. Another drop was noticed in 2014 and 2015 due to the efforts put on ground to reduce the rampant occurrences of MPAR incidents. The frequency again increased to 36, 33 and 48 in 2016, 2017 and 2018. The highest frequencies were recorded against 2018, 2007, 2008 and 2016 which accounted for 10%, 12.2%, 11.6% and 10.5% respectively, which can be attributed to the economic degradation and adverse poverty and unemployment in Nigeria and other GoG countries and hence the entire shipping market was seriously affected by such.

Moreover, number of vessels, cargo throughput and LSCI showed no fluctuations across the 12 years under study. However, 2014 has the highest record in each of the three variables and that can be seen to have a direct relationship with the drop in MPAR and preparation of the 2015 general elections in the country. Again, 2018 has the lowest record of 2,008 vessels, 35.9 million cargo throughput, while having the highest frequency of MPAR.

Table 2: Correlation Coefficient of Maritime Piracy and Armed Robbery (MPAR) Attacks and Liner Shipping Connectivity Index (LSCI)

		MPAR	Number of Vessels	Cargo Throughput	LSCI
MPAR	**Correlation Coefficient**	1.000			
	Sig. (2-tailed)	0.000			
Number of Vessels	**Correlation Coefficient**	-0.676	1.000		
	Sig. (2-tailed)	0.016	0.000		
Cargo Throughput	**Correlation Coefficient**	- 0.843	0.881	1.000	
	Sig. (2-tailed)	0.001	0.000	0.000	
LSCI	**Correlation Coefficient**	- 0.483	0.581	0.537	1.000
	Sig. (2-tailed)	0.012	0.065	0.072	0.000

Source: Author's Data Analysis (2019)

From table 2, P-values 0.016, 0.001 and 0.012 justified that existence of a significant correlation between MPAR and all of Number of Vessels, Cargo Throughput and LSCI under 5% level of significance, while the value of r-coefficient shows that MPAR has strong negative correlations with Number of Vessels and Cargo Throughput, while a weaker correlation exists between MPAR and LSCI. Hence, it can be deduced that MPAR affects largely the Number of Ships and Cargo Throughput into Nigerian seaports as compared to the lesser effect it has on LSCI. On the other hand, strong positive correlations were found between Number of Vessels, Cargo Throughput and LSCI within Nigeria.

Proceeding to a Multiple Linear Regression Analysis using the Ordinary Least Squared method, the fitted regression equation is revealed as:

$$MPAR = 66.5 + 0.00667\ Number\ of\ Vessels \quad 0.000001\ Cargo\ Throughput + 0.80\ LSCI$$

The accuracy measures of the model are summarized in table 3as follows:

Table 3: Summary of Regression Analysis

Term	Coefficients	SE Coefficients	P-Value	Remark
Constant	66.5	25.5	0.031	Significant
No. of Vessels	0.00667	.00723	0.038	Significant
Cargo Throughput	-0.000001	0.000001	0.063	Significant
LSCI	0.80	1.52	0.016	Significant
R-Sq. = 73.99%		**R-Sq. (Adj.) = 64.24%**		

Source: Author's Regression Analysis (2019)

From table 3 above, all the coefficients were found significant in the model as all their P-values are less than the 5% level of significance. Looking at the accuracy measures of the model, R-Sq. was calculated to be 73.99% which implies the percentage of variation in MPAR that is accounted for by the three predictors and hence the model is off by 26.01% and such variations are attributed to error and other factors not identified by this research. In addition to this, the Adjusted R-Sq. was calculated to be 64.24% which means the model is moderately adequate for prediction.

Recommendations and Conclusion

Piracy and armed robbery in the Gulf of Guinea is characterized with an upward trend over time with more than half of damages within Nigerian waters, affecting negatively, the number of vessels coming into the ports, cargo throughput and shipping activities. Records shows, that about 80 per cent of the Nigeria national budget is based on revenues from crude oil and gas exports, taxes and royalties. Also, 90 per cent of Nigeria's import and export trade by volume is through the sea. Therefore, any act of obstruction to maritime economic activities would have serious impact on the security, social and economic wellbeing of the nation. The prospects of the maritime sector to national development are being undermined by the challenges of crude oil theft, pipeline vandalism, piracy/sea robbery, sea-borne insurgency and kidnapping. Government is therefore called upon to as a matter of priority make available Inshore/Offshore Patrol Vessels, surveillance systems with optical cameras, ATR 42 downlink capability to build the required capacity for comprehensive maritime security operations and establish a workable collaborative arrangement with other countries within the Gulf of Guinea for effective security enforcement as provided by the regional and International laws and regulations.

References

Adelina T. (2018). "Maritime Piracy and Armed Robbery Evolution in 2008-2017". International Scientific Journal on Security and Future. ISSN 2535-082X

Agbonifo, J. (2007). High stakes and stakeholders: Oil conflict and security in Nigeria by Kenneth Omeje. Journal of Development and Change, Vol. 38, No. 5, 791-973.

Akerlof, G. and Kranton, R. E. (2000). Economics and Identity, Quarterly Journal of Economics 115(3), 715-753.

Alli, K. (2015). The anatomy of Gulf of Guinea piracy.Naval War College Review 68, No.1, 93- 118.

Alli, K. (2015a). Maritime security cooperation in the Gulf of Guinea: Prospects and challenges. Brills

Bento, L. (2011) Toward an International Law of Piracy Sui Generis: How the Dual Nature of Maritime Piracy Law Enables Piracy to Flourish. Berkeley Journal of International Law, 29, 399-745.

Bowden, A. (2010). The Economic Cost of Maritime Piracy.One Earth Future Foundation.

Bradford, J. F. (2005). The growing prospects for maritime security cooperation in Southeast Asia. *Naval War College Review*, *58*(3), 63–88.

Burgis, T. (2015).The Looting Machine- warlords, tycoons, smugglers and the systematic theft of Africa's wealth. William Collins.

Katsouris, C. & Aaron S. (2013). Nigeria's criminal crude: International options to combat the export of stolen oil. Chatham House Report, September.

Chalk, P. (2009) Maritime Piracy: Reasons, Dangers and Solutions. https://trid.trb.org/view.aspx?id=968732

Coggins, B. L. (2012). Global patterns of maritime piracy, 2000–09. *Journal of Peace Research*, *49*(4), 605–617. https://doi.org/10.1177/0022343312442520

De Montclos (2012). Maritime piracy in Nigeria: Old wine in new bottles? Studies in conflict and terrorism, Vol. 35, 531-541.

Doyle, M. (2013).Nigeria's Piracy- another form of oil theft. BBC News 18 June.

Etim, O. E. (2015) Buying with a conscience: curbing crude oil theft in Nigeria. A paper presented at the 2015 policy week, 2-6 November. University of Manchester.

Fu, X., Ng, A.K.Y. and Lau, Y.-Y. (2010). "The Impacts of Maritime Piracy on Global Economic Development: The Case of Somalia. Maritime Policy & Management, 37, 677-697. https://doi.org/10.1080/03088839.2010.524736

Hansen, S. J. (2012). The dynamics of Somali piracy.*Studies in Conflict and Terrorism, 35*(7/8), 523–530.

Hegre, H. &Sambanis, N. (2006).Sensitivity analysis of the empirical literature on civil war Onset.Journal of Conflict Resolution. Vol. 50, Issue 4, 508–535.

International Maritime Bureau. (2007). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2007*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2008). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2008*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2009). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2009*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2013). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2013*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2014). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2014*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2015). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2015*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2017). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2018*. Retrieved from https://icc-ccs.org/icc/imb

International Maritime Bureau. (2018). *Piracy and Armed Robbery against Ships Report: Report for the Period of 1 January – 31 March 2018*. Retrieved from https://icc-ccs.org/icc/imb

Katsouris, C. & Aaron S. (2013). Nigeria's criminal crude: International options to combat the export of stolen oil. Chatham House Report, September.

Kamal-Deen, A. (2015).The Anatomy of Gulf of Guinea Piracy. Naval War College Review, 68, 93-119.

Mohamed A. M. (2017), "Piracy in Gulf of Guinea causes, efforts and solutions". Journal of Regional Maritime Security Institute,

Murphy M. (2009). Small boats, weak states, dirty money: Piracy and maritime terrorism in the modern world. Columbia University Press, New York and London, 28–45

Nana R. L., (2018). "Piracy in the Gulf of Guinea: Impacts to Maritime Transportation and Maritime Security". Journal of Asian Development. ISSN 2377-9594, Vol. 4, No. 2.

Omeje, K. (2013). Extractive economies and conflicts in the global south: multi-regional perspectives on rentier politics. Ashgate Publishing Limited

Onuoha, F. (2009). Sea piracy and maritime security in the Horn of Africa: The Somali coast and Gulf of Aden in perspective. *African Security Review*, *18*(3), 31-44. https://doi.org/10.1080/10246029.2009.9627540

Onuoha, F.C. (2009) Violence at Sea: The Ramifications of Maritime Piracy in Nigerian and Somali Waters for Human Security in Africa. Institute of African Studies Research Review, 25, 21-44. Onuoha, F.C. (2012) Oil Piracy in the Gulf of Guinea. Conflict Trends, 2012, 28-35.

Onuoha, F.C. (2012b) Piracy and Maritime Security in the Gulf of Guinea: Nigeria as a Microcosm.

Percy, S. &Shortland, A. (2013).The business of piracy in Somalia.Journal of Strategic Studies. Vol. 36, Issue 4 Ramsbotham, Oliver, (2011). *Contemporary Conflict Resolution*. Cambridge: Polity Press

Rosenberg, D., & Chung, C. (2008). Maritime Security in the South China Sea: Coordinating Coastal and User State Priorities. *Ocean Development and International Law*, *39*(51). https://doi.org/10.1080/00908320701641602

Sullivan, A. K. (2010). Piracy in the Horn of Africa and its effects on the global supply chain. *Journal of Transportation Security*, *3*(4), 231–243. https://doi.org/10.1007/s12198-010- 0049-9

UNCTAD (2019).*Liner Shipping Connectivity Index*. Retrieved from http://unctadstat.unctad.org/wds/TableViewer/tableView.aspx?ReportId=92

UNODC (2005).2005 world drug report.Vol. 1.

World Bank.(2019). World Development Indicators. Retrieved from http://databank.worldbank.org/data/reports.aspx?source=2&country=SLE#

Yang, Z. L., Wang, J., Bonsall, S., & Fang, Q. G. (2009).Use of Fuzzy Evidential Reasoning in Maritime Security Assessment.*Risk Analysis*, *29*(1), 95–120. https://doi.org/10.1111/j.1539-6924.2008.01158.x